Program Review Report

Elgin Community College
District 509
Elgin, IL 60123

August 2018

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Program Review Cover Page		
College	Elgin Community College	
District Number	509	
Contact Person (name, title, contact information)	Peggy Heinrich, Vice President, Teaching, Learning and Student Development; 847-214-7635; pheinrich@elgin.edu	
Fiscal Year Reviewed:	2018	

Directory of Reviews Submitted

Career & Technical Education

College Name:	Elgin Community College
Fiscal Year in Review:	FY2018

Program Identification Information

Program Title	*Degree or Cert*	*Total Credit Hours*	*6-Digit CIP Code*	*List All certificate programs that are stackable within the parent degree*
Computer Aided Design	**AAS**	**61**	**15.1306**	BVS Computer Aided Design BVS AutoCAD BVS Solidworks
Practicing Professional - ProE	**BVS**	**16**	**15.1306**	
Architectural Design	**BVS**	**9**	**15.1306**	
Revit	**BVS**	**6**	**15.1306**	

Address all fields in the template. If there are certificates and/or other stackable credentials within the program, please be sure to specify and sufficiently address all questions regarding each stackable credential.

Program Objectives What are the overarching objectives/goals of the program?	Computer-Aided Design (CAD) is an advanced product development tool used in all manufacturing which allows engineers, designers, and technicians to develop new products faster with increased precision by automating many complex, tedious, and repetitive design tasks. Traditional technical drawing theory and practices are utilized alongside the most up-to-date CAD applications, rapid prototyping machines, modeling simulations, and other high-tech commodities. Program-level learning outcomes relate to three major components. Upon completion of the degree, students will have achieved a professional level of *mastery* of 1) Technical drawing and/or modeling theories; and 2) Software application usage; and a professional level of *familiarity* of 3) Manufacturing processes and materials.

To what extent are these objectives being achieved?	The college's CAD students graduate with both breadth as well as depth in the subject matter. The specific sequences are complete and state of the art, while overall CAD program offerings/emphases are robust. The college CAD department offers the AAS degree as well as two (2) certificates that are theory focused, and four (4) certificates that are application/platform training focused. No institution in the area offers such depth of study for each emphasis. To better prepare students to meet the third program outcome (familiarity with manufacturing processes), two courses were added to the degree in lieu of electives: WEL-101: Welding I and IMT-112: Metrology. Additionally, the college's CAD classes serve other programs at the college; Integrated Manufacturing, Fire Science and Welding educational plans include CAD classes as degree requirements or electives. The department has been eager to assist the Integrated Career & Academic Preparation System (ICAPS) program (formerly Accelerate Opportunities) as it follows the IMT and Welding educational plans which utilize the introductory CAD-101: Introduction to Engineering Design course.
Past Program Review Action What action was reported last time the program was reviewed?	The FY13 report action was "Continued with Minor Improvements". Specific goals and progress are summarized below. **Trial a CAD class with only Saturday meeting times.** Progress reported: Completed, deemed not successful or efficient enough to continue as results did not increase enrollment, opportunity, or speed to completion. **Attract more female students.** Progress reported: There has been a slight increase in female enrollment, but not very significant. The issue continues to be a difficult one to solve. The root cause is noticeably the level of interest which starts years before a student's college career. This paradigm is not something the department personnel are in a position to change. **Explore lecture and demonstration videos via**

	Camtasia software, particularly for Intro and Solidworks courses. Progress reported: The CAD-121 class videos are 100% complete and available to registered students. CAD-101 has 100% of the lecture demos and drawings complete and available. Department consensus is that the goal is completed to the degree intended in a way that still upholds the academic rigor of the course requirements and objectives. **Initiate the production of a CAD marketing video intended for web/media distribution.** Progress reported: Program partnered with ECC Marketing to feature the program in college-level video productions.

CTE PROGRAM REVIEW ANALYSIS Complete the following fields and provide concise information where applicable. Please do not insert full data sets but summarize the data to completely answer the questions. Concise tables displaying this data may be attached. The review will be sent back if any of the below fields are left empty or inadequate information is provided.	
List all pre-requisites for this program (courses, placement scores, etc.).	In order to enroll in certain 1.1 transfer courses, students must demonstrate readiness in the form of test scores (such as ACT/SAT, PARCC), placement results (ALEKS, McCann, writing placement), and/or successful completion of developmental coursework, as outlined on page 13 of the 2018-2019 college catalog and described in Administrative Procedure 1.104: Minimum Competencies. Otherwise, there are no specific CAD prerequisites to enter this program.
Please list or attach all required courses (including titles) for completion of this program including institution required courses (e.g. student success, first year, general education requirements, etc.).	Program requirements are noted on the catalog page at the end of this chapter.
Provide a rational for content/credit hours beyond 30 hours for a certificate or 60 hours for a degree.	The AAS degree for Computer Aided Design has recently been reduced to 61 credits from 69. The one extra credit above the 60 threshold is due to lab courses which are larger than the standard 3 credits.
INDICATOR 1: NEED	***RESPONSE***
1.1 How strong is the occupational	The occupational demand for the CAD program

demand for the program?	completers will vary based on sector of employment. Regionally, there are more openings for a Mechanical or Electrical focus than those in Architectural, Civil or general areas. *(source: EMSI prepared reports, p.1; SOC 17-3011/12/13)* Additionally, the CAD department wishes it to be stated that there continually is a higher demand for the college's CAD graduates than the program is able to supply. Employers regularly approach faculty with job descriptions they are desiring to fill.
1.2 How has demand changed in the past five years and what is the outlook for the next five years?	Within the local region (Chicago-Naperville-Elgin, IL-IN-WI), the number of Architectural or Civil jobs is expected to grow 7.4% though 2027; while those classified as Electrical/Mechanical are expected to decrease 3.3%. *(source: EMSI prepared reports, p.1; SOC 17-3011/12/13)* It is possible that external market conditions which encourage or discourage U.S. based manufacturing growth (taxes, overseas contracting investment, govt. encouraging positions within the U.S.) can impact the program as well.
1.3 What is the district and/or regional need?	As mentioned, local employers contact the department with open positions, though lowest demand is for the courses rooted in architecture. The college's district does not contain a high demand for such curriculum. The ProE/CREO courses also have a lower demand because that particular application is being overtaken by the industry standard, SolidWorks (offered as CAD-120: Introduction to Solidworks & CAD-121: Advanced Concepts in Solidworks).
1.4 How are students recruited for this program?	From a pipeline perspective, recruitment starts with contacts at the local high schools with dual-credit and articulated credit offerings, as well as general awareness campaigns. The CAD-101 (EGR-101: Engineering Design Graphics/CAD) introduction course has been approved for IAI Major Code EGR 941, which will encourage enrollment for students intending to transfer. The CAD program credentials (degree and certificates) are approved by Workforce Innovation and Opportunity Act (WIOA) for employment

	retraining reimbursed by the state of Illinois. The Illinois Drafting Educators Association regional competition is hosted by the CAD department each spring. This allows contact and tours to many already interested high school students, potential students. Student participation in attending the International Manufacturing Technology Show (IMTS) held every other year in Chicago, IL is encouraged and promoted. This show is sponsored in part by several organizations including the Society of Manufacturing Engineers (SME) and the American Society of Mechanical Engineers (ASME). Attendance of this show is well coordinated and promoted in the IMT area as well. CAD students are able to piggy-back with the IMT students attending and often join their transportation resources.
1.5 Where are students recruited from?	Students come from local high schools, as well as employer training and retraining programs. Some students find the program once enrolled here in related disciplines. Over the past 5 years, the CAD program has become a strong partner with the college's Integrated Manufacturing (IMT) department and the newly created Computer Integrated Manufacturing (CIM) program. Many CAD classes have become part of CIM students' programs of study by way of requirements and electives. Additionally, many CAD students decide to go on and complete the CIM degree, as well as vice versa. CAD courses are also now part of the Integrated Career & Academic Preparation System (ICAPS) grant program.
1.6 Did the review of program need result in actions or modifications? Please explain.	In anticipation of this review, the department underwent a revision to streamline the CAD degree requirements for implementation in 18/19, improving the credential for students. Upon next review, the program will have five years of data to reflect upon. As discussed, the need for specialized training programs is waning and will be discussed with the Advisory Committee.

INDICATOR 2: COST EFFECTIVENESS	***RESPONSE***
2.1 What are the costs associated with this program?	The primary costs associated with the CAD program are faculty salaries and benefits. The next significant expense is related to software required to deliver a quality CAD program. The software currently includes SolidWorks, PRO-E/CREO, and AutoCAD.
2.2 How do costs compare to other programs on campus?	Costs are typical of those in the division. The CAD program's annual budget poses very little challenge; software renewals happen annually, reoccur each year at the same time and are managed in partnership with the Academic Computing department.
2.3 How is the college paying for this program and its costs (e.g. grants, etc.)?	These costs are primarily paid through the Educational Fund and tuition revenue.
2.4 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? Please explain.	N/A
2.5 Did the review of program cost result in any actions or modifications? Please explain.	One particular cost savings is related to software renewal. In recent years, AUTOCAD (Autodesk, Inc) has moved to free software for students and educational institutions. This will result in a small savings to the program. Although the department is still in the exploratory stage, financial support may be needed to update/augment a departmental CMM (Coordinate Measuring Machine) or laser digitizer.
INDICATOR 3: QUALITY	***RESPONSE***
3.1 What are the program's strengths?	• The CAD department delivers absolutely current, top-quality, experiential based instruction to students by industry professionals. • The CAD department offers the most robust menu of CAD classes and associated application training options compared to the surrounding colleges as well as universities. • Courses are strategically scheduled in 8-week back-to-back blocks to accelerate student progression. • The CAD department produces highly satisfied

	graduates who are employed with no waiting. • The CAD department hosts students in lab facilities that are comfortable and conducive to learning/studying. • The CAD department requires graduates to have experienced the very processes they specify within their design work (i.e. students must complete machining, welding and metrology classes to satisfy AAS requirements). It is paramount that those who *design* project specifications also understand what it is required to *execute* their design.
3.2 What are the identified or potential weaknesses of the program?	The CAD department needs an additional full-time, personally vested faculty member. • This position is easily reconciled when considering the one faculty member who already serves the shared position between IMT & CAD is severely stretched by the basic required tasks and responsibilities that bridging two emphases demand. • An additional faculty member could be hired as the shared IMT & CAD faculty, focused IMT faculty, or focused CAD faculty allowing for the current faculty member to shift to the area best suited for their abilities and interest. • Only two review cycles ago the two departments had less enrollment and four full-time faculty members compared with the two full-time faculty members of today who are serving a larger body of registered students. It would be beneficial to have a "bull pen" of quality qualified *adjunct* instructors so that in the event of an instructor loss there is no disruption experienced by the department/students. Currently, it is extremely difficult to find qualified instructors possessing a quality level of instructional ability available during required hours.
3.3 What are the delivery methods of this program? (e.g. traditional format/online/hybrid/team-teaching etc.)?	For the past 5 years, all CAD classes have been mono-modal using the traditional face-to-face delivery method. Hybrid classes have started in 2017/2018 and, as such, comparisons can be made at next program review regarding modalities. The SolidWorks classes are now offered as hybrid

	options. Due to the hands-on project nature of the curriculum, more broad hybrid and distance options may not be a successful choice for students. The current move to hybrid will be studied for lessons to be applied. Specifically, the main challenge in using distance learning for the discipline is the evaluation of student technical drawings ("redlining" in industry). Prompt feedback is critical for student learning. The Adobe pdf program is not robust enough at this time to allow for quick opening, marking by free hand digital "marker," and then re-saving and sending back to the student. It is possible, but when performing this action for 88 students (semester enrollment in CAD/EGR-101 sections alone), multiplied by approximately 100 drawings per students for the semester, the computer management aspect is enormous and does not win out in a cost/benefit for time and resources.
3.4 How does this program fit into a career pathway?	With the two-year Associates degree, graduates are able to pursue careers as Computer Aided Design Technicians (Drawer/Modeler/Operator/Drafter), CAD Designers, CAD Detailers, and Engineering Assistants. Students may choose to continue on to a Bachelors program in the fields of: • Technology • Industrial Technology • Engineering Technology • Project Management • Construction Management, or • Logistics, for example, to prepare for jobs as: • Project Manager • Industrial Trainer • Technical Educator (Teacher) • Quality Assurance Engineer • Manufacturing Engineer • Material Handling Engineer • Product/Tool Designer • Process Designer • Systems Integration Engineer/Technician • Technical Salesperson As described below, progress towards these careers

	can begin in high school.
3.5 What innovations have been implemented or brought to this program that other colleges would want to learn about?	An example would be the on-boarding and integration into the CAD curriculum of two new rapid prototyping machines (RPMs). Machines are by a different maker and use a different medium than the RPMs previously used in the CAD lab. The lab is set-up to employ best practices for learning and currently reflects the same set-up as the students will encounter in industry such as most current versions of software applications, dual-screen monitors and network dissemination of work/project files. Additionally, the lab possesses the ability to play audio and video educational materials, instructor screen is projected giant-size at front of room while simultaneously projecting on students' secondary monitor, lab receives much natural light and possesses views to green spaces (research studies show improved learning and mood when these are available). New LED lights are state of the art for proper educational lighting (including daylight sensing) and students have direct access to rapid prototyping machines in immediately adjoining space so as to be convenient without causing distraction by the noise/movement produced.
3.6 Are there dual credit opportunities? If so please list offerings and the associated high schools.	Four CAD courses are currently utilized for dual-credit with local high schools (excluding schools from U-46): • CAD-101(EGR-101) Introduction to Engineering Design • CAD-206 Industrial Design Problems • CAD-120 Introduction to SOLIDWORKS • CAD-121 Advanced Concepts in SOLIDWORKS One course is available for articulated credit (excluding schools from U-46): • CAD-108 Intro to MicroCAD AutoCAD These courses contribute to the completion of the degree, as well as two certificates: • 2 of 3 courses complete for BVS SolidWorks • 4 of 5 courses complete for BVS Computer Aided Design Additionally, other CAD degree requirements are also

	eligible for early college credit:
	• IMT-103 Industrial Manufacturing Tech I
	  o Dual credit, d300, d301, d303 schools
	  o Articulated credit, U-46 high schools
	• IMT-104 Industrial Manufacturing Tech II
	  o Dual credit, d300, d301, d303 schools
	  o Articulated credit, U-46 high schools
	• IMT-110 Intro to Computer Integrated Mfg
	  o Dual credit, d300, d301, d303 schools
	• WEL-101 Welding I
	  o Dual credit, d300, d301, d303 schools
	  o Articulated credit, all high schools
	• MTH-107 Technical Math I
	  o Dual credit, d300, d301, d303 schools
	Unfortunately, cost-cutting measures by the high schools can impact enrollment. District U-46 did abstain for several years and while students have returned recently, they are not nearly the quantity of students once enrolled.

3.7 What work-based learning opportunities are available and integrated into the curriculum?	Internships are numerous and plentiful for the CAD students at the college. While these opportunities are not required as part of the program curricula, the students are encouraged to apply for the positions. The program may consider adding such a work/internship requirement to advanced courses, as graduates with this experience may fare better than those without in terms of job placement. The college has created a new division to focus specifically on workforce development and experiential learning, and these opportunities are expected to grow.
3.8 Is industry accreditation required for this program (e.g. nursing)? If so, identify the accrediting body. Please also list if the college has chosen to voluntarily seek accreditation (e.g. automotive technology, NATEF).	N/A
3.9 Are industry-recognized credentials offered? If so, please list.	There is a certification exam available for SolidWorks; CSWA - Certified SOLIDWORKS Associate (CSWA). The exam must be completed

	through SolidWorks, not the college.
3.10 Is this an apprenticeship program? If so, please elaborate.	N/A
3.11 If applicable, please list the licensure examination pass rate.	N/A
3.12 What current articulation or cooperative agreements/initiatives are in place for this program?	CAD AAS graduates have guaranteed articulation with: • IIT in the Logistics program, BS degree 2+2 option • NIU: 3+1 Bachelor's degree completion, Technology program
3.13 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?	Over the past 5 years, the CAD program has become a strong partner with the IMT/Computer Integrated Manufacturing program. With the creation and launch of the CIM program in the IMT department, many CAD classes have become part of CIM students' programs of study by way of requirements and electives. Additionally, many CAD students decide to go on and complete the CIM degree as well as vice versa. Strong partnerships have also been created with the Integrated Career & Academic Preparation System (ICAPS) programs a those students' programs of studies have required CAD classes. The presence of the ICAPS students have strengthened the CAD department's teaching skills, as their unique needs are explained and anticipated. All CAD students have been able to benefit from the ICAPS students' presence as the standard and ICAPS sections are integrated.
3.14 What is the faculty to student ratio for courses in this program? Please provide a range and average.	The CAD program utilized 4 faculty in FY17, two full-time. The average faculty to student ratio within the courses was 7.6 with a range of 1.7 to 16.7. This information was provided by Institutional Research, who suggested various ways to calculate the information. This method seems to most closely match what is being asked. Class sizes are capped by faculty contract and vary by discipline. Instructional Deans are more likely to pay attention to the full-time/part-time credit hour ratios than a faculty to student ratio as a measure of quality.

3.15 What professional development or training is offered to adjunct and full time faculty that may increase the quality of this program?	There are plentiful and various professional development opportunities for faculty at the college. The faculty contract allows for professional development funds, and includes part-time faculty. The college offers in-house training on various subjects. Within this particular program, faculty may pursue professional association or other professional opportunities as interest and budget allow. On-line CEUs from McGraw Hill Construction Publishing can be used for keeping up with industry advancements and current practices. Discussions between faculty members of related disciplines (welding, machining, processing) are also used for learning and keeping current.
3.16 What is the status of the current technology and equipment used for this program?	Overall, the CAD department technology is state of the art. Each year, the software applications used for all classes are updated to the most recent revisions. The computers are due or past due to be updated, but that rotation is not something the CAD department or associated division has a hand in deciding. The Brown & Sharpe Gage 2000 Coordinate Measuring Machine (CMM) is the one piece of hardware needing an update or augment. Two new rapid prototyping machines were added in 2016. The department is currently exploring adding a laser digitizer to augment the CMM, or updating the current CMM that is already in place in the lab. The ability to digitize parts for reverse engineering and advanced geometric dimensioning and tolerancing inspection purposes would be a way to improve the program quality for CAD AAS majors. The ability for the students to experience the process as well as use the resource would be a solid improvement to their overall program experience. As previously discussed, the industry has changed the ProE software application to CREO. These courses will be offered, as they continue to meet community and employer need, but some wording within the curriculum needs to be updated to reflect the current products.
3.17 What assessment methods are used to ensure student success?	All CAD classes require a continual stream of submitted work by the students. Because of this

	constant and steady evaluation, the current student progress, success, or the absence of, is noticed quickly by the instructor. Most issues are easily addressed to a satisfactory result by the instructor on a one-on-one basis. Issues that require a different or deeper level of problem solving are referred to the Early Alert system employed at the college or the student's academic advisor. Wider assessment consists of a pre-test (practice final exam) the first week of the semester, which is later compared to a post-test (actual final exam) at the end of the semester. In general large gains of mastery are looked for across the semester as well as proper initial placement (low scores on pre-test, high scores on post). Other methods used involve the assessment of students' final portfolio.
3.18 How satisfied are students with their preparation for employment?	42 CAD completers have responded to the Graduate Follow-up Study conducted by the college over the last five years. 86% indicate they are satisfied with their job preparation. 100% of them are satisfied with the 1) Content of program skills courses, and 2) Lecture & lab experiences, with 62% being Very Satisfied.
3.19 How is student satisfaction information collected?	Despite ICCB rescinding the requirement for the CT Follow-up Survey, the college's Institutional Research department continues to execute this survey protocol one year after certificate or degree completion. In addition, all completers are surveyed *each year*, not just prior to the review, so a full five years of responses can be studied. IR also provides the opportunity for programs to add specific questions to the online version of the survey.
3.20 How are employers engaged in this program? (e.g. curriculum design, review, placement, work-based learning opportunities)	The CAD Department has an advisory committee that has morphed over the years to a shared advisory committee with the IMT area because of the close relationship between the design and fabrication/ manufacturing areas. The CAD department is hopeful and excited for this new membership as it was recognized that the previous committee wasn't particularly well representative of the community or program any longer. Within the past review period, employers asked for the addition of Geometric Dimensioning &

	Tolerancing. This topic was added by way of a new class (CAD-205) required by all CAD AAS students and available to any student with interest in the topic. It is running successfully and is in current use. The advisory committee has been complimentary of the new class.
3.21 How often does the program advisory committee meet?	The first meeting of the new committee met in February 2018 and thereafter will meet once per year, early in the spring term. New conversations included the investigation of a potential new course in Quality, and how the program can promote and recruit for the Revit courses.
3.22 How satisfied are employers in the preparation of the program's graduates?	The CAD department has created basic relationships with several employers in the area, many new to this department. The CAD department still struggles to produce the *quantity* of applicants the community is requesting, but the community is always highly satisfied with the *quality* of the college's CAD graduates available to them. The advisory committee has been extremely pleased and complementary of the instruction delivered by the program and the mastery of topics required of the students. Many employers from outside the district seek out ECC over their own district community college, as the reputation for producing high-quality graduates continues to spread.
3.23 How is employer satisfaction information collected?	There is not a college-wide systematic method in place like there is for graduates. The CAD department relies on Advisory Committee feedback and the information received informally via the contacts made regarding employment opportunities.
3.24 Did the review of program quality result in any actions or modifications? Please explain.	As mentioned, several curriculum changes have been implemented recently to improve and streamline the program. CAD-101/EGR-101 was edited to receive approval from IAI. The degree has been realigned back to a traditional AAS format, whereas before its prescriptive math/science requirements were more akin to a pre-Engineering transfer degree. Electives were also narrowed into a focused group of core required courses which provide the key skills for employment success. This change has resulted in more efficient scheduling of course offerings. To

	further expand flexibility for students, some courses are moving to a hybrid format. Remaining updates for the certificate courses are to remove Keyboarding from the ProE BVS and change any reference to "CREO" to reflect the new product name.

DATA ANALYSIS FOR CTE PROGRAM REVIEW

Please complete for each program reviewed. Colleges may report aggregated data from the parent program or report on enrollment and completion data individually for each certificate within the program. Provide the most recent 5 year longitudinal data available.

CTE PROGRAM	Computer Aided Design				
CIP CODE	15.1306				
	YEAR 1 FY2013	*YEAR 2 FY2014*	*YEAR 3 FY2015*	*YEAR 4 FY2016*	*YEAR 5 FY2017*
*NUMBER OF STUDENTS ENROLLED (*SU/SR SEATCOUNT ENROLLMENT for ALL CAD COURSES, excluding EGR-101)*	330	325	369	337	337
NUMBER OF COMPLETERS (AAS DEGREE)	6	2	6	10	2
NUMBER OF COMPLETERS (CERTIFICATES)					
BVS Architectural Design	3	0	2	4	0
BVS Revit	4	0	0	0	0
BVS SolidWorks	24	7	29	18	19
BVS AutoCAD	12	16	22	15	16
BVS Computer-Aided Design	11	11	17	10	3
BVS Practicing Professional PROE/CREO	2	0	2	2	0
OTHER (PLEASE IDENTIFY) **OVERALL CAD COURSE SUCCESS (A-C) RATES, excluding withdrawals*	90.5%	93.9%	87.4%	91.0%	95.0%
OTHER (PLEASE IDENTIFY)	Program also receives course-level enrollment and success data as part of their Quality review.				
How does the data support the program goals? Elaborate.	It is observed that CAD classes fit into one of two categories: o Strong, core classes with stable to slightly increasing enrollment (101, 205, 206 108, 118, 120, 121 & 208) o Classes that are challenging to fill with students, rarely				

	running and are not degree requirements but may satisfy the sporadic training needs of local employers (211, 215, 109, 119, 130, 131). At this time, it is suggested that all classes remain on the books. The second set (CREO, Revit, and architecture) relate to specific marketable skills. As the next review period passes, their currency will be evaluated, and if they are not utilized to any significant degree, serious consideration should be given to withdrawing them in favor of others which can serve local training needs. Furthermore, presenting advisory committees with rationale for sun-setting certain courses will be part of ongoing conversations. Overall, class size tends to be small in CAD, which facilitates the intensive feedback process and supports high level of success. Students do better, feel better about the experience, and receive a better educational product with smaller student-to-teacher ratios. The CAD program's course success rates are high and very stable, exceeding college averages (88% for CTE courses in 2017). The low point across the five years was seen in 2015 and was related to some anomalous low success in two low enrolled courses. Tech-prep students have hit 100% for each year except 2013. It is expected that the recent changes to the AAS degree (implemented for 18/19) will increase the number of completions moving forward. The total number of credits has been reduced, and the options to satisfy the various general education requirements have been widened. It is expected that the number of awards granted for the PRO-E/CREO, Architecture and Revit certificates will continue to be low. Historically, students get lured away by tempting employment before they reach the completion of their program. Again, this goes back to the students' main goal when entering the CAD department being good/solid employment, which is easily achieved before formally completing a degree or certificate.
What disaggregated data was reviewed?	Within CTE programs, the college Institutional Research department provides statistics for program enrollment and completion broken-down by gender, age and race/ethnicity. Patterns for CAD will be addressed in items below. Programs and related internal planning groups will continue to collaborate with Institutional Research to determine if similar enrollment or success metrics by student group can be helpful at the *discipline/course* level. Across the college, faculty are

	very interested in closing achievement gaps and participate in institutional efforts to raise achievement for all students. Disaggregation is provided for course modality and for early college credit students, such as tech prep and middle college. As these populations expand, the college will study their performance as compared to the standard college counterparts. The use and degree of success of the new hybrid modality for the CAD department will be of interest during the next program review.
Were there gaps in the data? Please explain.	Demographic gaps will be discussed below. Otherwise, no further analysis has yet been completed on student success by various characteristics.
What is the college doing to overcome any identifiable gaps?	The college is a Leader College within Achieving the Dream. Under this membership, the *Student Success Infrastructure* coordinates data analysis and new initiatives from an equity mindset. Many projects will address all students, but many are focused on specific populations to address gaps. For example, new welcome activities have been developed for African-American students, and the first annual HBCU college fair was held in 2018, organized by the Student Life Coordinator for Targeted Populations. The ICAPS program also works to provide additional support to these student populations.
Are the students served in this program representative of the total student population? Please explain.	The college's Latino population has been slightly increasing each year and in 2017, represented 42% of enrolled students, matching the figure for White students, also at 42%. The CAD program has fewer Latino students (29%) and more White students (58%). As mentioned, the program is filled primarily with male students, 89%, compared to the college average of 47%. CAD students are somewhat less likely to be "traditional" college age (17 -22), 47% to the college 54%, and there are a bit more aged 30 – 39 than the college, 18% to 12%. *(source: ECC Pivot Tables, Tab 1 from American Community Survey, U.S. Census)*
Are the students served in this program representative of the district population? Please explain.	The gender disparity is the same as compared to the district. The CAD program enrolls slightly more Latino students and an equal proportion of African American students compared to the district population. It is expected that there will be a significant difference in comparing to the age distribution of the community, as all segments are not equally likely to be "college-going." The

	district community has a 50-50 split of genders.
REVIEW RESULTS	
Action	☒ Continued with Minor Improvements ☐ Significantly Modified ☐ Placed on Inactive Status ☐Discontinued/Eliminated ☐ Other (please specify)
Summary Rationale Please provide a brief rationale for the chosen action.	This self-study can conclude there is ample support and need for the current CAD program, with minor updates as noted. Evidence demonstrates community/business demand, available employment opportunities, current student and employer satisfaction and program cross-over to additional degree sequences. The program is on the correct path. Identified improvements are seen as enhancements by the departmental advisory committee, students, and faculty, not corrections to deficits. Over the next five years, the continued recruitment of females, option additions to the AAS degree, lab equipment updating and faculty additions are items to implement in order to offer a better student experience and increase the current speed and level of success by the students and department. There may be some monetary/financial needs for the upgrading of the CMM/digitizer equipment. Other needs are expected to only be in-house college department supplied services such as media/promotional items.
Intended Action Steps What are the action steps resulting from this review? Please detail a timeline and/or dates for each step.	• Update CAD AAS sequence line-up, gain approval through Curriculum Committee; COMPLETE, implement FA18 • Tweak updated CAD AAS as per advisory committee consensus, FA19 • Continue recruitment of females for CAD program, ongoing • Explore/experiment Gage 2000 Coordinate Measuring Machine update / change-out and/or addition of new digitizer equipment, FA19 • Addition of new full-time faculty member so as to ease heavy overload requirements of current limited full-time faculty, each currently consistently reaching maximum overload levels, FA20

COMPUTER AIDED DESIGN

Computer aided design (CAD) is an advanced product development tool used in all manufacturing which allows engineers, designers, and technicians to develop new products faster with increased precision by automating many complex, tedious, and repetitive design tasks. Traditional technical drawing theory and practices are utilized alongside the most up-to-date CAD applications, rapid prototyping machines, modeling simulators, and other high-tech commodities.

Entrance Requirements

None

Program Requirements

None

DEGREE CONFERRED:

ASSOCIATE OF APPLIED SCIENCE IN COMPUTER AIDED DESIGN

First Semester			Sem. Hrs.
CAD	101	Introduction to Engineering Design **or** EGR 101 Engineering Design Graphics/CAD	4
CAD	120	Introduction to SOLIDWORKS®	3
IMT	103	Industrial Manufacturing Tech. I	3
IMT	104	Industrial Manufacturing Tech. II	3
ENG	101	English Composition I **or** BUS 101 Business Communications	3
			Total: 16
Second Semester			
CAD	121	Advanced Concepts in SOLIDWORKS	3
CAD	206	Industrial Design Problems	4
ENG	102	English Composition II **or** BUS 142 Report Writing	3
Required Math/Science Course*			3
IMT	112	Metrology-The Study of Measurement	3
			Total: 16
Third Semester			
Social/Behavior Science Requirement			3
CAD	108	Intro to MicroCAD® AutoCAD®	3
CAD	118	Computer Graphics-Advanced AutoCAD®	3
CAD	105	Pro/ENGINEER® Basic Design Training	3
Required Liberal Education Course*			3
			Total: 15
Fourth Semester			
CAD	111	Pro/E Adv Part & Assembly Design	3
CAD	208	Applied Desc Geometry & Statics	4
WEL	101	Welding I	2
CAD	205	Geometric Dimensioning & Tolerancing	3
IMT	110	Intro to Computer Integrated Mfg	2
			Total: 14
			Program Total: 61

*See page 34

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN COMPUTER AIDED DESIGN

			Sem. Hrs.
EGR	101	General Engineering Drawing **or** CAD 101 Introduction to Engineering Design	4
CAD	105	Pro/ENGINEER Basic Design Training	3
CAD	108	Introduction to MicroCAD AutoCAD	3
CAD	206	Industrial Design Problems	4
CAD	120	Introduction to SOLIDWORKS	3
			Total: 17
			Program Total: 17

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN PRACTICING PROFESSIONAL–PROE

First Semester			Sem. Hrs.
OTS	100	Keyboarding	1
CAD	105	Pro/ENGINEER BasicDesign Training	3
CAD	111	Pro/E Adv Part & Assembly Design	3
			Total: 7
Second Semester			
CAD	211	Pro/E Pro SURFACE™	3
CAD	215	Pro/E Super User Training	3
			Total: 6
Third Semester			
CAD	115	Pro/E Production Drawing & Detailing	3
			Total: 3
			Program Total: 16

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN AUTOCAD

			Sem. Hrs.
CAD	108	Introduction to MicroCAD AutoCAD	3
CAD	118	Computer Graphics-Advanced AutoCAD	3

Note: The two AutoCAD classes may be taken the same semester. First eight weeks: CAD 108; second eight weeks: CAD 118.

Total: 6
Program Total: 6

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN ARCHITECTURAL DESIGN

			Sem. Hrs.
CAD	108	Introduction to MicroCAD AutoCAD	3
CAD	109	Foundations of Architectural Design	3
CAD	119	Advanced Architectural Design	3
			Total: 9
			Program Total: 9

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN REVIT®

			Sem. Hrs.
CAD	130	Introduction to Revit	3
CAD	131	Advanced Concepts in Revit	3
			Total: 6
			Program Total: 6

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN SOLIDWORKS

			Sem. Hrs.
CAD	120	Introduction to SOLIDWORKS	3
CAD	121	Advanced Concepts in SOLIDWORKS	3
CAD	208	Applied Desc Geometry & Statics	4
			Total: 10
			Program Total: 10

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

Career & Technical Education

College Name:	Elgin Community College
Fiscal Year in Review:	FY2018

Program Identification Information

Program Title	*Degree or Cert*	*Total Credit Hours*	*6-Digit CIP Code*	*List All certificate programs that are stackable within the parent degree*
Restaurant Management	**AAS**	**65.5**	**12.0504**	Restaurant Supervisor VS Restaurant Operations BVS
Culinary Arts	**AAS**	**71.5**	**12.0503**	Cook VS Prep Cook BVS Cook/Baker Assistant BVS Ice Carving, BVS
Pastry Arts	**AAS**	**72**	**12.0501**	Bakery Supervisor VS Baker VS Decorative Pastry BVS

Address all fields in the template. If there are certificates and/or other stackable credentials within the program, please be sure to specify and sufficiently address all questions regarding each stackable credential.

Program Objectives
What are the overarching objectives/goals of the program?

ECC's Culinary Arts and Hospitality Program has been recognized as having one of the best programs in the Midwest. Degrees and certificates are available for students with a passion to produce culinary or pastry creations or manage the front-of-house. Whether new to the industry or already working in it, students will develop and broaden their technical and employability skills within the classroom, the commercial kitchen labs and the student run restaurant, Spartan Terrace.

Upon completion of the **CORE** components of the program, all students will be able to:

1. Achieve *ServSafe* Food Manager Certification
2. Achieve *ServSafe* Responsible Alcohol Service Certification (CUL & HOS only, N/A for PAS)
3. Recognize proper kitchen safety procedures
4. Understand and demonstrate the theory of *mise en place*
5. Calculate cost and food cost percentage of a recipe
6. Follow written and verbal instructions
7. Execute professional behavior and work habits in an industry environment

	Upon completion of the remainder of the **Culinary Arts** degree curriculum, students will be able to: 1. Describe and produce five mother sauces 2. Differentiate and produce food using the following cooking techniques: sauté, grill, broil, braise, poach, fry, roast 3. Demonstrate proper food handling procedures, plate presentation, temperature and flavor 4. Design and execute proper techniques needed to compose a plated menu item Upon completion of the remainder of the **Pastry Arts** degree curriculum, students will be able to: 1. Produce a variety of saleable bakery items in a timely manner 2. Perform math functions necessary in the bakery such as bakers' percentages and new yield conversions 3. Execute theory and practical application of techniques in the areas of yeast and breakfast pastries. 4. Execute theory and practical application of techniques in the areas of introductory European pastries such as *petit fours sec* and *petit fours glacé.* 5. Execute theory and practical application of techniques in the areas of introductory custards and *pâte à choux*. 6. Execute theory and practical application of advanced techniques including cakes and confectionery. Upon completion of the remainder of the **Restaurant Management** degree curriculum, students will be able to: 1. Demonstrate customer service skills 2. Demonstrate and apply management and leadership theories in a hospitality environment 3. Demonstrate knowledge of basic programming, usage and report analysis of a POS system
To what extent are these objectives being achieved?	A revised curriculum implemented in Summer 2016. With the inclusion of new core components for all

	degree areas, students will have better conceptual knowledge of the industry as a whole, better preparing them for successful employment. The revisions reduced the total credit-hour totals for each degree, and specific content of the culinary and pastry lab classes was rearranged and updated to assure student success. For example, baker's math content has been moved to the baking theory course for Pastry Arts students only. The degrees also include specific general education courses chosen by the faculty to fulfill the state requirements and provide complementary knowledge and skills to the program. Business Communication, Report Writing, Spanish and Nutrition will better prepare students for a career in the hospitality industry. Due to the integrated nature of the new degree curriculum, many students will stay an additional two to three semesters and earn all three degrees; Culinary, Pastry and Restaurant Management. This provides graduates with a well-rounded education, making them very desirable to operators in the hospitality industry. The core components of the program cover all areas of a restaurant, including menu planning, food preparation, sanitation practices, purchasing, service, and operations. As a capstone experience, students participate in an internship course involving training in a commercial kitchen.
Past Program Review Action What action was reported last time the program was reviewed?	The FY13 report action was "Significantly Modified." Changes were made to the curriculum in two waves, as discussed below, with the progress from each of the report's goals. **Review the culinary curriculum degree requirements and decrease the total credits needed to achieve an Associate's degree in culinary arts.** • <u>Progress reported:</u> Completed to meet ICCB standards. Culinary Arts reduced from 85 credits to 72; Pastry reduced 81.5 credits to 72; Restaurant Management reduced 72 to 69 credits. **Develop new introductory course to focus on all the minimal necessities a culinary cook needs**

	including: bread, chocolate, sugar works, pizza dough, pastries, presentation and plating. • Progress reported: Completed as part of redesign. Faculty concluded that each student in each of the three programs should be prepared for all aspects of the industry; savory, sweet and service. This resulted in a new set of four core courses that all students will take, regardless of specialty. • Faculty chose a standard set of courses to fulfill general education requirements for the AAS degrees. • Certificates were made stackable as students progress toward the degree, some to be completed in one semester. • The titles of degrees and certificates were also revised to reflect current industry standards. • Elective courses were removed from the degrees. Decorative Pastry and Ice Carving are available as additional BVS certificate options for interested students. **Administer a budget to each culinary course; instructors will budget their spending per class.** • Progress reported: This goal was not pursued during the review period. **Clean, update and downsize the culinary objectives and assessments created in 2004.** • Progress reported: Program-level outcomes were revised to reflect the core skills and then those from each of the three areas. Course-level revisions are still ongoing. **Update course objectives and assessments regarding food allergens.** • Progress reported: Completed. **Create a global international food production class that runs parallel to a HOS-220: Restaurant Service and Operations course.** • Progress reported: Not undertaken as a separate course. Global cuisine as a topic integrated into current courses as a new goal within this report. **Create a culinary class on organic farming, maintenance, harvesting and cooking.**

	• Progress reported: Not undertaken in prior review period; an indoor herb garden will be a new goal within this report. **Create an ice carving class as an elective to students interested in honing their employment skills.** • Progress reported: Completed CUL-210: Ice Craving, created and part of new BVS certificate.
CTE PROGRAM REVIEW ANALYSIS Complete the following fields and provide concise information where applicable. Please do not insert full data sets but summarize the data to completely answer the questions. Concise tables displaying this data may be attached. The review will be sent back if any of the below fields are left empty or inadequate information is provided.	
List all pre-requisites for this program (courses, placement scores, etc.).	There are no program entry requirements for the programs within Culinary Arts and Hospitality. In order to enroll in program entry courses and certain 1.1 transfer courses (as part of degree requirements), students must demonstrate basic reading, writing and math skills readiness in the form of test scores (such as ACT/SAT, PARCC), placement results (ALEKS, McCann, writing placement), and/or successful completion of developmental coursework, as outlined on page 13 of the 2018-2019 college catalog and described in Administrative Procedure 1.104: Minimum Competencies.
Please list or attach all required courses (including titles) for completion of this program including institution required courses (e.g. student success, first year, general education requirements, etc.).	Program requirements noted on the catalog page at the end of this chapter.
Provide a rational for content/credit hours beyond 30 hours for a certificate or 60 hours for a degree.	As mentioned, the curriculum for the degree programs restructured for Summer 2016. While this streamlined the coursework, it did not significantly reduce credit hours beyond changes implemented the prior year. All certificates, however, are stackable within the degrees, and each semester a student will earn an additional credential towards the degree. These degrees and certificates exceed the thresholds: • AAS Culinary Arts, 71.5 credits o Vocational Specialist, Cook 45 credits • AAS Pastry Arts, 72 credits

	○ Vocational Specialist, Bakery Supervisor, 48 credits ○ Vocational Specialist, Baker, 36 credits • AAS Restaurant Management, 65.5 credits ○ Vocational Specialist, Restaurant Supervisor, 45.5 Credits The excess is due to the nature of the topics and the amount of time required for laboratory classes to prepare students adequately for industry employment. The majority of the lab production courses are six credit hours, which allows enough time for discussion and demonstration of the topics by the faculty members with the majority of the time spent with students, preparing and practicing the skill set. These credit totals are similar to other community college degree programs.
INDICATOR 1: NEED	***RESPONSE***
1.1 How strong is the occupational demand for the program?	Trends in the current rebounding economy see consumers eating out more and bringing ready-made meals into the home. This has increased job opportunities for the programs' students which prepare them for direct employment at various levels of skill and expertise in the following positions: **Hospitality:** Cafeteria Managers; Food Production Supervisors; Restaurant Managers; Food Service Managers; Banquet Managers; Catering Managers **Culinary Arts:** Line Cook; Breakfast Cook; Banquet Cook; Fry Cook; Grill Cook; Prep Cook; Personal Cook; Food Prep; Pantry Cook **Pastry Arts:** Baker /Production Baker; Bread Baker; Bakery Clerk; Bakery Manager; Cake Decorator; Bakery Assistant Manager; Lead Baker; Overnight Baker; Bakery Production Lead Many chefs and head cooks gain and advance their positions through work experience, but a degree from a community college or technical school will hasten the process. The program receives an abundant number of requests from local industry looking to fill culinary and pastry positions every semester. These openings are posted online and on a job board for

	students. There are more jobs than there are students to fill them. The wages for entry level positions in culinary, pastry and management are between $28,000 and $40,000. The external market forces affecting income potential are politics, immigration laws, and availability of benefits.
1.2 How has demand changed in the past five years and what is the outlook for the next five years?	According to the Bureau of Labor Statistics, the projected change in employment for the years of 2016-2026 will be 10% in these fields, exceeding the average growth rate for all occupations of 7%. The demand for jobs in this sector has steadily increased over the past five years. Data indicates positive growth in the region: • Chefs, Head Cooks and Pastry Cooks, increasing 13% • Institution, restaurant, private chefs and fine dining increasing by 25% o Fast food shows the only decrease – 10% • Food Preparation and service related workers, increase 10% • Food Service managers, increase 7% • Bakers , increase 10%
1.3 What is the district and/or regional need?	Enrollment was very strong during the recession years. This, coupled with an increase in popularity of the programs from television, created a peak which now has reduced sharply across all culinary schools. Enrollment is expected to remain steady at this new level.
1.4 How are students recruited for this program?	Culinary Arts and Hospitality mainly recruits at high school career days and fairs. There are no funds in the budget to recruit on a larger scale throughout the district, and individual programs are generally not marketed by the institution. The program participates in ECC's College Night event each year, which increases awareness and highlights offerings. The program hosts interested high school groups to experience the department and facilities through a buffet lunch, chef demonstration, student testimonials, and a tour of our facility.

	Worth noting is the substantial increased enrollment in HOS-101: Intro to the Hospitality Industry, now 150% higher than five years ago. The class introduces students to the broad world of Hospitality and Tourism. This is promising, given the content and excitement it generates in students for the industry. This drives future enrollment for the department overall.
1.5 Where are students recruited from?	The major source for recruitment of incoming students is from the in-district high schools. There also are reciprocal agreements with surrounding community colleges (Waubonsee, Kishwaukee, Harper and Rock Valley).
1.6 Did the review of program need result in actions or modifications? Please explain.	The biggest need is with student recruitment; from both the high schools and adults seeking retraining. Strategies are also needed to retain current students against the lure of the market place prior to degree completion. The program will continue to evaluate different scheduling options to meet student need and increase enrollment. The program is interested in exploring the possibility of articulation with NIU's hospitality program and building a 2 + 2 agreement. The department will also seek out other institutions which have Bachelor degrees.
INDICATOR 2: COST EFFECTIVENESS	***RESPONSE***
2.1 What are the costs associated with this program?	The costs associated with this program derive primarily from faculty salaries and benefits. The instructional supplies required to run the program are another significant cost. Finally, instructional equipment, including maintenance and replacement are additional contributing factors to overall cost. However, the maintenance and replacement of such equipment will ensure that the program remains relevant and above-par with industry standards.
2.2 How do costs compare to other programs on campus?	These program areas have higher costs in the division due to high contact hours and the need for food products, supplies and large equipment. The rate of food costs increases is beyond the program's control and is dependent on external factors such as production and distribution. In addition, the equipment that is required in the program including but not limited to commercial ovens/stoves,

	steamers/refrigerators/freezers, etc. are on par with other programs in the division such as manufacturing, industrial maintenance or welding. While these costs are not reoccurring annually, replacement of certain pieces are necessary at times.
2.3 How is the college paying for this program and its costs (e.g. grants, etc.)?	The program is supported through the educational fund and tuition/fees revenue. There are instances where Perkins funding is leveraged to procure new and innovative pieces of equipment for the program.
2.4 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? Please explain.	The program is not reliant on grant funding, but has made improvements for cost-efficiency: • The new position of Procurement and Event Chef was created by combining duties from other positions. One person now reviews and makes product purchases for the department as a whole rather than these tasks being done for utilization within separate courses, allowing for more efficient use of food product. • As items are produced in lab classes, the product is used with the scheduled events, packaged for the retail store or held for future use. • The program has added a Par Stock system. Now all faculty are aware of what items are in par stock, and the procurement chef can control the amount of additional ordering of product, which is done weekly. The system allows individual faculty to add additional specialty goods needed to fulfill curriculum requirements on a weekly basis.
2.5 Did the review of program cost result in any actions or modifications? Please explain.	Anticipated large expenses for the culinary department will be the replacement of equipment. The current lab space was built in 2004, and while most of the equipment was new at that time, there were some older pieces repurposed in the facility; everything now is a *minimum* of 14 years old. The program has recently developed a capital equipment inventory database for tracking purposes and will develop a replacement plan. The institution needs to develop an escrow fund and replacement plan for the capital equipment. To maintain quality and to continue to innovate, the program needs to maintain all full-time faculty positions after retirement turn-over.
INDICATOR 3: QUALITY	***RESPONSE***

3.1 What are the program's strengths?	The strength of the program is driven by the passion of the faculty members. Though high in contact hours, the amount of time students have within their lab classes ensure learning objectives are sufficiently achieved. In addition to the passion of all faculty members is a commitment to excellence. Most recently, Chef Patrick Stewart earned the prestigious Orrin G. Thompson award for outstanding faculty in 2017. The student population of Elgin Community College is diverse and leads to cultural diversity in the classroom. The program supports one of the college's General Education learning outcomes, global awareness, through study abroad travel opportunities. The facilities of Spartan Terrace are a superb setting for hands-on active learning. The restaurant is a cornerstone of the program and is highly valued by the community. A Visiting Chef dinner event each semester celebrates the achievements of the program and its students. The program offers two very unique certificate opportunities for students: Decorative Pastry and Ice Carving. These specific skills are an excellent addition to a student's resume. The department has maintained a rotating exchange program with two international culinary schools, one in Semmering, Austria and the other in Angouleme, France. These exchange programs have offered a unique educational, culinary, cultural and co-curricular experience for the students involved. Approximately 6 to 12 students participate each year. An agreement with Italy has recently been finalized.
3.2 What are the identified or potential weaknesses of the program?	Enrollment has been declining for reasons that will be discussed. There is opportunity to increase recruitment and retain more students through the completion of the AAS degrees. The program acknowledges a challenge to provide consistent learning experiences across courses, whether with adjuncts or full-time faculty. Full time instructors create and re-write their curriculum for the success of the ECC student, have ownership, and provide consistency. While adjuncts do a good job, they tend to also work at multiple colleges and may

	use that curriculum. The department has concerns regarding impending full-time faculty retirements and suggest they are replaced with full-time faculty to support the complexity of the department and student success.
3.3 What are the delivery methods of this program? (e.g. traditional format/online/hybrid/team-teaching etc.)?	All courses in Culinary and Pastry are in the traditional face-to-face format by necessity, though the D2L system can be used; for exams, quizzes, attendance, grading, power points, handouts, assignments and any communication with the instructor. There are three Hospitality courses which are offered in the hybrid format. No coursework within the programs is strictly online. It would be possible to move any of the hybrid hospitality courses into a fully online format, but for now there does not seem to be the need. It helps the students to have an instructor they can talk to every few classes to keep them progressing. The new curriculum offers day students the opportunity to take two 7-week courses back-to-back as well as the other core courses in order to complete the first certificate in one semester. The night students can accomplish this certificate in two semesters.
3.4 How does this program fit into a career pathway?	Students interested in the hospitality industry can begin some coursework in high school. Each of the three ECC programs have multiple stackable certificates that prepare students for entry-level positions. Students can earn a certificate each semester progressing towards an AAS degree, which is desired by most hospitality corporations. Where desired, there are also options to continue one's education at the Bachelor's level and beyond via transfer agreements.
3.5 What innovations have been implemented or brought to this program that other colleges would want to learn about?	Over the past five years, the Culinary Arts and Hospitality department has collaborated with several businesses to host recipe competitions. The competitions are incorporated within the curriculum and offer students the opportunity to create recipes and submit an application. Recipes are standardized, and the students' items are prepared to be critiqued by professionals in the industry. These companies

	have provided an excellent opportunity for students to apply knowledge from course objectives to develop unique creations. Scholarships are awarded to the top performing students. The final event of each semester, *Savour the Semester*, brings individual innovation to the students, as they must apply their learning first hand. The students must strategize seasonal cooking, design a menu and plan an execution strategy to bring their concept to fruition. Curriculum modifications were made with an eye to innovation. The course HOS-216: Beverage Management has new curriculum on bar and beverage service. The course PAS-103: Baking Theory brought the students out of the lab and into a lecture environment. This will compliment and scaffold the other skills. The curriculum in Spartan Terrace is more on trend with small plates and has a specific focus to allergy awareness.
3.6 Are there dual credit opportunities? If so, please list offerings and the associated high schools.	Yes, dual credit is available, and during the recent update of the curriculum, attention was paid to ensure appropriate opportunities. High school students can complete the core curriculum (13 credits) and earn the Basic Vocational Specialist certificate in Cook Assistant/Baker Assistant: CUL-106: Serve Safe Manager Certification HOS-100: Kitchen Techniques CUL-101: Cooking Fundamentals 1 HOS-101: Intro to the Hospitality Industry PAS-101: Baking Fundamentals 1 This is available to students from districts 300 (Jacobs, Hampshire and Dundee Crown), 301 (Burlington Central), and 303 (St. Charles East and North). Additionally, articulated credit is available to incoming high school graduates from districts 300, 303 and u46 for HOS-101: Introduction to Hospitality. The programs are exploring the offering of dual-credit opportunities in partnership with the Kishwaukee Educational Consortium (KEC). This would allow high school students to earn ECC college credit while enrolled at the KEC (a career & technical institute) for HOS-101 (Intro) and CUL-106 (ServSafe Manager Certification).

3.7 What work-based learning opportunities are available and integrated into the curriculum?	Each degree includes an internship course, which requires 320 hours of work based experience with an approved employer. This allows for the integration of the curriculum into an industry setting, with additional skills learned from the site. Because the programs are so reliant on hands-on skill, students are also required to participate in several program events which provide industry experience, as well as volume experience. There are a number of events in which students assist in the execution of both production and service, providing valuable experience in a real life setting. While important, this component of the department and connection with the community has outgrown the viable capacity of the current students and gone beyond the scope of the educational objectives. A review should be taken to ensure the focus remains on the learning and educational experience for students that is balanced with labor support from the college. While enrolled, students also have opportunities to join and experience professional events they will encounter in the future, such as membership in the American Culinary Federation, which also provide networking within the industry. Students may attend several events: the annual National Restaurant Association Show to meet vendors who may become employers; America's Baking and Sweets show with demonstrations and classes; and, The Chicago Fine Chocolate Show. As mentioned above, students in their final semester will participate in *Savour the Semester*. The project was designed to be totally student-based, where the student is required to create and write a 2-3 item menu to be presented to the public, mostly the students' family and friends. They will then prepare this menu for approximately 12 patrons, keeping in mind criteria such as time of year and product availability. This project will mirror similar events that a chef will perform on a daily basis. The college has created a new division to focus specifically on workforce development and experiential learning, and these opportunities are expected to grow.

3.8 Is industry accreditation required for this program (e.g. nursing)? If so, identify the accrediting body. Please also list if the college has chosen to voluntarily seek accreditation (e.g. automotive technology, NATEF).	N/A
3.9 Are industry-recognized credentials offered? If so, please list.	Credentials are not required for employment, but do provide an edge. Within the degrees, students do earn industry-recognized certifications: *ServSafe* Manager certification and *ServSafe* Alcohol certification (equivalent to BASSET certification). The state of Illinois has closed its Dept. of Food, Drug & Dairy Division and food service managers no longer need a license; however, managers/supervisors must have the 8-hour *ServSafe* Sanitation Manager Certification every five years. Students complete this requirement in CUL-106 when they begin the program. As of January 1, 2018 all Illinois foodservice managers are required to complete an approved allergen training. *ServSafe* Allergen Certification is ANSI-approved and compliant to the Illinois Food Code. There is discussion with the Advisory Committee and the department to incorporate *ServSafe* Allergen Certification into the curriculum.
3.10 Is this an apprenticeship program? If so, please elaborate.	N/A
3.11 If applicable, please list the licensure examination pass rate.	N/A

3.12 What current articulation or cooperative agreements/initiatives are in place for this program?	The following are the current articulation agreements:
	
	<u>Kendall College 2 + 2:</u>
	• Bachelor of Arts in Hospitality Management
	  o AAS Culinary Arts
	  o AAS Pastry Arts
	  o AAS Restaurant Management
	• Bachelor of Arts in Business with a Concentration in Culinary Entrepreneurship
	  o AAS Culinary Arts AAS Pastry Arts
	• Bachelor of Arts in Business
	  o AAS Restaurant Management

	• Robert Morris University 3 + 1: • Bachelor of Professional Studies in Advanced Culinary Arts, BBA/Management o AAS Culinary Arts The college is pursuing articulation agreements with the following institutions: • Northern Illinois University (Bachelor of Science in Hospitality and Tourism Management) • Roosevelt University • Sullivan University • SIU
3.13 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?	There have been many opportunities for the Culinary Arts and Hospitality program to collaborate both within the college and within the surrounding district community. • ECC's Visual and Performing Arts programming events which enhance college and program awareness with arts patrons • Community companies: o Colonial Café o Grand Victoria Casino o Tate and Lyle, producers of Splenda o John B. Sanfilippo & Son, Inc. owners of Fisher Nut • Collaboration with photography department o Student competition held; photos enlarged to 36"x46" and displayed in Spartan Terrace restaurant. o Funded by ECC foundation • Biology department, specific section of Nutrition course for culinary students to encourage community and boost student success • Elementary Spanish (SPN-101) is required for all three program areas. o The department would like to collaborate with the language faculty to develop some specific culinary-based content while still meeting the course outcomes. o There also is opportunity to improve scheduling availability for Culinary and Pastry students.
3.14 What is the faculty to student ratio for courses in this program?	Within Culinary Arts and Hospitality, there were 14 faculty in FY17, 6 of them full-time (source: ECC Pivot Tables, Tab 6). The average faculty to student ratio

Please provide a range and average.	within the courses was 14.2 with a range of 2.5 to 21 (excluding internship courses). This information was provided by Institutional Research, who suggested various ways to calculate the information. This method seems to most closely match what is being asked. Class sizes are capped by faculty contract and vary by discipline. Instructional Deans are more likely to pay attention to the full-time/part-time credit hour ratios than a faculty to student ratio as a measure of quality.
3.15 What professional development or training is offered to adjunct and full time faculty that may increase the quality of this program?	There are plentiful and various professional development opportunities for faculty at ECC. The faculty contract allows for professional development funds, and includes part-time faculty. The college offers in-house training on various subjects. Within this program, several faculty members belong to the American Culinary Federation, giving them the opportunity to network with industry professionals and keep current on industry trends and standards. Students also have the opportunity to become a member of the ACF as a certified culinarian. Several faculty are also members of the Escoffier Society of Chicago. Faculty in the program have been recognized for the quality of their work. The curriculum redesign was presented at the Community College Conference on Learning Assessment in 2017 and was a finalist for Outstanding Curriculum Design at the college's annual Assessment Diaries event. The program received the Elgin Image Award in recognition of outstanding contribution to the city in 2015. The student Hospitality Club received the programming award 2014- 2015.
3.16 What is the status of the current technology and equipment used for this program?	The equipment in the department is reviewed to ensure it is up to date for industry standards. It is important to be aware of trends in the industry, including equipment options. Two new steam ovens replaced an oven that was over 20 years old. Ice carving equipment, small-wares, and on-trend specialty molds were acquired to enhance instruction in the five kitchens. Audiovisual equipment updates were done in two labs. Audiovisual updates are budgeted for the remaining lab classrooms and Spartan Terrace. Computers and the ability to print

	are available to the students within the department to make access to information quick and efficient.
3.17 What assessment methods are used to ensure student success?	The program strives to have 90% of students achieve a grade of C or better before moving on to next level course, so they are prepared for the next course. If they fall below that grade, the faculty work with the students on how they can improve their grades and their study habits to best succeed on the next try of the course. Retention is also a priority, and faculty and staff of the department mentor and follow-up with students regarding which courses they should take in upcoming semesters. Typical assessment methods are written exams and quizzes, projects, personal portfolios including pictures, recipes and notes, and cooking, baking, and service practicals. In general, faculty developed rubrics are used to grade assignments, with some academic freedom in evaluating student-produced food products in practical exams. Students must learn a lot of information, but then much of the course involves demonstrating those skills. For the most part, the culinary arts are not an exact science. A simple interpretation of a recipe preparation can differ by instructor, and allowances are made. The program is confident that the revised curriculum with the introductory core will support and improve student success and provide a cohesive environment which students will encounter in the industry. The students are assessed throughout the program for their Employability Skills, such as communication, initiative, punctuality, uniform cleanliness, sanitation/safety, organization skills, problem solving and teamwork. The department concludes each semester with a new event, *Savour the Semester,* which encompasses all degree areas and five classes. This event focuses on student skills and is a showcase of their abilities, culminating the degree objectives.
3.18 How satisfied are students with their preparation for employment?	Survey responses from 108 respondents show that students feel that they have been trained well for employment in the industry during their tenure in the

	program. They have complimented the facility, new equipment and highlighted the personal connection they felt with the faculty. Survey responses are 90% satisfied with various components of the program, including job preparation. Faculty spend a considerable amount of time advising students on course enrollment, internship opportunities and employment opportunities. The department has a culinary arts website in which all job opportunities and scholarships are posted, allowing access to current students and alumni. This information is also posted within the department. The internship requirement also reinforces the values of employability skills. The site supervisor will observe, assess and evaluate the student intern's employability skills while working on the job for 320 hours.
3.19 How is student satisfaction information collected?	Despite ICCB rescinding the requirement for the CT Follow-up Survey, the college's Institutional Research department continues to execute this survey protocol one year after certificate or degree completion. In addition, all completers are surveyed *each year*, not just prior to the review, so a full five years of responses can be studied.
3.20 How are employers engaged in this program? (e.g. curriculum design, review, placement, work-based learning opportunities)	Employers are connected to the program through internship opportunities and the Advisory Committee. They were consulted through the recent curriculum design process and helped establish the standards to ensure students are prepared to enter the workforce upon completion of the program. This is where the initial idea of a core first semester for all degree programs began. The group's feedback included the importance of *all* students having some Pastry, Culinary and Service experience within the curriculum, and they have endorsed the degree requirement of Spanish I. Employers participating in the internships will help stress the desired industry skills as well as important 'soft skills' essential to employment, such as professional appearance, timeliness and communication. Members of the committee have assisted with mock-interviews to help students get ready for a successful

	job search. Many local employers will send job openings to the program for posting to students. The Visiting Chef Dinner series will feature alumni chefs some semesters so students can experience progression and application from education to workforce. The Culinary/Hospitality faculty meet once a month to discuss this feedback and means to incorporate it into the classroom.
3.21 How often does the program advisory committee meet?	The program has a large list of Advisory Committee members which include both industry professionals and secondary educators. The committee meets once a year early in the Spring semester. New members are continually added to the invitation list as new professionals become involved in the community, including alumni who are now working in the industry. The committee is invaluable and participates in discussions regarding current trends, employer expectations, and industry standards.
3.22 How satisfied are employers in the preparation of the program's graduates?	Based on interviews with intern employers, the overall feedback is good. The students are knowledgeable about all the basics and are quick learners. A prioritized biggest concern from supervisors is the speed at which students complete tasks on the job and the ability to efficiently multi-task. There is a big adjustment when students move from the learning environment of a classroom to a pressure-filled kitchen. The skill-set comes with time and hours in the field. Faculty will consider ways to incorporate confidence and speed into the curriculum. Employers have expressed concern for some basic employability skills, such as communication, mathematical ability, leadership, commitment, reliability and following written instructions (recipes). Specifically, the math skills include quantity conversions, food cost, yields, and income statements, for example. Topics specific to the industry have been related to product knowledge, sanitation issues, and understanding of how an individual's actions can impact the business and its financial stability, such as product waste and under/over production of product. The committee has suggested incorporating a banquet course into the program. There currently is a class

	assignment focused on a special banquet event, but not a full course.
3.23 How is employer satisfaction information collected?	Information gathered from the internship supervisors is used to assess the students' abilities in the industry. Each year, the culinary department invites leaders from the industry to an Advisory Meeting to discuss the industry, new trends and employee skill-set needs. The information is used to update curriculum and instruction to keep students competitive in the workplace.
3.24 Did the review of program quality result in any actions or modifications? Please explain.	There is opportunity for more trade publications, both online and in print form, in the Library. There are no pastry specific or hospitality management specific publications available for those students to utilize as resources. The department will continue to include a library resource assignment to improve student success throughout their studies and make students aware of all the resources and study spaces available to aid students in their success. The college is not currently offering an international/global cuisine course. Some topics are included within the current curriculum; however, the department would like to address global cuisine in future program goals. Opportunities exist for follow-through with direction and control of classroom activities; clearly defining objectives and relating instruction and production labs to meeting the objectives that are set for each course. Now that the curriculum road-maps have been designed and put into place, faculty can focus on individual courses and assessing specific student outcomes.

DATA ANALYSIS FOR CTE PROGRAM REVIEW Please complete for each program reviewed. Colleges may report aggregated data from the parent program or report on enrollment and completion data individually for each certificate within the program. Provide the most recent 5 year longitudinal data available.					
CTE PROGRAM	**Culinary Arts**				
CIP CODE	**12.0503**				
	FY2013	*FY2014*	*FY2015*	*FY2016*	*FY2017*

*Number of Students Enrolled (*Annual Un-Duplicated Headcount Enrollment for **ALL** CUL/HOS/PAS courses)*	476	429	362	326	249
COMPLETIONS					
AAS – Culinary Arts	23	23	17	25	18
VS – Cook	22	13	3	23	2
BVS – Prep Cook	26	20	7	22	*
BVS – Cook/Baker Assistant	12	103	32	34	6
BVS – Ice Carving	N/A				*
Other (Please identify) **Overall CUL Course Success (A-C) rates, excluding withdrawals*	86%	86%	86%	87%	84%
Other (Please identify)	Program also receives course-level enrollment and success data as part of their Quality review. * Note: Institutional Research is currently investigating possible anomalies with reporting completion of these certificates.				
CTE Program	**Restaurant Management**				
CIP Code	**12.0504**				
	FY2013	*FY2014*	*FY2015*	*FY2016*	*FY2017*
*Number of Students Enrolled (*Annual Un-Duplicated Headcount Enrollment for **ALL** CUL/HOS/PAS courses)*	476	429	362	326	249
COMPLETIONS					
AAS – Restaurant Management	3	1	2	3	2
VS – Restaurant Supervisor	2	3	0	3	1
BVS – Restaurant Operations	25	8	3	8	*
Other (Please identify) **Overall HOS Course Success (A-C) rates, excluding withdrawals*	76%	78%	77%	77%	80%

OTHER (PLEASE IDENTIFY)	Program also receives course-level enrollment and success data (by modality) as part of their Quality review. * Note: Institutional Research is currently investigating possible anomalies with reporting completion of these certificates.				
CTE PROGRAM	**Pastry Arts**				
CIP CODE	**12.0501**				
	FY2013	*FY2014*	*FY2015*	*FY2016*	*FY2017*
*NUMBER OF STUDENTS ENROLLED (*ANNUAL UN-DUPLICATED HEADCOUNT ENROLLMENT for **ALL** CUL/HOS/PAS COURSES)*	476	429	362	326	249
COMPLETIONS					
AAS – PASTRY ARTS	20	15	20	19	11
VS – BAKERY SUPERVISOR	10	23	21	26	1
BVS – BAKER	18	19	28	26	1
BVS – BAKING ASSISTANT (WITHDRAWN)	21	14	53	7	(N/A)
BVS – DECORATIVE PASTRY	N/A				*
*OTHER (PLEASE IDENTIFY) *OVERALL PAS COURSE SUCCESS (A-C) RATES, excluding withdrawals*	82%	81%	85%	84%	85%
OTHER (PLEASE IDENTIFY)	Program also receives course-level enrollment and success data as part of their Quality review. * Note: Institutional Research is currently investigating possible anomalies with reporting completion of these certificates.				
How does the data support the program goals? Elaborate.	**ENROLLMENT** • The overall Culinary department (all CUL/HOS/PAS courses) for the 5 year change is a decline of 48% in headcount and 37% in seat-count. The change in seat-count varies by sub-specialty: 40% Culinary, 28% Hospitality and 46% Pastry. Some of this decline was expected. The college overall has been going down since the recession peak in 2011 and 2012, though these areas have exceeded the ECC average decline of 17% in seats.				

	• Much of this decline can be attributed to the implementation and growth of culinary programs at surrounding community colleges. ECC used to accept joint agreement students from College of Lake County and McHenry County College, which now have their own programs. Recruitment efforts can focus on JA students from the Kishwaukee and Waubonsee districts. • The redesigned curriculum became active in FY17. It is important to understand that a comparison to past years is not directly apples-to-apples. Course-work has been streamlined, and there are fewer credit hours overall. For example, the newly designed core courses of CUL-101 and PAS-101 are 4-credit hours, whereas previous lab courses were 6-credit hours and were individualized for subspecialty. Courses CUL-100 and PAS-100 (Culinary and Pastry Techniques) were combined to HOS-100: Kitchen Techniques for *all* students. • Scheduling is another challenge which can affect enrollment. Not all students are amenable to 8 a.m. sections or taking production classes at night. There is currently not enough enrollment to run all required courses in both day and evening blocks. This affects students who work or have other obligations in one half of the day or the other. • With the new curriculum, care is taken when designing the schedule. Lab courses are very long in duration – several hours. To avoid conflicts, lecture-based sections are scheduled before or after the production courses to allow students to build a viable schedule. The program is also experimenting with back-to-back sections so students can complete two courses in the same semester on a continuous schedule. • Currently, the core courses have the highest enrollment, as they are required for all students as an introduction to the Hospitality field. Enrollment trends moving forward will start with this subset as a baseline. • Low enrolled course are those towards the end of the degree paths for Culinary and Pastry. Often after one year and over the summer break, students may decide degree completion is not their priority and do not return for the second year. It also is common for students to gain employment with the skills acquired via current coursework (and perhaps certificates) and not return to the classroom. • HOS-205: Hospitality Law and HOS-216: Beverage Management are the lowest enrolled courses, as they are

required only for the subset of students seeking the Restaurant Management specialty; HOS-205 is only for those wanting the degree, HOS-216 is required for the degree as well as the two restaurant certificates.

SUCCESS

- The overall course success rates for the program range from 81% to 83% over the past five years with variances for the three sub-areas: Culinary 84% - 87%; Hospitality 76% - 80%; Pastry 81% - 85%. These rates have stayed relatively stable year-to-year. As noted above regarding enrollment, 2017 will become a baseline for the new curriculum, designed to support student success.
- As students' progress through the curriculum, coursework in the second year is more difficult, and slightly lower A – C grades are expected. The redesign may improve this, as students build a stronger foundation of knowledge before moving on. Highest success is then seen in the final semester – the students who remain are committed to the degree and graduation is within sight.
- Success in HOS-101: Intro to the Hospitality Industry has fluctuated over the past few years. This is one course which also is offered in the hybrid format. The hybrid sections have slightly lower success rates, which is typical of the modality. The instructors of this course can take care to ensure a consistent experience across the formats.
- The Hospitality courses are generally lower than the Pastry and Culinary lab-based courses. This is expected, as the majority of students are more interested in producing food product than the administration and business side of the hospitality industry. Students can be reminded that employers in the Advisory Committee stress that they must have a good grasp of the business-side, even if they desire to work in the kitchen.
- Other patterns of note are for the Internship courses and the *ServSafe* Sanitation course. Internships can have lower success rates when students do not complete the requirements within one semester. Many students take more than one semester to reach the required number of hours and receive an incomplete.
- Grades in the *ServSafe* are based on an industry-developed exam. An alarming drop occurred in 2017 when the rate dropped down to 72%. This can be attributed to a part-time instructor who was teaching from a focus on corporate training to those with industry experience rather than a

	focus on students without much background. It is recommended that these courses be taught by a full-time member, who achieved a 100% pass rate in Spring 2018. **COMPLETION** • The curriculum redesign should increase the number of certificates awarded, as they are now stackable with each semester towards a degree. The semester schedule has been changed so students can earn a Vocational Specialist (Cooking/Baker Assistant) certificate in the first year. • These certificates will also be beneficial to the student who stops-out for employment opportunities prior to earning the AAS. Although a degree pays off, it is often hard for students to turn down a bigger paycheck now. • One factor has been the reduction in overall credit hours required to earn an AAS. While still over the typical 60 credits, they have been reduced and will take less time and expense. The overlap across the degrees with the emphasis on developing a wider scope of knowledge will also make it easier for some students to earn multiple degrees, if that is their goal. • Still, typical external barriers to completion exist which are out of the program's control. These include lack of finances, family obligations, academic ability to juggle coursework, and the lure of a strong job market. • When courses required for degree completion are cancelled due to low enrollment, independent study or substitution arrangements are made to allow for on-time graduation (namely, HOS-205 and HOS-216). • Given the major curriculum revisions instituted for FY17, completion data will take a few years to normalize. Figures reported above for FY17 will include students graduating under the older catalog requirements.
What disaggregated data was reviewed?	Within CTE programs, ECC's IR department provides statistics for program enrollment and completion broken-down by gender, age and race/ethnicity. Programs and related internal planning groups will continue to collaborate with Institutional Research to determine if similar enrollment or success metrics by student group can be helpful at the *discipline/course* level. Across the college, faculty are very interested in closing achievement gaps and participate in institutional efforts to raise achievement for all students. Disaggregation is provided for course modality and for early college credit students, such as tech prep and middle college. As these populations expand, the college will study their

	performance as compared to the standard college counterparts. Based on available data, tech-prep students enrolled in culinary courses achieve the same success rates. For the HOS courses offered in both face-to-face and hybrid formats, differences will be studied for quality improvement.
Were there gaps in the data? Please explain.	Preliminary data for Culinary Arts and Hospitality shows that white students complete degrees and certificates in larger proportions than Latino students; females are slightly more likely to complete; and "traditional" college-age students (under age 23) are less likely to complete.
What is the college doing to overcome any identifiable gaps?	ECC is a Leader College within Achieving the Dream. Under this membership, the *Student Success Infrastructure* coordinates data analysis and new initiatives from an equity mindset. Many projects will address all students, but many are focused on specific populations to address gaps. For example, new welcome activities have been developed for African-American students, and the first annual HBCU college fair was held in 2018, organized by the Student Life Coordinator for Targeted Populations. The program faculty will also discuss these gaps and possible strategies within the classrooms.
Are the students served in this program representative of the total student population? Please explain.	The program has been enrolling slightly larger proportions of Latino students over the past five years, though it still falls somewhat below the college's average – 30% to 42% for 2017. Enrollment of white students exceeds the average by 10% and approximates the other groups in similar levels. For gender, the program has typically enrolled slightly more females than males, like the overall college population. In 2017 this changed slightly with 53% of the program's enrolled students being male. It will be interesting to see if this trend continues. The program's students are similar in age distribution for the proportion under age 30. The program enrolls slightly more students over the age of 40 than the college.
Are the students served in this program representative of the district population? Please explain.	Similar comparisons to the districts population as stated above.
REVIEW RESULTS	

Action	☒ Continued with Minor Improvements ☐ Significantly Modified ☐ Placed on Inactive Status ☐Discontinued/Eliminated ☐ Other (please specify)
Summary Rationale Please provide a brief rationale for the chosen action.	The three programs of the Culinary Arts and Hospitality department are facing an enrollment challenge. The curriculum was revised with guidance from the advisory committee. The focus is to be more streamlined and create well-rounded professionals ready for employment. Targeted assessment, course-level curriculum revisions and continued industry collaboration will strengthen the program and demonstrate its value to potential students in the community. The 16/17 academic year has become a baseline, and improvements will be monitored for effect on enrollment, course success, and certificate and degree completion. The overall direction of the program is to maintain the quality of the program and continue to update as the industry changes, as well as increase the infusion of international cuisine in the more advanced lab classes. The department would like to improve recruitment efforts with all the in-district schools, as well as strengthen relationships with industry partners.
Intended Action Steps What are the action steps resulting from this review? Please detail a timeline and/or dates for each step.	**NEXT YEAR** For all programs: • Survey students regarding the new Nutrition course • Begin collaboration with Modern Languages department to develop industry-specific content in SPN-101 • Improve scheduling of SPN-101 for all department students • Implement indoor herb garden for use in all lab kitchens • Pursue articulation with Northern Illinois University • Develop equipment replacement plan for all lab kitchens Specific programs: • CULINARY: Standardize course content for CUL-101 to include recipes to meet course outcomes • PASTRY: Standardize course content for PAS-101 to include recipes to meet course outcomes • REST.MGMT: Benchmarking of degree requirements with local community colleges, specifically gathering data on Hospitality Law course • Begin college's course assessment process for: CUL/HOS/PAS-101, CUL-106 , HOS-100, PAS-103, PAS-110

NEXT FIVE YEARS

For all programs:

- Develop a zero-credit course for the Culinary study abroad programs, FY19/20
- Embed *ServSafe* Allergy certification within current curriculum, FY20/21
- Evaluate the need for general education courses for BVS and VS certificates, FY21/22
- Develop a student Satisfaction Survey for students to address retention, FY21/22
- Develop scheduling visual aid for programs and communicate with advising department, FY21/22
- Research and align course equivalences with local regional programs, FY22/23
- Explore methods to gather employment data from alumni, FY22/23

Culinary Arts:

- Standardize course content for CUL-110 to include recipes to meet course outcomes, FY19/20
- Integrate global cuisine topics in second year lab courses, FY20/21
- Explore a catering certificate, FY21/22
- Course assessments:
    - FY19/20: CUL-205, CUL-210
    - FY20/21: CUL-208
    - FY21/22: CUL-110, CUL-207
    - FY22/23: CUL-203

Pastry Arts

- Explore the possibility of having predetermined internship sites, FY20/21
- Explore a cake decorating certificate – specializing in wedding cakes, FY21/22
- Explore a yeast bread certificate – many students ask for a second yeast bread class, FY22/23
- Course assessments:
    - FY19/20: PAS-202, PAS-280
    - FY20/21: PAS-104
    - FY21/22: PAS-204, PAS-205
    - FY22/23: PAS-220

Restaurant Management

	• Evaluate the transferability of the degree and better align with four year institutions, FY20/21 • Course assessments: o FY19/20: HOS-212 o FY20/21: HOS-120, HOS-214 o FY21/22: HOS-215, HOS-216, HOS-220 o FY22/23: HOS-205, HOS-218, HOS-225, HOS-230

CULINARY ARTS AND HOSPITALITY

ECC's Culinary Arts & Hospitality Program has been recognized as having one of the best programs in the Midwest. If you have a passion to produce culinary and pastry creations and are seeking a degree, our program offers an AAS degree in each major hospitality discipline: culinary arts, pastry arts, and restaurant management. If you are working in the industry and need to enhance your technical skills, our program offers four culinary certificates, four pastry certificates, and three restaurant management certificates. Students learn about every aspect of the industry while developing their technical and employability skills. The program's core courses are learned in a classroom and applied in our five commercial kitchen labs.

According to the Bureau of Labor Statistics 17.8 million people are employed in the hospitality industry. Employment is forecast to increase to 19.6 million jobs by 2020.

The Culinary Arts & Hospitality Program holds articulated agreements with multiple in-district secondary schools. Our program also has transfer agreements with a number of four-year institutions for students who wish to pursue a desired bachelor's degree.

Entrance Requirements

None

Program Requirements

Students must purchase a required ECC uniform and tool kit from the ECC Bookstore by the first day of class. Orders take two weeks to process, so please visit the ECC Bookstore for complete information and order forms.

DEGREE CONFERRED:

ASSOCIATE OF APPLIED SCIENCE IN CULINARY ARTS

First Semester			Sem. Hrs.
HOS	100	Kitchen Techniques	1
CUL	106	ServSafe Manager Certification	1
CUL	101	Cooking Fundamentals I	4
HOS	101	Intro to the Hospitality Industry	3
PAS	101	Baking Fundamentals I	4
BUS	101	Business Communications	3
		Total: 16	
Second Semester			
CUL	110	Cooking Fundamentals II	6
HOS	212	Quantity Food Purchasing	3
HOS	215	Hospitality Supervision	3
BUS	142	Report Writing	3
SPN	101	Elementary Spanish I	4
		Total: 19	
Third Semester			
CUL	203	Meats and Seafood Principles	6
CUL	207	Garde Manger	4
HOS	220	Restaurant Service and Operations	4
HOS	120	ServSafe/BASSETT	0.5
HOS	214	Menu Design & Strategy	3
		Total: 17.5	
Fourth Semester			
CUL	208	Restaurant Food Production	6
HOS	218	Food, Beverage, and Labor Control	3
BIO	101	Nutrition for Today	3
Required Social/Behavioral Sciences Course*			3
		Total: 15	
Fifth Semester			
CUL	205	Culinary Internship	4
		Total: 4	
		Program Total: 71.5	

*See page 34

CERTIFICATE CONFERRED:

VOCATIONAL SPECIALIST IN COOK

First Semester			Sem. Hrs.
HOS	100	Kitchen Techniques	1
CUL	106	ServSafe Manager Certification	1
CUL	101	Cooking Fundamentals I	4
PAS	101	Baking Fundamentals I	4
HOS	101	Intro to the Hospitality Industry	3
BUS	101	Business Communications	3
		Total: 16	
Second Semester.			
CUL	110	Cooking Fundamentals II	6
HOS	212	Quantity Food Purchasing	3
HOS	215	Hospitality Supervision	3
SPN	101	Elementary Spanish I	4
		Total: 16	
Third Semester			
CUL	203	Meats and Seafood Principles	6
CUL	207	Garde Manger	4
BUS	142	Report Writing	3
		Total: 13	
		Program Total: 45	

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN PREP COOK

First Semester			Sem. Hrs.
HOS	100	Kitchen Techniques	1
CUL	106	ServSafe Manager Certification	1
CUL	101	Cooking Fundamentals I	4
PAS	101	Baking Fundamentals I	4
HOS	101	Intro to the Hospitality Industry	3
		Total: 13	
Second Semester.			
CUL	110	Cooking Fundamentals II	6
BUS	101	Business Communications	3
SPN	101	Elementary Spanish I	4
		Total: 13	
		Program Total: 26	

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN COOK ASSISTANT/BAKER ASSISTANT

Courses			Sem. Hrs.
HOS	100	Kitchen Techniques	1
CUL	106	ServSafe Manager Certification	1
CUL	101	Cooking Fundamentals I	4
PAS	101	Baking Fundamentals I	4
HOS	101	Intro to the Hospitality Industry	3
		Program Total: 13	

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN ICE CARVING

Courses			Sem. Hrs.
HOS	100	Kitchen Techniques	1
CUL	106	ServSafe Manager Certification	1
CUL	210	Ice Carving	3
		Program Total: 5	

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

DEGREE CONFERRED:
ASSOCIATE OF APPLIED SCIENCE IN RESTAURANT MANAGEMENT

First Semester			Sem. Hrs.
HOS	100	Kitchen Techniques	1
CUL	106	ServSafe Manager Certification	1
CUL	101	Cooking Fundamentals I	4
PAS	101	Baking Fundamentals I	4
HOS	101	Intro to the Hospitality Industry	3
BUS	101	Business Communications	3
		Total: 16	
Second Semester			
HOS	220	Restaurant Service and Operations	4
HOS	120	ServSafe/BASSETT	.0.5
HOS	212	Quantity Food Purchasing	3
HOS	215	Hospitality Supervision	3
BUS	120	Business Mathematics	3
BUS	131	Customer Service Solutions	1
		Total: 14.5	
Third Semester			
HOS	225	Dining Room Management	6
HOS	214	Menu Design & Strategy	3
HOS	216	Beverage Management	3
BUS	142	Report Writing	3
		Total: 15	
Fourth Semester.			
HOS	218	Food, Beverage, and Labor Control	3
HOS	205	Hospitality Law	3
BIO	101	Nutrition for Today	3
SPN	101	Elementary Spanish I	4
Required Social/Behavioral Sciences Course*			3
		Total: 16	
Fifth Semester			
HOS	230	Hospitality Management Internship	4
		Total: 4	
		Program Total: 65.5	

*See page 34

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN RESTAURANT SUPERVISOR

First Semester			Sem. Hrs.
HOS	100	Kitchen Techniques	1
CUL	106	ServSafe Manager Certification	1
CUL	101	Cooking Fundamentals I	4
PAS	101	Baking Fundamentals I	4
HOS	101	Intro to the Hospitality Industry	3
BUS	101	Business Communications	3
		Total: 16	
Second Semester			
HOS	220	Restaurant Service and Operations	4
HOS	120	ServSafe/BASSETT	.0.5
HOS	212	Quantity Food Purchasing	3
HOS	215	Hospitality Supervision	3
BUS	131	Customer Service Solutions	1
BUS	120	Business Mathematics	3
		Total: 14.5	
Third Semester			
HOS	225	Dining Room Management	6
HOS	214	Menu Design & Strategy	3
HOS	216	Beverage Management	3
BUS	142	Report Writing	3
		Total: 15	
		Program Total: 45.5	

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN RESTAURANT OPERATIONS

First Semester			Sem. Hrs.
HOS	100	Kitchen Techniques	1
CUL	106	ServSafe Manager Certification	1
CUL	101	Cooking Fundamentals I	4
PAS	101	Baking Fundamentals I	4
HOS	101	Intro to the Hospitality Industry	3
		Total: 12	
Second Semester			
HOS	220	Restaurant Service and Operations	4
HOS	120	ServSafe/BASSETT	.0.5
BUS	131	Customer Service Solutions	1
HOS	216	Beverage Management	3
		Total: 9.5	
		Program Total: 21.5	

DEGREE CONFERRED:
ASSOCIATE OF APPLIED SCIENCE IN PASTRY ARTS

First Semester			Sem. Hrs.
HOS	100	Kitchen Techniques	1
CUL	106	ServSafe Manager Certification	1
CUL	101	Cooking Fundamentals I	4
PAS	101	Baking Fundamentals I	4
PAS	103	Baking Theory	1
HOS	101	Intro to the Hospitality Industry	3
BUS	101	Business Communications	3
		Total: 17	
Second Semester			
PAS	110	Baking Fundamentals II	6
PAS	104	Yeast Bread	6
HOS	212	Quantity Food Purchasing	3
SPN	101	Elementary Spanish I	4
		Total: 19	
Third Semester			
PAS	202	Patisserie & Confections I	6
HOS	214	Menu Design & Strategy	3
HOS	215	Hospitality Supervision	3
BUS	142	Report Writing	3
		Total: 15	
Fourth Semester			
PAS	280	Patisserie & Confections II	6
PAS	220	Customer Service Operations	2
HOS	218	Food, Beverage, and Labor Control	3
BIO	101	Nutrition for Today	3
Required Social/Behavioral Sciences Course*			3
		Total: 17	
Fifth Semester			
PAS	205	Pastry Internship	4
		Total: 4	
		Program Total: 72	

*See page 34

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN BAKERY SUPERVISOR

First Semester			Sem. Hrs.
HOS	100	Kitchen Techniques	1
CUL	106	ServSafe Manager Certification	1
CUL	101	Cooking Fundamentals I	4
PAS	101	Baking Fundamentals I	4
PAS	103	Baking Theory	1
HOS	101	Intro to the Hospitality Industry	3
BUS	101	Business Communications	3
		Total: 17	
Second Semester			
PAS	110	Baking Fundamentals II	6
HOS	212	Quantity Food Purchasing	3
PAS	104	Yeast Bread	6
SPN	101	Elementary Spanish I	4
		Total: 19	
Third Semester			
PAS	202	Patisserie & Confections I	6
HOS	215	Hospitality Supervision	3
BUS	142	Report Writing	3
		Total: 12	
		Program Total: 48	

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN BAKER

First Semester			Sem. Hrs.
HOS	100	Kitchen Techniques	1
CUL	106	ServSafe Manager Certification	1
PAS	101	Baking Fundamentals I	4
CUL	101	Cooking Fundamentals I	4
PAS	103	Baking Theory	1
HOS	101	Intro to the Hospitality Industry	3
BUS	101	Business Communications	3
			Total: 17
Second Semester			
PAS	110	Baking Fundamentals II	6
PAS	104	Yeast Bread	6
BUS	142	Report Writing	3
SPN	101	Elementary Spanish I	4
			Total: 19
			Program Total: 36

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN DECORATIVE PASTRY

Courses			Sem. Hrs.
CUL	106	ServSafe Manager Certification	1
HOS	100	Kitchen Techniques	1
PAS	101	Baking Fundamentals I	4
PAS	204	Decorative Pastry	6
			Program Total: 12

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

Career & Technical Education

College Name:	Elgin Community College
Fiscal Year in Review:	FY2018

Program Identification Information

Program Title	*Degree or Cert*	*Total Credit Hours*	*6-Digit CIP Code*	*List all certificate programs that are stackable within the parent degree*
Dental Assisting	**VS**	**41.5**	**51.0601**	BVS Dental Office Aide (12.5 credits) BVS Pre-Clinical Dental Assisting (15 credits)

Address all fields in the template. If there are certificates and/or other stackable credentials within the program, please be sure to specify and sufficiently address all questions regarding each stackable credential.

Program Objectives What are the overarching objectives/goals of the program?	A dental assistant is an important member of an efficient dental team, providing valuable service to both the dental team and the patient. An assistant aids and anticipates the needs of a dentist in intra-oral procedures, takes x-rays, prepares lab work, is responsible for disinfection/sterilization protocols, and can also perform office administration duties. ECC's program prepares students for this active role through classroom, laboratory and hands-on experiences in a high-tech environment. The program is comprised of three stackable certificates. As the student completes the first semester, they have a basic set of dental assisting skills; as they complete the second semester they have acquired additional skills to make them more employable; third semester is 336 hours in clinical externship offices to give the student hands on/real life training so that they can have some experience as they start their job search. Program Learning Outcomes for the vocational certificate were recently revised. Upon completion of the dental assisting program, students will be able to: 1. Accurately record patient data 2. Demonstrate dental aseptic techniques without cross contamination 3. Assist chairside for a variety of dental procedures 4. Demonstrate proper use of dental instruments and 4-handed dentistry techniques

	5. Properly mix dental materials 6. Define current dental terminology 7. Display professional ethics in all areas of the dental office 8. Demonstrate professional communication skills with regard to patients and the dental team
To what extent are these objectives being achieved?	The program went through an accreditation site visit in 2014 and has approval without reporting. The program is accredited by CODA (Commission on Dental Accreditation of the American Dental Association) and thus follows the educational standards in dental assisting.
Past Program Review Action What action was reported last time the program was reviewed?	The previous program review action was *Continued with minor improvements.* Actions/goals completed since the last review include: • Curriculum improvements resulting from the prior ADA accreditation site visit were made, but anticipated updates to meet new legal rules were on hold pending official action at the state level. • Staff participated in college-provided professional development on topics such as assessment, online teaching, faculty observation, and cultural competence. • The program hired new adjunct faculty, some worked out better than others, and qualified candidates continue to be difficult to find. • In response to advisory committee conversation and course assessment results, the program committed to replacing a lost clinic opportunity for pre-externship students and secured an ECC Foundation mini-grant for three years. • The DEA program participated in the college's Accelerating Opportunities (AO) grant until its funding ended, and then signed on to the new effort, Integrated Career & Academic Preparation System (ICAPS).

CTE PROGRAM REVIEW ANALYSIS

Complete the following fields and provide concise information where applicable. Please do not insert full data sets but summarize the data to completely answer the questions. Concise tables displaying this data may be attached. The review will be sent back if any of the below fields are left empty or inadequate information is provided.

List all pre-requisites for this program (courses, placement scores, etc.).	Prospective students must take the PSB-HOA entrance exam and score in the 12th percentile. Additional admission procedures related to all Health Professions programs are also followed and can be found on the catalog page at the end of this chapter.
Please list or attach all required courses (including titles) for completion of this program including institution required courses (e.g. student success, first year, general education requirements, etc.).	Course requirements are noted on the catalog page at the end of this chapter.
Provide a rational for content/credit hours beyond 30 hours for a certificate or 60 hours for a degree.	The vocational specialist certificate in Clinical Dental Assisting is 41.5 hours. The hours exceed 30 because accreditation requires that the didactic portion of the program be at least 600 hours and the externship at least 300 hours, equaling a minimum of 900 hours. Students will earn two BVS certificates as they complete the first two semesters (27.5 credits) of the VS credential.
INDICATOR 1: NEED	***RESPONSE***
1.1 How strong is the occupational demand for the program?	Chairside dental assisting and front desk assisting are the two main entry-level positons. Upon further work experience, the students can be lead assistants, office managers, sales associates, and teaching faculty. Expanded duties for dental assistants is in the process of changing by law at the state level and should increase the enrollment as doctors look for better trained assistants in the future. The program is comfortable in its niche for assistants, and does not plan to expand to training hygienists. There are not many job openings and the local market is saturated with programs at Harper, College of DuPage, College of Lake County, Rock Valley, Malcom X and Prairie State. Fox College, a proprietary school, also operates in this space. In addition, the current clinic space would need to double or triple in size to meet training guidelines.
1.2 How has demand changed in the past five years and what is the outlook for the next five years?	An 11% increase in demand for dental assistants is expected by the State of Illinois, and the Bureau of Labor statistics predicts an increase of 19.5% by 2026. The aging baby boomers are demanding more

	dentistry and this is not a career that can be out-sourced.
1.3 What is the district and/or regional need?	EMSI shows in the region there will be 11,419 jobs by 2024 with 2,309 of them in the immediate surrounding areas of District 509. The director regularly receives calls/emails for requests for graduates. There are several offices in the area that only want to hire from ECC.
1.4 How are students recruited for this program?	The program director participates in as many activities on and off campus as possible to bring attention to the dental assisting program. The program is also the only college credit, CODA accredited program in northern Illinois. When potential students research their program options, it becomes obvious that ECC is the program of choice.
1.5 Where are students recruited from?	High school students in the local area are exposed to the program via college fairs at U-46 and district 300 as well as ECC's annual College Night. The certificate also qualifies for joint agreements and charge backs from all surrounding colleges. Qualified applicants are considered, if space is available. As will be discussed later in this report, the Dental Assisting program participates in job-training support grants which attract qualified students.
1.6 Did the review of program need result in actions or modifications? Please explain.	Conversations are starting for some significant program changes due to external forces. Long in the works, the state of Illinois has changed the rules governing dental assistants, as of October 2017, including the expansion of the function of dental assistants. The department is waiting for the final educational needs for the expansion before making any changes. This may involve a restructuring of current courses and the addition of new courses to accommodate the increased training by the state. These changes will likely result in a fourth certificate.
INDICATOR 2: COST EFFECTIVENESS	***RESPONSE***
2.1 What are the costs associated with this program?	The costs associated with the Dental Assisting program include: salaries and benefits (89%), operational expenses (8%), contractual services (2%), and travel (1%).

	Salary costs have increased over the last five years with the rise in cost for salaries and benefits across the college. The Dental Assisting program employs one full-time administrative program director and five adjunct faculty. Contractual services and operational expenses have also gradually increased over the last five years as more equipment has been purchased for the program (e.g. digital x-ray and digital impression technology) which subsequently require preventive maintenance. Disposable supply costs also continue to rise. Travel costs have been fairly low except during years where the department must cover travel expenses for accreditation site visitors. Revenue from tuition for the Dental Assisting program has remained fairly stable over the review period, with an increase in FY2016, most likely due to additional grant (ICAPS) students.
2.2 How do costs compare to other programs on campus?	The imbalance of credit hours to contact hours within Health Professions programs is not as large for Dental Assisting. The budget challenges for this program continue to be the high costs associated with dental materials and supplies.
2.3 How is the college paying for this program and its costs (e.g. grants, etc.)?	The Education Fund, tuition and fees cover approximately half of the costs for the Dental Assisting program. Recruiting additional students would help to defray more of the operational costs; though along with more students comes additional pressures to recruit more clinical sites and find additional faculty. Funds from the ICAPS program fund instructional support activities and the retention specialist.
2.4 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? Please explain.	N/A
2.5 Did the review of program cost result in any actions or modifications? Please explain.	Zero-based budgeting has forced the Dental Assisting program to monitor its budget very closely and be more strategic in its budgeting requests. The department has put most of the course handouts on D2L to reduce the amount of copying that is done by faculty and students. Clinic supplies are re-used during simulations involving mannequins if it does not compromise student learning. Faculty costs are kept to a minimum with one administrative full time

	director teaching more than the prescribed 40% load and the remaining courses staffed by part-time faculty. The ongoing costs associated with the digital x-ray technology may become an issue in the future if significant repairs are needed. Implementation of new expanded function curricula may impact the budget as well, with additional supply and faculty costs. Last, there may be a small increase in the instructional supplies budget to facilitate more hands-on practice for students if an on-campus clinic is not feasible.
INDICATOR 3: QUALITY	***RESPONSE***
3.1 What are the program's strengths?	The program will mark its 50th anniversary in 2018, and the director is working with the ECC foundation to put together a celebration. Strengths of the program are the cohesiveness of the faculty and director, the facilities, accreditation with CODA, the interaction of the DEA staff with the students, and the support mechanisms available through participation in the ICAPS program. The faculty of the DEA program are a close group of five. It is easy to discuss student progress/success in each of the courses with the faculty. The department works very hard to help each student succeed. ICAPS has a retention specialist, and the college's Health Professions division has a retention specialist for non-ICAPS students. The small size of the program allows for the building of relationships. The director meets individually with each student prior to enrolling in classes. This helps students be more comfortable to come forward and discuss issues/concerns as they arise during the term. While the DEA courses do not transfer, they can count as electives towards an associate degree. In that initial meeting, the director also discusses college beyond dental assisting with each student. To build upon this relationship, the director also makes herself available to all students by appointment as needed for extra time in labs and classrooms.
3.2 What are the identified or potential weaknesses of the program?	The only potential weakness identified by the director and faculty is that the students could use more hands-on practice of clinical procedures. It is often cited on

	faculty evaluations. The availability of extra practice time is communicated to students, they just need to take advantage of it. Sometimes, students have incorrect program information related to enrollment and coursework, possibly from Advising or Testing. During the one-on-one meetings, the director works to clarify any misunderstandings with each candidate.
3.3 What are the delivery methods of this program? (e.g. traditional format/online/hybrid/team-teaching etc.)?	Coursework in the program is only offered in a traditional, face-to-face format. The students have been polled on several occasions as to whether or not they would want online options, and they have said no. However, the online learning management system, D2L, is used in every DEA course to support content and deliver ongoing grades to the students. Many of the courses also use it for testing, homework assignments, and discussions.
3.4 How does this program fit into a career pathway?	The program's three BVS certificates are stackable into the VS to show completion, as the student progresses through the curriculum and gains more skill. The assisting certificate will peak interest in becoming a hygienist, however, none of the assisting courses would transfer into such a program. A bachelor's degree and DANB certification are required for didactic teaching, as another career option in the field.
3.5 What innovations have been implemented or brought to this program that other colleges would want to learn about?	The department has been looking for opportunities for students to gain practice prior to going out to the externship sites. To fill this void, the department applied for and received a three year mini-grant from the college's foundation. Several volunteer dentists joined this clinic, offering to treat patients from the ECC student body. In an attempt to reach students of need, participants must also be receiving financial aid to qualify. The grant is ending in 2018, so the program is looking for new funding sources. In addition to the clinical dental assisting certificate, current students and currently working assistants are eligible to take DEA-113: Special Projects, for expanded functions training in coronal polishing and pit and fissure sealants.
3.6 Are there dual credit opportunities? If so please list	Dual credit opportunities do not exist, as the admission policy per the accrediting agency requires a

offerings and the associated high schools.	high school diploma or its equivalent or post-secondary degree (Standard 2-1).
3.7 What work-based learning opportunities are available and integrated into the curriculum?	In the final semester of the VS certificate program, two clinical externship courses provide 336 hours of training to students in local area general practice and specialty dental offices. Highly experienced dental professionals teach and supervise all activities. The director has significantly increased the number of externship facilities in the community in recent years, thus creating more relationships with area dentists and staff, offering a wider variety of office types. Additionally, all students attend the Midwinter Dental Convention at McCormick place every February, and they are encouraged to volunteer at the Mission of Mercy event in the years that it is hosted (see item 3.15 below).
3.8 Is industry accreditation required for this program (e.g. nursing)? If so, identify the accrediting body. Please also list if the college has chosen to voluntarily seek accreditation (e.g. automotive technology, NATEF).	The ECC Dental Assisting Program has achieved the distinction of being accredited by the Commission on Dental Accreditation of the American Dental Association (CODA). This is a voluntary accreditation.
3.9 Are industry-recognized credentials offered? If so, please list.	CODA accreditation allows ECC students to sit for the Dental Assisting National Board (DANB) examination to become certified dental assistants. Certification is recognized throughout the country as a high level of professional competence. Any other non-credit training in the area is not recognized, and those students are not eligible to take the DANB exam.
3.10 Is this an apprenticeship program? If so, please elaborate.	This is not a formal apprenticeship program, but does incorporate significant training onsite at a functioning dental office for eight credit hours.
3.11 If applicable, please list the licensure examination pass rate.	Licensure/certification is not required for employment, though as a CODA program, students are eligible to take the DANB examination for a Certified Dental Assistant (CDA) credential. Fewer students than the total certificate completers take the licensure exam. It is expensive to do so and is not required by law to work in the field. However, some practices are moving towards hiring only those

	with the credential, so it can enhance employment opportunities. 2014 80% n=5 2015 75% n=4 2016 100% n=2 2017 100% n=2
3.12 What current articulation or cooperative agreements/initiatives are in place for this program?	The Dental Office Aide BVS certificate is part of the college's Integrated Career & Academic Preparation System (ICAPS), a guided support program to enhance student success via academic support and career navigation courses. Not all DEA students are formally part of ICAPS, but they all are able to benefit. The support is incorporated into the first semester and helps students recognize and develop what it takes to be successful as they continue.
3.13 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?	The director has significantly increased the number of externship facilities in the community in recent years, thus creating more relationships with area dentists and staff. The department has worked with the Delta Dental Foundation on several dental team training events. After the last event in Fall 2016, the program received a very generous gift of $5,000 from the Delta Dental Foundation.
3.14 What is the faculty to student ratio for courses in this program? Please provide a range and average.	The Dental Assisting program utilized 6 faculty in FY17, including the Director (source: ECC Pivot Tables, Tab 6). The average faculty to student ratio within the courses was 10.1 with a range of 5.1 to 16.5. This information was provided by Institutional Research, who suggested various ways to calculate the information. This method seems to most closely match what is being asked. Class sizes are capped by required CODA accreditation faculty/student ratios. Instructional Deans are more likely to pay attention to the full-time/part-time credit hour ratios than a faculty to student ratio as a measure of quality.
3.15 What professional development or training is offered to adjunct and full time faculty that may increase the quality of this program?	There are plentiful and various professional development opportunities for faculty at ECC. The faculty contract allows for professional development funds, and includes part-time faculty. The college offers in-house training on various subjects. Even in light of current travel restrictions and other financial constraints, CTE programs with accreditation

	requirements regarding development opportunities are guaranteed the continued ability to attend such trainings. All Dental Assisting program faculty and the director are required by their credential or license to maintain annual continuing education hours. Often the director and some of the faculty take advantage of D2L, Microsoft, teaching methodologies, student/staff safety, and CPR training offered by the college, in addition to their continuing education hours. The director is also a member of the ADAA, president elect of the Illinois Dental Assistants Association (ILDAA), and a Commission on Dental Accreditation (CODA) site visitor which allows her to bring new ideas back to the program and gain a better understanding of accreditation standards. She is the infection control lead with the Illinois State Dental Society Mission of Mercy event, in which hundreds of volunteers provide free dental care to over 1,000 patients in two days. The director has recently taught a CE course on infection control offered by the ILDAA and was scheduled in the spring to talk to the Elgin Study Club of area dentists at their request. In spring of 2018, one of the adjunct faculty received the Orrin G. Thompson award for faculty excellence.
3.16 What is the status of the current technology and equipment used for this program?	It is an ongoing challenge to stay current with technology and equipment, as the needs of the dental community are ever changing. Technology and equipment for the program are satisfactory, but the program appreciates the opportunity every fiscal year to submit a wish list for further technological upgrades. Still, several visiting dentists recently have commented that the college's facilities were nicer than those at the dental school they attended.
3.17 What assessment methods are used to ensure student success?	The Dental Assisting program regularly participates in the college's annual course assessment process. On almost all of the assessments, students meet or exceed expected outcomes. Analysis might result in a few slight changes or alterations to the course. One such change already mentioned above from assessments in DEA-123 and DEA-124 resulted in new means to provide more clinical practice on campus prior to student externships.

	With the addition of the ICAPS program, an additional mandatory course meets once a week for the students to review instructional material. The ICAPS support instructor has a good relationship with the DEA faculty and is allowed into the clinic or lab as needed for requested student practice time. It is noted that this has improved student skills significantly. ICAPS is now an opt-out program for all full time students in the first semester of the DEA program.
3.18 How satisfied are students with their preparation for employment?	95% of the students responding to a survey (n=23) were either very satisfied or somewhat satisfied with their experience in the dental assisting program over the past five years. Additionally, DEA students who have gone on to hygiene education have come back and told the director how much their foundational education helped them succeed in the hygiene program.
3.19 How is student satisfaction information collected?	Despite ICCB rescinding the requirement for the CT Follow-up Survey, the college's Institutional Research department continues to execute this survey protocol one year after certificate or degree completion. In addition, all completers are surveyed *each year*, not just prior to the review, so a full five years of responses can be studied.
3.20 How are employers engaged in this program? (e.g. curriculum design, review, placement, work-based learning opportunities)	The DEA advisory committee is very supportive of the current program. It has provided input regarding upcoming changes at the state level and the current and future technology needs. The director has significantly increased the number of externship facilities in the community in recent years, thus creating more relationships with area dentists and staff who may employ the program's graduates.
3.21 How often does the program advisory committee meet?	The advisory committee meets twice per year, once each term. The committee has a membership of 17, with 11 that are considered regular, active members. It is a challenge to retain working dental assistants as active members of the committee. Students are recruited but then get jobs and do not always return to sit on the committee. Many of the participating dentists bring their staff as members.

3.22 How satisfied are employers in the preparation of the program's graduates?	The director regularly receives calls/emails from dental offices looking to hire graduates. There are several offices in the area that only want to hire from ECC. The director also is in contact with all of the externship sites, which provide feedback on student performance and preparedness. Many students are hired at the location where their clinical training was completed. The program attempts to replicate what the offices are using as far as technology or materials, so that the students are as well prepared as possible.
3.23 How is employer satisfaction information collected?	Employers are not systematically surveyed by Institutional Research like the graduates. Employers sit on the advisory committee and serve as externship sites. Many of them will hire a student that has been placed in their office, and several will only hire graduates of the program. All of the externship site offices have high regard for the program. The program director does most of the student grading in the externship offices and is, therefore, interacting with both the dentist and the staff and listens to any concerns and ideas they have.
3.24 Did the review of program quality result in any actions or modifications? Please explain.	The program maintains a rigorous plan to maintain CODA accreditation, and the program review process is another layer to document progress. Program faculty noted some interesting conversation during the activity to map the college's General Education outcomes to the curriculum and came away with a different way of viewing their courses. When teaching dental assisting and following the standards for accreditation, the faculty did not realize that they were also contributing to Gen Ed outcomes. The majority of the DEA courses contribute to most of the Gen Ed outcomes. As discussed, there is a need for additional qualified faculty in the program to continue quality teaching and learning.

DATA ANALYSIS FOR CTE PROGRAM REVIEW Please complete for each program reviewed. Colleges may report aggregated data from the parent program or report on enrollment and completion data individually for each certificate within the program. Provide the most recent 5 year longitudinal data available.	
CTE PROGRAM	Dental Assisting
CIP CODE	51.0601

	FY2013	FY2014	FY2015	FY2016	FY2017
NUMBER OF STUDENTS ENROLLED *(Duplicated seatcount)*	288	277	304	293	214
NUMBER OF COMPLETERS					
CLINICAL DENTAL ASSISTING - VS	4	9	18	14	7
PRECLINICAL DENTAL ASSISTING - BVS	20	22	28	17	14
DENTAL OFFICE AIDE - BVS	22	24	22	14	18
OTHER (PLEASE IDENTIFY) **OVERALL DEA COURSE SUCCESS (A-C) RATES, excluding withdrawals*	97.6%	93.5%	98.0%	97.3%	93.0%
How does the data support the program goals? Elaborate.	DEA department had a slightly larger decline over the five year period as compared to the college overall; a 9% difference in seats and 6% difference in credit hours since 2013. With small numbers to begin with, the up/down patterns year to year will appear more pronounced. It was also encouraging to find that enrollment is showing growth in the two clinical externship courses (DEA-123 & DEA-124) as compared to the enrollment in DEA-101 the year prior. To illustrate – 15 students enrolled in DEA-123 in FY17 is 63% of students enrolled in DEA-101 in FY16. The proportion was only 12% for FY12 to FY13. Despite overall lower enrollment, this pattern suggests *more* students are persisting to the third semester to complete the VS certificate. Scheduling can impact enrollment. The department continuously assesses the requests for night and weekend sections. Only one or two students ask about these types of hours on an annual basis. With a morning/early afternoon schedule, the students can still work or keep up with family obligations. Course-level success is strong, hovering in the mid-nineties and consistently exceeding the college CTE average of 88%. The main barrier to completion is that the State of Illinois does not require training or education to work as a dental assistant. It is believed that the increase in completion is due to the department encouraging students to take the clinical courses and use this as work experience on their resumes. Many more employers are requiring work experience to get a job, so the third semester will give students an edge in the market.				

What disaggregated data was reviewed?	Within CTE programs, the college's IR department provides statistics for program enrollment and completion broken-down by gender, age and race/ethnicity. Patterns for DEA will be addressed in items below. Programs and related internal planning groups will continue to collaborate with Institutional Research to determine if similar enrollment or success metrics by student group can be helpful at the *discipline/course* level. Across the college, faculty are very interested in closing achievement gaps and participate in institutional efforts to raise achievement for all students. Disaggregation is provided for course modality and for early college credit students, such as tech prep and middle college, however this analysis is not relevant for Dental Assisting.
Were there gaps in the data? Please explain.	There may be a pattern to investigate regarding Latina students in the program. They comprised approximately 45% - 47% of the DEA enrollment, but only 37% of the completions for the five year period.
What is the college doing to overcome any identifiable gaps?	The college is a Leader College within Achieving the Dream. Under this membership, the *Student Success Infrastructure* coordinates data analysis and new initiatives from an equity mindset. Many projects will address all students, but many are focused on specific populations to address gaps. For example, new welcome activities have been developed for African-American students, and the first annual HBCU college fair was held in 2018, organized by the Student Life Coordinator for Targeted Populations. The ICAPS program also works to provide additional support to these student populations.
Are the students served in this program representative of the total student population? Please explain.	Dental Assisting students definitely skew female. There have been fewer than 10 males enrolled over the past five years. For 2017, there was nearly an exact match to the college on race/ethnicity, with slightly more Latina students (47% to 42%). These students also tend to be in the younger age categories.
Are the students served in this program representative of the district population? Please explain.	As compared to the D509 population, DEA enrolls more Latina students and fewer white students. As mentioned, the program is nearly all female.
REVIEW RESULTS	
Action	☒ Continued with Minor Improvements ☐Significantly Modified

	☐Placed on Inactive Status ☐Discontinued/Eliminated ☐Other (please specify)
Summary Rationale Please provide a brief rationale for the chosen action.	The Dental Assisting program follows self-study and quality improvement protocols to meet and exceed the standards of its voluntary accrediting body, CODA. Enhancements to the program include the hiring of an additional part-time faculty member, who is a dentist. The director is currently exceeding the expected teaching load of the position. However, the program faces challenges with the lack of faculty candidates meeting minimum qualifications. The ability of the program to run a full clinic would provide ample practice and feedback opportunities for student skill development with real patients. The college recognizes this as an opportunity to contribute to the community and fill a local need. This will require funding for staffing and supplies. In the absence of a formal clinic, students will still need adequate opportunity to practice and refine their skills prior to clinical externship assignment. Lastly, changes in regulation with the Illinois State Dental Society will lead to curriculum changes for the expanded duty curriculum. More specifics are anticipated as the 5 state CODA directors meet with ISDS leadership in Summer 2018. This is a very exciting time for Dental Assisting!
Intended Action Steps What are the action steps resulting from this review? Please detail a timeline and/or dates for each step.	• Review and update all course syllabi – teaching faculty and program director, FA18/SP19 • Update DEA-113 course and add to the VS certificate in clinical dental assisting – faculty or program director, FA18/SP19 • Investigate and identify funding for a dental clinic – faculty and program director, FA18/SP19 • Write curriculum for a nitrous oxide monitoring course and add to the VS certificate in clinical dental assisting – faculty or program director, SP19/SU19 • Restructure courses and certificates to include new and updated courses- program director, FA19/SP20 • Investigate need for additional expanded duty courses – program director • Write curriculum for additional expanded duty courses – faculty and program director • Accreditation self-study and site visit – program director, FA20/SP21/SU21

DENTAL ASSISTING

A dental assistant is an important member of an efficient dental team, providing valuable service to both the dental team and the patient. An assistant aids and anticipates the needs of a dentist in intra-oral procedures, takes X-rays, prepares lab work, is responsible for disinfection/sterilization protocols, and can also perform office administration duties.

Elgin Community College's clinical dental assisting certificate program prepares students for this active role in dentistry through classroom, laboratory, and hands-on experiences in our high-tech, extraordinary facilities. Clinical practice begins in the final semester and continues for 336 hours in area general practice and specialty dental offices. Highly experienced dental professionals teach and supervise all on- and off-campus activities.

The ECC Dental Assisting Program has achieved the distinction of being accredited by the Commission on Dental Accreditation (CODA) of the American Dental Association (ADA). Accreditation allows ECC students to sit for the Dental Assisting National Board (DANB) examination to become certified dental assistants (CDA) as they complete the program. Certification is recognized throughout the country as a high level of professional competence.

In addition to the clinical dental assisting certificate, current students and currently working assistants are eligible take the DEA 113 Special Projects class for expanded functions training in coronal polishing and pit and fissure sealants.

Accreditation

The clinical dental assisting program is accredited by the Commission on Dental Accreditation, American Dental Association, 211 East Chicago Avenue, Suite 1900, Chicago, IL 60611-2678, (800) 621-8099. ada.org/en/coda.

Entrance Requirements

Score in the 12th percentile or better in each section of the PSB-HOA exam.

Qualified applicants from other districts may be considered if space is available. Go to elgin.edu/jointagreements to learn more.

Admission Procedures

Applicants must submit the following items to the ECC Records Office:

- ECC application
- Health professions application
- Official high school transcript or high school equivalency certificate
- Official college transcripts

(Note: To request a transcript evaluation go to elgin.edu/evaluation.)

Students may obtain an application for admission online at elgin.edu/dental. PSB- HOA testing information may be found at elgin.edu/testing. PSB-HOA scores are valid for two years from the date the test is taken. Applications for the Dental Assisting Program will be reviewed after PSB-HOA scores have been submitted and candidates will be notified of their status. Students are encouraged to apply early. New dental assisting classes begin in January and August.

Program Requirements

Students must complete all required courses with grades of C or better to be eligible for graduation. Students must provide their own uniforms, safety glasses and transportation to and from all clinical sites.

Policies and Procedures

Students admitted to the Dental Assisting Program may be required to attend an orientation before dental assisting classes begin.

Students applying to the Dental Assisting Program must complete a criminal background check and drug testing upon admission into the program. Students demonstrating a positive background check and/or positive drug screening will be denied admission to any health professions program.

Before attending clinical training, students must have the following documentation on file: negative drug test results, negative background check, completed medical form which includes proof of immunizations/ titer results, proof of health insurance coverage, and proof of CPR certification.

Health professions students will be required to update their drug test, TB test/TB survey, and flu vaccine information on an annual basis. Students demonstrating a positive drug test will be dismissed from the health professions division. The standards, policies, and procedures of the Dental Assisting Program are published in the dental assisting student handbook. Copies of the student handbook may be obtained online at elgin.edu/dental.

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN CLINICAL DENTAL ASSISTING

First Semester			Sem. Hrs.
DEA	101	Dental Assisting I	3
DEA	103	Dental Materials I	3
DEA	106	Dental Aseptic Techniques	3.5
DEA	108	Chairside Dental Assisting I	3
BUS	101	Business Communications **or** ENG 101 English Composition I	3
CMS	101	Fundamentals of Speech	3
		Total:	18.5
Second Semester			
DEA	107	Dental Radiography	3
DEA	111	Dental Assisting II	3
DEA	118	Dental Materials II.	3
DEA	119	Dental Records and Communications	3
DEA	120	Chairside Dental Assisting II	3
		Total:	15
Third Semester			
DEA	123	Clinical Practice I	4
DEA	124	Clinical Practice II	4
		Total:	8
		Program Total:	**41.5**

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN DENTAL OFFICE AIDE

First Semester			Sem. Hrs.
DEA	101	Dental Assisting I	3
DEA	103	Dental Materials I	3
DEA	106	Dental Aseptic Techniques	3.5
DEA	108	Chairside Dental Assisting I	3
		Total:	12.5
		Program Total:	**12.5**

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN PRECLINICAL DENTAL ASSISTING

The awarding of this certificate is contingent upon the student first earning the Basic Vocational Specialist certificate in dental office aide.

Second Semester			Sem. Hrs.
DEA	107	Dental Radiography	3
DEA	111	Dental Assisting II	3
DEA	118	Dental Materials II.	3
DEA	119	Dental Records and Communications	3
DEA	120	Chairside Dental Assisting II	3
		Total:	15
		Program Total:	**15**

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

Career & Technical Education

COLLEGE NAME:	Elgin Community College
FISCAL YEAR IN REVIEW:	FY2018

PROGRAM IDENTIFICATION INFORMATION

PROGRAM TITLE	*DEGREE OR CERT*	*TOTAL CREDIT HOURS*	*6-DIGIT CIP CODE*	*LIST ALL CERTIFICATE PROGRAMS THAT ARE STACKABLE WITHIN THE PARENT DEGREE*
EMT-P (Paramedic) **EMT-B (Basic)**	**BVS** **BVS**	**28.5** **8**	**51.0904** **51.0810**	

Address all fields in the template. If there are certificates and/or other stackable credentials within the program, please be sure to specify and sufficiently address all questions regarding each stackable credential.

Program Objectives
What are the overarching objectives/goals of the program?

The basic vocational certificates in emergency medical technician (Basic and Paramedic) provide students with the skills in patient assessment and emergency treatment procedures. The medical emergencies covered include cardiac, resuscitation, and treatment of existing medical conditions such as diabetes, epilepsy, and emergency childbirth. Specific attention is directed toward definitive treatment and transportation of traumatic injuries.

Completers of each program must pass state licensing exams to be employed. Once working as an EMT-B for six months, students are eligible to apply for admission to the EMT-P paramedic program. EMT-P is a series of five consecutive core courses which prepare one for the Illinois Department of Public Health (IDPH) Paramedic licensure exam.

The EMT-B certificate is comprised of one course. These are the learning outcomes for FSS-215: Emergency Medical Technician Basic:

- Develop familiarity with human anatomy and physiology
- Demonstrate methods of patient assessment
- Describe proper ambulance operations
- Discuss the psychological aspects of emergency care, including how care can be affected by differences in age, race/ethnicity, religion and gender

	• Describe and demonstrate emergency treatment and transportation procedures across topics such as: o Cardiac, resuscitation, bleeding and shock; o Tissue and musculoskeletal injuries and fractures; o Head, face, eye, neck and spine injuries; o Chest, abdomen and genitalia injuries; o Medical emergencies (diabetes, epilepsy, etc.) and emergency childbirth; o Burns, environmental emergencies and hazardous materials; o Spine immobilization, lifting and moving, and principles of extrication. Upon completion of the EMT-Paramedic program, students will be able to: • Competently perform the skills necessary to function as an entry-level EMT-P. o Benchmark: 85% will demonstrate the ability to perform necessary skills, as demonstrated by practical skills validations and preceptor evaluations. • Make appropriate clinical/treatment decisions based on patient assessments and clinical data. o Benchmark: 85% of students will make appropriate clinical / treatment decisions, as demonstrated on practical skill validations, preceptor evaluations, charge medic evaluations, and documentation records. • Exhibit attitudes and behaviors consistent with professional expectations of an entry-level EMT-P. o Benchmark: 85% of students will exhibit attitudes and behaviors appropriate for entry-level practitioners, as demonstrated by practical skill validations and preceptor evaluations. • Successfully pass the state licensure exam. o Benchmark: 85% of students will pass the licensure exam on the first attempt, as demonstrated by first time pass rates on IL state licensing exam and NREMTP exam.
To what extent are these objectives being achieved?	Both programs lead to direct employment after the student passes the licensure exam. The EMT-B student

	might also continue an educational path within Fire Science or progress into EMT-P after a period of time on the job as an EMT-B. The college has recently formalized partnerships with two local hospitals who have their own EMS Systems approved within the Illinois Department of Public Health system. These Education Affiliation Agreements are with Presence Health St. Joseph Hospital and Advocate Sherman Hospital. Both sites are accredited for EMT-P through the Committee on Accreditation for the EMS Professions (CoAEMSP), though this arrangement is undergoing a shift in responsibility and requirements that pose a challenge to Higher Education. In the past, most Paramedic teaching programs were hospital-based, with no oversight from an institution of higher learning such as the college. However, the responsibility of educating Paramedics is shifting nationally to the community college setting. To align with the programs now held at the Center for Emergency Services (CES) campus in Burlington, the EMT-P program has shifted from the college's Health Professions division into Emergency Services. The EMT-B program is run under Fire Science and Safety as a single 8-credit course, FSS-215.
Past Program Review Action What action was reported last time the program was reviewed?	Actions/goals completed since the last review include: **The ECC Assessment Office and Dean of Health Professions will provide coordinators at affiliate hospitals with education around ECC's course assessment process and expectations.** • The EMT-P program completed its first ever course assessment in fall 2013 for EMT-121: Paramedic I. The remaining four EMT courses have been placed on a schedule for course assessment through summer 2017. **Develop CoaEMSP accreditation documents (Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions).** • Both Presence St. Joseph Hospital and Advocate Sherman Hospital have now received their CoAEMSP certifications.

	Review changes in EMS Illinois law and assess potential impact on curriculum and admission requirements • Illinois has not yet adopted a scope of practice for Paramedics in the state. The EMT-P program follows the national curriculum. **Adopt new program textbook** • Both hospitals adopted new textbooks. New sources include more skills assessment and can be interfaced with D2L. **Investigate ECC tutoring services for students** • Students are afforded extra help, upon request, with the instructors at both hospitals. **Review graduate outcomes and evaluations and make adjustments to program; expanded use of in-class practical exams** • A pass/fail psychomotor exam has been added to each section of the program. • Implemented use of emergency physicians and per diem instructors (EMT-P and Registered Nurses) to help with skills validations. • Added additional content on pharmacology based on feedback from graduates. **Incorporate SIMS Lab Learning as an alternative to assessment practicals** • After conversations with the faculty on simulation development, all simulations are done at the hospitals. **Add C3 Learning Software to class presentations** • Advocate Sherman Hospital is using C3 software. **Evaluate consistency of student experiences for fire department sponsored students vs. private ambulance sponsored students** • This initiative had been met with some resistance from fire chiefs due to liability issues. Discussions will continue at advisory committee meetings. • Since 2014, students are finding that getting sponsorships and ambulance ride time is increasingly easier. Elgin Fire Department, the busiest department in District 509, now allows all ECC paramedic students the ability to schedule ride time on their ambulances.

	Explore possibility of developing an EMS AAS degree option • Some discussions began between the hospitals and the college regarding this goal. The accreditation site visit team at Presence St. Joseph Hospital also mentioned that awarding a degree instead of a certificate is the direction that many EMT-P programs nationally are heading towards. • The college has signed a 2+2 agreement with Anna Maria College for a B.A. in Emergency Medical Services Administration. • Exploration of AAS versus certificates-only will continue for this program.

CTE PROGRAM REVIEW ANALYSIS Complete the following fields and provide concise information where applicable. Please do not insert full data sets but summarize the data to completely answer the questions. Concise tables displaying this data may be attached. The review will be sent back if any of the below fields are left empty or inadequate information is provided.	
List all pre-requisites for this program (courses, placement scores, etc.).	Entrance requirements for the EMT-P program include: • Age 18 or older • High school graduate/equivalent • Current Illinois EMT-B license • Six months experience as an EMT-B • Written agreement with an ALS agency for field experience. The full requirements are noted on the program catalog page at the end of this chapter. Special requirements and polices are also in effect for the EMT-B certificate (FSS-215) and are noted on the program catalog page at the end of this chapter. In order to enroll in certain 1.1 transfer courses, students must demonstrate readiness in the form of test scores (such as ACT/SAT, PARCC), placement results (ALEKS, McCann, writing placement), and/or successful completion of developmental coursework, as outlined on page 13 of the 2018-2019 college catalog and described in Administrative Procedure 1.104: Minimum Competencies.
Please list or attach all required courses (including titles) for completion of this program including institution required	Program requirements are noted on the catalog page at the end of this chapter.

courses (e.g. student success, first year, general education requirements, etc.).	
Provide a rational for content/credit hours beyond 30 hours for a certificate or 60 hours for a degree.	N/A
INDICATOR 1: NEED	***RESPONSE***
1.1 How strong is the occupational demand for the program?	Occupational demand is good. The certificates along with licensure lead to immediate employment opportunities for both programs. Local employers seek out graduates from the college's emergency services programs. EMT-B graduates can find employment with private ambulance companies or in hospital emergency rooms. Paramedics can be based in a hospital, clinic or private ambulance company, or within a municipal fire department. Paramedics may also become Lead Instructors and teach or do skill validation. The EMSI search shows the region had approximately 8,000 positions for Emergency Medical Technicians and Paramedics in 2016, 10% above the national average. EMT-B's have a median hourly wage of $17.22/hr., and Paramedics in District 509 earn anywhere from $48,000 to $70,000 annually, depending on employer and seniority.
1.2 How has demand changed in the past five years and what is the outlook for the next five years?	Demand has grown over the past five years and is expected to continue. As the population continues to age, and more people try to "age in place," the need for Paramedics will continue to grow. There is an emerging trend for "Para-medicine" driven by the high cost of inpatient healthcare. An example is the use of paramedics to make house-calls on patients who are at risk for re-admission. Research has found that many readmissions are due to patients not following post-hospital protocols such as medication, exercise and monitoring weight. An in-person checkup can mitigate problems and result in better patient outcomes. This will open a new field for non-emergency paramedic personnel.

1.3 What is the district and/or regional need?	Program need (enrollment) will vary with the needs of the employers within the community. When the area emergency service providers have positions to fill, enrollment will rise; if hiring is stagnant, enrollment stays flat. Demographics show the district need will be strong due to a wave of retirements and the growing/aging population. Program officials are in constant contact with partner hospitals and local employers, and will be alerted of industry changes that may or may not result in an increased demand for program enrollment. Another factor emphasizing the need for formal training programs is that employers are attempting to shift the cost of the training to the employee by making licensure a pre-requisite to employment interviews. In the past, agencies would hire a high-school graduate and provide the training and experience for elevating them up to the paramedic level.
1.4 How are students recruited for this program?	EMT-B draws students from the high schools and is an entryway for students exploring the Fire Science career path. High school graduates are encouraged to join the profession at career days and job fairs. The biggest recruitment tool for EMT-P is encouraging the EMT-B students to consider pursuing the Paramedic career and continuing their education once the required work experience is completed at the Basic level. The strength of the relationships and the frequency of meetings and other communications at ECC's Center for Emergency Services also "advertise" the programs to the local first responder community.
1.5 Where are students recruited from?	Students come from local high schools, the general student population, local fire departments, and local private ambulance companies. In particular, EMT-P is a work-based program, and students have to be sponsored by a local employer/fire department in order to be accepted into the program. Recruitment also happens outside of District 509. Other fire departments who do not have an EMT-P training available in their home community college district may send students to the college. For example, the Aurora

	Fire Department is considering sending students to begin the program for Fall 2018.
1.6 Did the review of program need result in actions or modifications? Please explain.	N/A
INDICATOR 2: COST EFFECTIVENESS	***RESPONSE***
2.1 What are the costs associated with this program?	The largest associated costs with the EMT-B and EMT-P programs are salaries. There are some equipment/technology costs for the EMT-B within the Fire Science budget.
2.2 How do costs compare to other programs on campus?	The financial situation of the EMT-P program is unique. The major associated direct costs are related to the MOU agreements with the partnering hospitals who are paid to administer the program. The MOU requires ECC to reimburse the Hospitals 90% of tuition and fees. The remaining 10% is retained with the college to cover administrative time spent on programmatic logistics. While all the faculty within this department are part-time, there are additional 'other salaries' that are related to the skills validation that is required by the EMT-B program.
2.3 How is the college paying for this program and its costs (e.g. grants, etc.)?	The college pays for this program with the educational fund and tuition revenue.
2.4 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? Please explain.	N/A
2.5 Did the review of program cost result in any actions or modifications? Please explain.	With new skills being added by IDPH, there is a need to continue to update the FSS-215 EMT-B training equipment. The most compelling need is that of a *12 lead monitor* – this was previously a paramedic skill that has been reassigned to the EMT-B level over the last few years. Equipment needs for EMT-P are managed and purchased by the hospital.
INDICATOR 3: QUALITY	***RESPONSE***

3.1 What are the program's strengths?	The strength of the EMT-B program is its preparation of a quality workforce. Area employers visit campus every semester to specifically recruit students trained at ECC's Center for Emergency Services (CES). One of the biggest strengths of the EMT-P program is the quality of the adjunct practitioners teaching the classes at the hospitals. They are dedicated professionals who want to produce successful graduates for this demanding field. They are respectful of the college's expectations while being cognizant of the Illinois Department of Public Health's requirements.
3.2 What are the identified or potential weaknesses of the program?	The biggest weakness is the potential loss of the hospital EMT-P partnership due to the constant merging/acquisition of hospitals. Sherman Hospital was acquired by Advocate, and St. Joseph's Hospital has been acquired twice, once by Resurrection Health and now by Presence. These factors are outside of the college's control, and if a merger caused a site to bow out of the teaching agreement, the college would not have the staff or equipment to seamlessly take over the program. EMT-B/FSS-215: Emergency Medical Technician Basic is now taught at the CES in Burlington. Students taking other coursework in the same semester may be commuting between the two locations. However, steps are being taken to offer more general education courses at the CES to mitigate this potential challenge.
3.3 What are the delivery methods of this program? (e.g. traditional format/online/hybrid/team-teaching etc.)?	The extensive coursework in these programs does not allow for condensed scheduling or online programming. All instruction takes place in a face-to-face classroom or lab setting, though learning can be supplemented with online materials.
3.4 How does this program fit into a career pathway?	EMT-B (FSS-215) prepares students for an entry-level position in a career in Emergency Services. Additionally, the certificate course is recommended for all students who want to join the fire service, as it gives them a good preview of what the modern-day fire service is all about. Quite often, students who think they want to be in the fire service switch paths after discovering the intense emergency medical focus departments now have.

	Besides immediate employment, the EMT-P program provides a strong base for anyone seeking additional education in the medical field. Some graduates go on to earn nursing degrees at four year institutions, others go on to Physician Assistant programs or medical school. The 28.5 credits are transferable to many medical programs which accept the strong academic coursework of EMT-P as an elective.
3.5 What innovations have been implemented or brought to this program that other colleges would want to learn about?	Innovation in this department/program is all about teaching with the latest tools and equipment. This is why the hospital based setting is so important. Our two partner hospitals have constant access to the most technologically advanced medical equipment. The purchase of a fully-functioning ambulance and a state-of-the-art radio system allows students to be dispatched to a simulated call on campus and respond via radio to the instructor. This is an actual real-life scenario that most other programs are unable to duplicate.
3.6 Are there dual credit opportunities? If so please list offerings and the associated high schools.	EMT-B is available as dual-credit with the high schools from districts 300, 301 and 303. The college is considering building a dual-credit program at the CES which would include FSS-215. Dual-credit is not available for EMT-P because one must first become a licensed EMT-B, have six months working experience in the field and be 18 years old in order to be eligible to interview for acceptance into the Paramedic program.
3.7 What work-based learning opportunities are available and integrated into the curriculum?	Within the EMT-B course, students participate in a jobs/career session during the semester, which includes an introduction to Fire Science and Paramedic paths. Other workplace activities can be simulated with the ambulance, burn-tower and radios. The college has created a new division to focus specifically on workforce development and experiential learning, and these opportunities are expected to grow. Paramedic students are sponsored by an agency while enrolled in the program and perform ride time on the ambulance for their sponsoring communities. They also are required to perform clinical time across different hospital departments.

3.8 Is industry accreditation required for this program (e.g. nursing)? If so, identify the accrediting body. Please also list if the college has chosen to voluntarily seek accreditation (e.g. automotive technology, NATEF).	To offer the EMT-B certificate, the college must be authorized by the Illinois Department of Public Health medical system, and the lead faculty must possess Lead Instructor IDPH certification. As discussed, the EMT-P program is offered at IDPH approved hospital sites. Like EMT-B, the lead faculty must possess the Lead Instructor certification.
3.9 Are industry-recognized credentials offered? If so, please list.	Students successfully completing the EMT-B course are allowed to take official Office of the State Fire Marshal state licensing exam at the CES, which is required for employment. Graduates must also pass the IDPH licensure exam to be employed. Successful completion of the EMT-P program allows the opportunity to take the IDPH licensure exam and the State of Illinois Paramedic certification exam. In most cases, the license needs to be in-hand prior to applying for the job.
3.10 Is this an apprenticeship program? If so, please elaborate.	No, these are not official Department of Labor apprenticeship programs.
3.11 If applicable, please list the licensure examination pass rate.	The programs' certification pass rates are closely monitored, as rates falling below 70% will initiate a reevaluation of program approval. Pass rates have been satisfactory for the five years of the review period, some cohorts reaching as high as 95% in the recent terms held at the CES. For EMT-P specifically, students are allowed three attempts at the test before a refresher course is required. The latest available results (2016) show Advocate Sherman at 88% on the first attempt and 100% by the final attempt. Presence St. Joes reported 100% passing rate for all students on the first attempt.
3.12 What current articulation or cooperative agreements/initiatives are in place for this program?	EMT-B is available as dual-credit with local high schools. EMT-P is a rigorous application process, though EMT-B completers with an interest in being a paramedic are encouraged to apply and can also continue in ECC's Fire Science program. Completion of the EMT-P program leads to direct employment. The program has signed an articulation agreement with Anna Maria College for a B.A. in Emergency Medical Services Administration and is in discussions with Missouri Southern State University

	on a B.S. Health Science – Paramedic degree completion option.
3.13 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?	EMT-P is reliant on its partnership with the hospitals, Presence St. Joseph and Advocate Sherman. These agreements were recently renewed. The EMT-B has strong partnership with area agencies, including Superior Ambulance, A-Tec Ambulance and Elgin Medi-Transport.
3.14 What is the faculty to student ratio for courses in this program? Please provide a range and average.	The EMT-B program (FSS-215) utilized 2 faculty in FY17. The average faculty to student ratio within this one course for the year was 19 with a range of 13 to 22. Evening sections typically have slightly lower enrollment. For EMT-P, there were 2 instructors in FY17. Enrollment caps are in place for the EMT-P sections due to regulations and average 17 students, based on the cap and small attrition. During lab/practical portions of the class, skills validators are employed at a mandated 6:1 ratio.
3.15 What professional development or training is offered to adjunct and full time faculty that may increase the quality of this program?	There are plentiful and various professional development opportunities for faculty at ECC. The faculty contract allows for professional development funds, and includes part-time faculty. The college offers in-house training on various subjects. Within EMT-P, the adjunct faculty are employees of their respective hospitals and obtain professional development and continuing Education through their employer. Many EMT-B faculty are current practitioners at local fire departments. This arrangement brings strong credibility to the program.
3.16 What is the status of the current technology and equipment used for this program?	There is a long list of medical equipment that EMT-P are trained on from cardiac monitors, blood glucose machines, to Lucas CPR devices. The equipment used by the teaching hospital is modern and up to date. As paramedics get more medical responsibilities from the Department of Public health, some skills are transitioned down into EMT-B (for example, EMT-B's now must be able to place 12-lead cardiac monitors on a patient). As this occurs, the college may be required to invest in additional equipment in order to properly train the students. Currently, there is not outstanding need.

3.17 What assessment methods are used to ensure student success?	In both programs, student success, student expectations and student retention are monitored from week one. The skills-based curriculum requires that students build upon previously learned information and techniques. Students are required to perform skills tests proctored by practicing paramedic (proctors). These evaluations are a pass/fail skills test. Students must pass all skills to remain in the program. At risk students are addressed in pre-enrollment, as well as throughout the course. When a student is close to the 75% minimum average, they are tutored and counseled on the importance of raising their grades. Where appropriate, the sponsoring agency also gets involved with extra help for the at risk student. Instructor collaboration is definitely a technique that is employed. After noting that some paramedic students were struggling, instructors and proctors met with the Senior Director and the Instructional Coordinator to discuss a plan on having the Paramedic program address the EMT-B (FSS-215) students about the expectations of admission to the program. This practice has now been in place at the Center for Emergency Services since fall 2016.
3.18 How satisfied are students with their preparation for employment?	Students are generally very satisfied. Two instructors in particular are highly thought of by EMT-B students and are mentioned by name on in class satisfaction surveys. Graduates often contact the program afterwards with an interest in addressing the current students. There is a career-day within FSS-215 where major area employers attend, many of whom have had prior experience with the college. As mentioned above, students are given realistic expectations of what the job entails. Topics such as working pay, working hours, and working conditions are all discussed with students, which has received positive feedback. They are appreciative of the college's commitment to mentally preparing them for the real world in addition to the knowledge and clinical skills needed to be successful. Of the 24 EMT-P graduates to respond to the follow-up survey over the last five years, 96% indicated they were satisfied with the level of job preparation received from the program.

3.19 How is student satisfaction information collected?	Despite ICCB rescinding the requirement for the CT Follow-up Survey, ECC's Institutional Research department continues to execute this survey protocol one year after certificate or degree completion. In addition, all completers are surveyed *each year*, not just prior to the review, so a full five years of responses can be studied. IR also provides the opportunity for programs to add specific questions to the online version of the survey. Paramedic students are given surveys by the partner hospitals for feedback which is shared with the college.
3.20 How are employers engaged in this program? (e.g. curriculum design, review, placement, work-based learning opportunities)	Division administration (Senior Director, Instructional Coordinator, Dean and Associate Dean), as well as the EMT-B Instructors, routinely converse with coordinators at the hospital sites. They are invited to speak to students, and meetings are held every semester to discuss ideas on how to better prepare EMT-B students for the rigors of the EMT-P program. The program is able to leverage relationships with the Center for Emergency Services and engages employers in ongoing topics of conversation surrounding IDPH curriculum changes, trends and movements in the EMS service and changing scopes of practice for both groups.
3.21 How often does the program advisory committee meet?	EMT-B is part of the Fire Science Advisory Committee which meets annually. For EMT-P, IDPH has a state-wide advisory committee to set the rules and direction for all programs. Each partner hospital then runs their own advisory committees, which meet monthly. The Senior Director and/or the Dean attend, as well as district 509 emergency medical services providers, to stay in tune with the needs of employers and agencies. For example, a new paramedic requirement was discussed regarding the treatment methodology for opioid overdose. *Narcan* is now administered inter-nasally instead of intravenously, so this was immediately incorporated into the coursework.
3.22 How satisfied are employers in the preparation of the program's graduates?	The college is currently the educator of choice for several private ambulance companies, such as Superior Ambulance, A-Tec Ambulance and Elgin Medi-Transport. Employers recognize the superior training provided in the program, and the students are

	offered jobs upon graduation and State Certification. Because EMT-P students must be sponsored to apply to the program, the faith of the sponsoring agencies is evident when sending the students to the college's program.
3.23 How is employer satisfaction information collected?	Such feedback is generally received during advisory meetings and other points of communication between the college and area stakeholders. They are most interested in students obtaining state licensure. They feel if students can pass Illinois Department of Public Health test, they are prepared for entry level positions.
3.24 Did the review of program quality result in any actions or modifications? Please explain.	The Senior Director along with the Dean will discuss a possible succession plan should one of our teaching hospitals bow out of the teaching agreement signed in October of 2013**.**

DATA ANALYSIS FOR CTE PROGRAM REVIEW

Please complete for each program reviewed. Colleges may report aggregated data from the parent program or report on enrollment and completion data individually for each certificate within the program. Provide the most recent 5 year longitudinal data available.

CTE PROGRAM	**Emergency Medical Technician - Paramedic**				
CIP CODE	**51.0904**				
	YEAR 1 FY2013	*YEAR 2 FY2014*	*YEAR 3 FY2015*	*YEAR 4 FY2016*	*YEAR 5 FY2017*
*NUMBER OF STUDENTS ENROLLED (*SU/SR DUPLICATED SEATCOUNT ENROLLMENT for ALL EMT COURSES)*	160	157	161	186	128
NUMBER OF COMPLETERS	34	25	9	17	26
*OTHER (PLEASE IDENTIFY) *OVERALL EMT COURSE SUCCESS (A-C) RATES, excluding withdrawals*	98.1%	97.4%	97.5%	96.2%	97.7%
OTHER (PLEASE IDENTIFY)	Program also receives course-level enrollment and success data as part of their Quality review.				
How does the data support the program goals? Elaborate.	Enrollment in the Paramedic program will remain fairly consistent with the enrollment caps in place. It does, however, fluctuate with the needs of the D509 sponsoring Fire Departments and private agencies. Starting cohorts of students tend to enroll approximately 35 students in EMT-121. The course success rates are extremely high, and this is due to the selectivity of being admitted, the requirement of an employer sponsor and the prerequisite that a student entering the program must have earned an Illinois Department of Public				

	Health EMT-B license. This, along with strong instructors and quality curriculum, produce these better than average results. The EMT-P Program has an 88%+ completion rate, and that figure stays fairly steady due to the intense admission process and the employer sponsor requirement. Completing students then go on to pass the state exam for licensure.				
CTE PROGRAM	**Emergency Medical Technician - Basic**				
CIP CODE	**51.0810**				
	YEAR 1 FY2013	*YEAR 2 FY2014*	*YEAR 3 FY2015*	*YEAR 4 FY2016*	*YEAR 5 FY2017*
*NUMBER OF STUDENTS ENROLLED (*SU/SR DUPLICATED SEATCOUNT ENROLLMENT in FSS-215)*	101	126	110	108	98
NUMBER OF COMPLETERS	69	74	87	78	71
OTHER (PLEASE IDENTIFY) **FSS-215 COURSE SUCCESS (A-C) RATES, excluding withdrawals*	85.4%	87.3%	84.3%	84.8%	92.0%
How does the data support the program goals? Elaborate.	FSS-215 EMT-B is the highest enrolled course in Fire Science. This is primarily due to the reputation of the program and the ability of the student to earn a state license and a job upon successful completion. It is an intense, rigorous 8-credit hour course, and the success rate is on par with the college's CTE average. The spike to 92% in 2017 can be attributed to strong program evaluation and high instructor expectations.				
What disaggregated data was reviewed?	Within CTE programs, ECC's IR department provides statistics for program enrollment and completion broken-down by gender, age and race/ethnicity. Patterns for the EMS programs will be addressed in items below. Programs and related internal planning groups will continue to collaborate with Institutional Research to determine if similar enrollment or success metrics by student group can be helpful at the *discipline/course* level. Across the college, faculty are very interested in closing achievement gaps and participate in institutional efforts to raise achievement for all students. Disaggregation is provided for course modality and for early college credit students, such as tech prep and middle college. As these populations expand the college will study their performance as compared to the standard college counterparts. For this report, Institutional Research was able to separate FSS enrollment and completions for those enrolled in just the EMT-B course/certificate program. This will allow a more precise				

	look at demographics for the specific credential within the more general FSS program.
Were there gaps in the data? Please explain.	The EMT-P program will monitor success for ambulance versus municipality sponsored students to ensure comparable outcomes. The proportion of enrolled Latino students has been increasing each year (5% in FY13 now grown to 19% in FY17). Analysis can be done to ensure they are completing in similar numbers. Within EMT-B, a primary interest will be to ensure the dual-credit high school students succeed at expected levels. As subgroups, it may appear that women and Latinos are less likely to complete the certificate than their counterparts, which warrants further study.
What is the college doing to overcome any identifiable gaps?	ECC is a Leader College within Achieving the Dream. Under this membership, the *Student Success Infrastructure* coordinates data analysis and new initiatives from an equity mindset. Many projects will address all students, but many are focused on specific populations to address gaps. For example, new welcome activities have been developed for African-American students, and the first annual HBCU college fair was held in 2018, organized by the Student Life Coordinator for Targeted Populations.
Are the students served in this program representative of the total student population? Please explain.	EMT-P students are overwhelmingly male. As mentioned above, Latino enrollment is increasing, but still 70% of students are white, higher than the college's average of 42% in 2017. These students also skew younger, with around 80% under age 30. EMT-B enrolls just under one-third women and 95% of the students are under the age of 30. Like EMT-P, the majority are white (62% in 2017) and though small, numbers of African-American students have been rising slightly.
Are the students served in this program representative of the district population? Please explain.	See above. EMT-P and -B students do not match district proportions.
REVIEW RESULTS	
Action	☒ Continued with Minor Improvements ☐Significantly Modified ☐Placed on Inactive Status ☐Discontinued/Eliminated

	☐Other (please specify)
Summary Rationale Please provide a brief rationale for the chosen action.	EMT-P curriculum is governed through IDPH. The college will continue the collegial and collaborative relationships within the local emergency services community to ensure sufficient training and qualified graduates. EMT-B will remain aligned within FSS to ensure preparation for licensure and entry employment as well as continuation into Fire Science or Paramedic programs.
Intended Action Steps What are the action steps resulting from this review? Please detail a timeline and/or dates for each step.	NEXT YEAR • EMT-P can increase enrollment by finding eligible non-district 509 students. Program will work with fire departments who do not have access to a recognized paramedic program within their home community college - FA18/SP19 • Update MOU agreements with paramedic teaching hospitals – SP19. • Ensure EMT-B equipment stays updated and in compliance with curriculum standards (i.e. New skill of requirement for 12-lead EKG). NEXT FIVE YEARS • Monitor industry needs as the Paramedicine concept develops; ongoing • Explore the use of the EMT-P program for local continuing education for area Paramedics; FA19/SP20 • Continue to update the MOU's with both teaching hospitals; ongoing

EMERGENCY SERVICES

The emergency services training programs at ECC are designed to teach the fundamentals of several emergency services disciplines. The emergency services programs educate firefighters, emergency dispatchers, and emergency medical technicians as well as paramedics. The programs are designed to provide students with the knowledge and skills to be successful in their chosen disciplines, including fire science (FSS), emergency medical technician-basic (EMT-B), emergency medical technician-paramedic (EMT-P) as well as emergency dispatcher (PSC). Students acquire specialized knowledge and skills training from current emergency services practitioners. The emergency services training programs also benefit veteran emergency services professionals who need to update their skills and educations. All training received within the emergency services training programs is in compliance with local, state, and national certifying agencies, enabling graduates the opportunity to obtain job-ready certifications.

EMERGENCY MEDICAL TECHNOLOGY–PARAMEDIC

Accreditation

The emergency medical technology-paramedic program is approved by the Illinois Department of Public Health (IDPH). Presence Health/St. Joseph Hospital is accredited and Advocate/ Sherman Hospital is seeking accreditation through the Committee on Accreditation for the EMS Professions (CoAEMSP).

Entrance Requirements

- Age 18 years or older.
- High school graduate/equivalent.
- Current Illinois EMT-B license.
- Six months experience as an EMT-B.
- Written agreement with an ALS agency for field experience.

Additional Requirements

- Score 75 percent or better on the paramedic training written entrance exam.
- Score in the 25th percentile or better in each section of the PSB-HOA exam.

Note: PSB-HOA testing information may be found at elgin.edu/testing. PSB-HOA scores are valid for two years from the date the test is taken.

Admission to the emergency medical technology-paramedic program is selective. Preference is given to candidates who are employed/sponsored by departments in IDPH EMS Region IX. Qualified applicants from other departments may be considered if space is available. Go to elgin.edu/jointagreements to learn more.

Admission Procedures

Applicants must submit the following items to the ECC Records Office:

- ECC application.
- Official high school transcript or high school equivalency certificate.

Applicants should contact their fire department chief or the EMS Office at Advocate/Sherman Hospital, 224-783-3947, or Presence Health/ St. Joseph Hospital, 847-695-3200 ext. 5956, to obtain an application packet for the EMT-P program. The deadline for applying to the emergency medical technology-paramedic program is May 1. After this date, applications will only be considered if space is available. Applicants will be notified of their status. New EMT-P classes begin in August.

Program Requirements

Students must complete all required courses with grades of C or better to be eligible to sit for the state paramedic licensing exam offered by the Illinois Department of Public Health. Students who begin their education after January 1, 2013 and wish to obtain NREMT National EMS Certification, must successfully complete their paramedic education at an accredited program or one holding a Letter of Review (LOR) from the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Students must provide their own uniform and transportation to and from all clinical sites.

Policies and Procedures

Students applying to the Emergency Medical Technology (EMT-P) Program must provide a valid Social Security number in order be screened for placement on the Illinois Health Care Worker Background Check Registry. Students must be listed on this registry in order to be eligible to complete required clinical training. Students demonstrating a positive background check will be denied admission to the EMT-P program. A valid Social Security number is also needed to apply for licensing/ certification exams.

Before attending clinical training, students must have the following documentation on file: negative drug test results, completed medical form which includes proof of immunizations/ titer results, proof of health insurance coverage, and proof of health care provider CPR certification.

Health professions students will be required to update their drug test, TB test/TB survey, and flu vaccine on an annual basis. Students demonstrating a positive drug test will be dismissed from the health professions division.

The standards, policies, and procedures of the emergency medical technology-paramedic program are published in the emergency medical technology-paramedic student handbook. Copies of the student handbook may be obtained from the participating hospitals.

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN EMERGENCY MEDICAL TECHNOLOGY–PARAMEDIC

First Semester			Sem. Hrs.
EMT	121	Paramedic I	6
EMT	122	Paramedic II	6
			Total: 12
Second Semester			
EMT	123	Paramedic III	6
EMT	124	Paramedic IV	6
			Total: 12
Summer Session			
EMT	133	Paramedic Seminar	4.5
			Total: 4.5
			Program Total: 28.5

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN BASIC OPERATIONS FIREFIGHTER

			Sem. Hrs.
FSS	110	Basic Operation Firefighter Module A	4
FSS	111	Basic Operation Firefighter Module B	4
FSS	112	Basic Operation Firefighter Module C	4
FSS	113	Vehicle Operator/Rescue Awareness	1
FSS	202	Hazardous Materials	3

Total: 16
Program Total: 16

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN EMERGENCY MEDICAL TECHNICIAN-BASIC

			Sem. Hrs.
FSS	215	Emergency Medical Technician-Basic	8

Total: 8
Program Total: 8

PUBLIC SAFETY COMMUNICATIONS

Entrance Requirements

None

Program Requirements

None

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN PUBLIC SAFETY COMMUNICATIONS

Summer Session			Sem. Hrs.
PSC	105	Public Safety Telecommunicator	6

Total: 6

First Semester

CRJ	198	The Police Service	3
ENG	101	English Composition I **or** BUS 101 Business Communications	3
PSC	206	Public Safety Answering Point (PSAP)	3
PSC	207	Pub Saf Answering Point Application	2
CMS	101	Fundamentals of Speech	3

Total: 14

Second Semester

CRJ	101	Introduction to Criminal Justice	3
CRJ	111	Stress Management in Law Enforcement	3
PSC	208	Emergency Medical Dispatch	3
PSC	209	Pub Saf Answering Point Practicum	3

Choose one of the following:

PSC	211	Career Management **or** PSC 212 Legal Aspects/Pub Saf Communications	2

Total: 14
Program Total: 34

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN PUBLIC SAFETY COMMUNICATIONS

To complete the Illinois Law Enforcement Training and Standards Board recommendations for public safety telecommunication (9-1-1) basic training, students take the following:

			Sem. Hrs.
PSC	105	Public Safety Telecommunicator	6

Total: 6
Program Total: 6

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

Career & Technical Education

COLLEGE NAME:	Elgin Community College
FISCAL YEAR IN REVIEW:	FY2018

PROGRAM IDENTIFICATION INFORMATION

PROGRAM TITLE	*DEGREE OR CERT*	*TOTAL CREDIT HOURS*	*6-DIGIT CIP CODE*	*LIST ALL CERTIFICATE PROGRAMS THAT ARE STACKABLE WITHIN THE PARENT DEGREE*
Fire Science & Safety	**AAS**	**60**	**43.0203**	VS Fire Science & Safety BVS Fire Science BVS Fire Officer I
Basic Operations Firefighter	**BVS**	**16**	**43.0203**	

Address all fields in the template. If there are certificates and/or other stackable credentials within the program, please be sure to specify and sufficiently address all questions regarding each stackable credential.

Program Objectives What are the overarching objectives/goals of the program?	Fire Science and Safety is one of the programs under the umbrella of Emergency Services. The associate of applied science degree in fire science and safety offers more in-depth study of the field and prepares students as a highly specialized and thoroughly schooled fire science and safety technician. Students learn to conduct fire prevention inspections which require knowledge in life-safety methods of construction, fire protection systems and the most current fire, building, and life-safety codes. As a state-of-the-art program, it is also of value to practicing professionals seeking to update their skills and education. FSS courses have been included as electives in other programs of study, such as Culinary Arts, Criminal Justice and Welding. Upon completion of the AAS, students will be able to: 1. Demonstrate a comprehensive understanding of fire service routine non-emergency activities and operations. 2. Identify, analyze, and apply proactive fire prevention and comprehensive community risk reduction programs, in order to provide safe and cost effective fire protection. 3. Identify and analyze various types of building construction for adverse effects by fire, appropriate suppression methodology, and risk to firefighters.

	4. Identify and apply reactive fire, hazardous materials, and emergency medical services scene operations in order to provide safe and cost effective emergency services. 5. Identify and apply contemporary fire service tactics and strategy in a reactive manner which supports safe and cost effective incident mitigation. 6. Analyze and apply contemporary leadership, management, and administrative practices in emergency services. 7. Identify and apply a comprehensive knowledge of fire service hydraulics to solve water supply problems for fire protection. 8. Analyze contemporary approaches to fire detection and protection systems. 9. Analyze and apply a comprehensive knowledge of emergency medical services at the Emergency Medical Technician, Basic level. 10. Analyze and respond to contemporary emergency services legal concerns. 11. Demonstrate the ability to effectively communicate in written and oral forms consistent with the requirements of contemporary emergency services. 12. Identify and apply contemporary emergency service instructional methodologies. 13. Create an understanding of the National Fire Academy FESHE recognized fire training program
To what extent are these objectives being achieved?	Students can begin in high school and follow laddered certificate programs towards the AAS degree, with outcomes mapped to the national curriculum for employment or continued pursuit of additional education. As will be discussed within this report, the revised curriculum will be better positioned to meet the training needs identified by the national organization, FESHE (Fire and Emergency Services in Higher Education). The program is also designed to serve as training for existing professionals. Over 300 current District 509 firefighters have completed annual live fire training at the Center for Emergency Services (CES) in 2017.

Past Program Review Action What action was reported last time the program was reviewed?	Last program review was *"Continued with minor improvements."* Additionally, the actions/goals completed since the last report include: • October 2017: opened the Center for Emergency Services (CES) in Burlington, and now offer the Basic Operations Firefighter certificate which consists of five new classes held at the center. Upon successful completion of this certificate, students are eligible to sit for the Office of the State Fire Marshall (OSFM) Basic Operations Firefighter certification exam. • Equipment purchased for CES allows the college to be the leader in Fire and EMS training in the northwest Chicagoland area. • The Center has become a hub of engagement with local Emergency Services providers. o Program has met with Fire Department MABAS (Mutual Aid Box Alarm System Division) 2 training officers and solicited their wants and needs in terms of education and training. o 300+ district 509 firefighters have completed live fire, hazardous material training, Drivers training and Dive Rescue training on the Campus. o There have been well over 300 Police officers who have attended CIT training, Driver training, ILEAS crowd control training, Bomb technician training, Accident reconstruction training and more. • To support the goal of opening the CES and developing/implementing FESHE curriculum, the program has hired a full-time administrative support position, a full-time Senior Director and has a part-time Instructional Coordinator. The sixth and final required core FESHE course has been developed and will launch for the 19/20 academic year.

CTE PROGRAM REVIEW ANALYSIS

Complete the following fields and provide concise information where applicable. Please do not insert full data sets but summarize the data to completely answer the questions. Concise tables displaying this data may be attached. The review will be sent back if any of the below fields are left empty or inadequate information is provided.

List all pre-requisites for this program (courses, placement scores, etc.).	To pursue the BVS in Basic Operations Firefighter, a student must be engaged in firefighting and a member of an organized Illinois fire department or Fire Brigade and employed by a fire department with appropriate sponsorship, insurance coverage, and an Illinois State Driver's License. In order to enroll in certain 1.1 transfer courses as part of the AAS degree's general education requirements, students must demonstrate readiness in the form of test scores (such as ACT/SAT, PARCC), placement results (ALEKS, McCann, writing placement), and/or successful completion of developmental coursework, as outlined on page 13 of the 2018-2019 college catalog and described in Administrative Procedure 1.104: Minimum Competencies.
Please list or attach all required courses (including titles) for completion of this program including institution required courses (e.g. student success, first year, general education requirements, etc.).	Program course requirements are noted on the catalog page at the end of this chapter.
Provide a rational for content/credit hours beyond 30 hours for a certificate or 60 hours for a degree.	N/A
INDICATOR 1: NEED	***RESPONSE***
1.1 How strong is the occupational demand for the program?	The program prepares firefighters, typically for municipal/fire protection districts. This career requires continuous training to ensure a person has the knowledge and safety skills necessary to do the job. Due to the nature of the work, this is a career that will always need skilled and qualified workers to carry out the essential job duties. The minimum required education for such a career is some postsecondary training and state/agency certifications. Projected growth is due to population increases and the reduction of volunteer firefighter jobs, which are expected to be transitioned into permanent, full-time jobs. As current firefighters age and retire, there is a need to replace them.

1.2 How has demand changed in the past five years and what is the outlook for the next five years?	The EMSI data shows the occupation for the Fire Fighter and First Line Supervisor/Firefighting in this region had a 2.5% increase from 2013 -2017. According to the U.S. Bureau of Labor Statistics, the employment of firefighters is projected to grow about as fast as the average for all occupations between the years of 2014-2024, with a growth rate of five percent.
1.3 What is the district and/or regional need?	The EMSI data search shows the occupation for the Fire Fighter and First line Supervisor/Firefighting in this region had about 2.5% increase from 2013 -2017 with a median hourly rate of $ 34.39/Hr.
1.4 How are students recruited for this program?	The opening of the CES has spread the offerings and reputation of the programs throughout the district and beyond. Besides local fire departments, relationships have been built with relevant agencies, and communication will continue through other channels such as fire service events, Facebook, district high schools and official college communication/marketing pieces.
1.5 Where are students recruited from?	Surrounding agencies needing training for current employees will send students, and a change is happening within the hiring process. Most firefighter applicants are now required to have 60 college credits prior to even being allowed to apply. Growth in the FSS Program will also come from the dual credit high school programs within district 509.
1.6 Did the review of program need result in actions or modifications? Please explain.	The program needs to better accommodate working professionals for the Basic Operations Firefighter certificate. Offering it in a six-week format may increase enrollment, so participants can achieve certification more quickly than a traditional 8- or 16-week program. This poses some logistical and scheduling challenges, especially with no full-time fire service instructors assigned to the division.
INDICATOR 2: COST EFFECTIVENESS	***RESPONSE***
2.1 What are the costs associated with this program?	The largest associated costs with this program are salaries. While all the faculty within this department are adjunct, there are additional "other salaries" related to required skills validation for a handful of FSS courses, primarily, the Basic Operation Firefighter (BOF) and the EMT-B programs. Equal in cost are the maintenance and other contractual services; these

	costs are a requirement, as they relate to mandatory testing/maintenance of much of the equipment used in the program, including but not limited to ladders, pumps, SCBA (self-contained breathing apparatus), and truck maintenance.
2.2 How do costs compare to other programs on campus?	Over the review period, the significantly large increase to this program's budget was in direct correlation to the opening of the CES and the launching of the Basic Operation Firefighters (BOF) program. There was significant investment in equipment tied back to curriculum, including a used ladder truck, SCBA compressor and fill-station for live-fire burns, hazmat equipment, turnout gear, ladders, hoses, pumps, etc. These procurements resulted in a spike in budgetary expenditures during FY17.
2.3 How is the college paying for this program and its costs (e.g. grants, etc.)?	The college pays for this program primarily through the Educational fund, tuition, and course-fees. There are instances where the institution is able to utilize federal funding (i.e. Carl D. Perkins) for special initiatives related to curricular development and/or innovative program improvement plans related to Fire Science. To control costs, the program currently utilizes all adjunct instructors with no full-time faculty, and the administrative assistant is shared with main campus. Moreover, other support staff who work at the CES also perform other duties that support the entire division. Proctoring time is monitored to keep student/instructor ratio costs within industry standards.
2.4 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? Please explain.	N/A
2.5 Did the review of program cost result in any actions or modifications? Please explain.	Upgrades are needed to the hazardous materials training tools (monitors, hazmat suits, breathing apparatus). The program may have to upgrade some D2L/ instructor copies of the textbooks, though this should have limited budget impact since desk copies are received for all courses using the Jones and Bartlett publisher.

	Within the next five years the program may need to purchase a new fire engine which could be a $300,000 expenditure. However, in the past the department has been able to procure used vehicles that are significantly less expensive.
INDICATOR 3: QUALITY	***RESPONSE***
3.1 What are the program's strengths?	The facilities at the CES, the equipment, the investment made by the institution are by far the strongest assets to the program and will sustain area training well into the future.
3.2 What are the identified or potential weaknesses of the program?	The biggest challenge is being able to connect and collaborate with adjunct faculty. Having all part-time instructors and being cognizant of the budget, it took some time to get the opinions of those who actually deliver the classroom material to the students. While this model does have benefits (instructors are working professionals, pay can be controlled), sole reliance on adjuncts may pose a scheduling problem if the dual-credit and Accelerate College programs continue to grow**.**
3.3 What are the delivery methods of this program? (e.g. traditional format/online/hybrid/team-teaching etc.)?	Courses are offered in the face-to-face format at the CES. Most sections are team taught. Lead instructors are informed of student progression on practicals through the Skills Sheets that are completed by the proctors. Even with this single modality, all instructors rely heavily on D2L – students are given assignments that need to be completed via the D2L platform. Quizzes are opened up for specific periods of time in which students must log on from remote sites to complete. Chromebooks are used in class for mid-term and final testing**.** The program recognizes a gap in instructional modality for online and hybrid offerings. Therefore, as of FY19, plans will start the development of specific hybrid/online courses. Skills-based learning will still need to take place in the classroom, but other activities can be moved online. Distance learning can offer great flexibility and accommodate firefighters working 24-hour shifts. The biggest hurdle might be getting adjunct instructors comfortable with making the changes and using D2L efficiently. Funding for more

	paid training for the adjuncts would support a successful conversion.
3.4 How does this program fit into a career pathway?	To begin preparation for a career in Emergency Services, students often start in FSS-215, the course for the BVS certificate for Emergency Medical Technician – Basic. The entry-level position of EMT-B provides a good indication of what the modern day fire service is all about. Quite often, students who think they want to be in the fire service switch paths after discovering the intense emergency medical focus of modern fire departments. Next, the Basic Operations Firefighter (BOF) certificate will provide students a pathway to employment in the fire service. This certificate program will meet the requirements to pursue certification from the Office of the Illinois State Fire Marshal. The other certificates, which are stackable to the AAS degree (Fire Officer I, Fire Science, Fire Science & Safety) provide short-term concentrated study in fire science covering prevention, protection, and the tactics of combating a fire in progress. Once implemented, the FESHE curriculum will put students on a national educational path to pursue additional educational opportunities at the Bachelors level and beyond, if desired.
3.5 What innovations have been implemented or brought to this program that other colleges would want to learn about?	The investment made in the Center for Emergency Services is a model of innovation from the facilities to the equipment to the teaching tools. The state-of-the-art equipment used for instruction will serve students well and prepare them for what will be found on the job. Some of the equipment, such as power patient cots, are so new that smaller local fire departments have yet to purchase this expensive equipment. As mentioned in the need and cost portions of this report, a future opportunity is to consider purchasing a brand new fire engine. The initial trucks purchased for CES are between 25 and 39 years old. While they work very well for pumping water, the technology on the engines has changed dramatically over the last three decades. Students are at a disadvantage once they return to their fire departments and attempt to operate a modern day fire engine.
3.6 Are there dual credit opportunities? If so please list	Currently, there are five dual-credit courses available to high school students in districts 300, 301 and 303:

offerings and the associated high schools.	• FSS 101 Principles of Emergency Services *(also available for articulated credit)* • FSS 103 Building Construction and Suppression • FSS 214 Basic Fire Service Instructor • FSS 215 Emergency Medical Technician-Basic • FSS 201 Fire Protection Systems There is broader plan to incorporate more dual credit opportunities with the FSS coursework. As the area school districts become familiar with CES and the programs offered through dual-credit, it is expected that enrollment will grow. Moreover, plans are in place to offer more general education courses (that are part of the new FESHE model curriculum) at the CES; this will broaden the dual-credit opportunities.
3.7 What work-based learning opportunities are available and integrated into the curriculum?	Fire department sponsorships allow students to be employed part-time upon graduation from the BOF program. FSS students who earn the EMT-B certificate can also work at that level. The program also offers two courses which provide additional experience: FSS-214/224: Fire Service Instructor, Levels 1 & 2. The first course is designed to meet the guidelines of the Illinois Fire Protection Personnel standards and Education Commission to qualify fire service personnel to conduct training and education classes for others in the field. The second course is approved by the Office of the State Fire Marshal (OSFM), and completion qualifies students for the State Fire Marshal Certification Test for Fire Service Instructor II.
3.8 Is industry accreditation required for this program (e.g. nursing)? If so, identify the accrediting body. Please also list if the college has chosen to voluntarily seek accreditation (e.g. automotive technology, NATEF).	ECC's Center for Emergency Services has earned an "unlimited" training facility designation from the Office of the State Fire Marshal, which is required to offer the BOF certificate. As mentioned, the program prepared and has received FESHE recognition from the National Fire Academy. Six classes of Critical Incident Police Training (CIT) have been run with the State's Attorney for local law enforcement.
3.9 Are industry-recognized credentials offered? If so, please list.	Students passing the BOF certificate are allowed to take the official OSFM state licensing test at the Center, which is required for employment.
3.10 Is this an apprenticeship program? If so, please elaborate.	FSS is not an apprenticeship program, but there are sponsorships with several fire departments in the district. These departments "sponsor" students and

	afford them the ability to take State Fire Marshal certification test under their authority.
3.11 If applicable, please list the licensure examination pass rate.	Students in the BOF certificate program must pass the state license process to be employed. Scores are monitored, and if fewer than 70% of students pass, a reevaluation of program approval is initiated. Since it began, the BOF certificate students have achieved the 90th percentile on the OSFM exam. Students can take the exam three times before having to retake the coursework.
3.12 What current articulation or cooperative agreements/initiatives are in place for this program?	There are current transfer agreements with Anna Marie College and Southern Illinois University to accept ECC's AAS in Fire Science and Safety graduates into their respective Bachelor's programs. The revised FESHE curriculum (recognized by the National Fire Academy) will become active in Summer 2019. Students will be following a national curriculum that is recognized by many institutions with Bachelor's programs in Fire Science Management. The program administrator will continue to partner with the colleges transfer director to research and secure articulation agreements with other educational or training institutions, including other 4-year institutions.
3.13 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?	As the subject matter expert for the college, the director of the CES is in constant contact with area police, fire and emergency medical providers. The program has developed relationships with all its District 509 fire departments as well as MABAS Division 2 and Police department entities such as ILLEAS, Kane County Sheriff's office and the Kane County State's Attorney's office. Internally, the program has developed closer relationships with Admissions and the office responsible for transcript evaluation and proficiency review to make sure potential students have the most accurate information at the onset of their experience with the college. Next, partnerships with the advising staff have assured they can assess a student's background and goals and determine the best pathway. Often, advisors will call either the director or the instructional coordinator with a student in the

	room to cooperatively set the best educational plan in place for the student.
3.14 What is the faculty to student ratio for courses in this program? Please provide a range and average.	The FSS program utilized 13 faculty in FY17 (source: ECC Pivot Tables, Tab 6). The average faculty to student ratio within the courses was 15.3 with a range of 7.0 to 20.4. This information was provided by Institutional Research, who suggested various ways to calculate the information. This method seems to most closely match what is being asked. Class sizes are capped by faculty contract and vary by discipline. Instructional deans are more likely to pay attention to the full-time/part-time credit hour ratios than a faculty to student ratio as a measure of quality.
3.15 What professional development or training is offered to adjunct and full time faculty that may increase the quality of this program?	There are plentiful and various professional development opportunities for faculty at the college. The faculty contract allows for professional development funds, and includes part-time faculty. The college offers in-house training on various subjects. Even in light of current travel restrictions and other financial constraints, CTE programs with accreditation requirements regarding development opportunities are guaranteed the continued ability to attend such trainings. Within this particular program, the director is a member of Illinois Fire Chiefs Association and the International Society of Fire Service Instructors. The instructional coordinator is also involved with many Fire Service training organizations to keep abreast of happenings in the industry. FSS faculty are sent to the Fire Department Instructor Conference in Indianapolis every year, and there are pre-semester meetings with all instructors and skills validators each term.
3.16 What is the status of the current technology and equipment used for this program?	As mentioned, the 120 acre CES campus boasts hundreds of pieces of equipment and training props such as fully functioning ladder trucks, fire engines, an ambulance, an air cascade refilling station, hose washer, hose dryer, instructor fire gear, 20 Self-contained breathing apparatus, SCBA cascade refilling station, and much more. Supplemental instructional models have been expanded with the use of real world equipment for EMT and Firefighting classes, all of which afford students a realistic firefighter training learning

	experience. The scenarios taught are done with cutting edge props, such as: • 3-story class A burn tower • Class A burn can prop • Class B car fire prop • Class B dumpster fire prop • Forcible entry door prop • Ceiling pull King prop • Propane tank prop • SCBA consumption course The program is in the process of developing an equipment replacement schedule for the entire campus which includes the possible purchase of a new truck, as mentioned in the need and cost sections.
3.17 What assessment methods are used to ensure student success?	FSS is a very intensive hands-on program. Practical nights are scheduled throughout the course to practice and master skills taught the previous few weeks. The FSS department brings in local practitioners to serve as skills validators, and they train and retrain the students until they master the skills. Skill sheets are recorded for practicals that will require state licensure upon completion of the class. Course level student success is addressed with individual instructors beginning with the first major test. Most courses have quizzes and tests prior to mid-term. From a summative program-level view, evaluation, interview and pass rates are all studied by the director and the instructional coordinator. Once the new curriculum is implemented, the program faculty will work on implementing the college's formal course assessment process.
3.18 How satisfied are students with their preparation for employment?	In general, students compliment the instructors and the program. Prior to the opening of CES, they had requested more hands-on opportunities and suggested the college Advisors need more education on the FSS program. Since moving to Burlington, program staff are confident that the hands-on supplemental materials are well received and aide learning. As well, there is a new group of instructors/proctors since the BOF has moved to the credit side in the new facility. Available survey results do not reflect the time period of these major changes. New data will be monitored

	going forward, as it will be focused on the instruction at CES in the new model.
3.19 How is student satisfaction information collected?	Despite ICCB rescinding the requirement for the CT Follow-up Survey, the college's Institutional Research department continues to execute this survey protocol one year after certificate or degree completion. In addition, all completers are surveyed *each year*, not just prior to the review, so a full five years of responses can be studied. IR also provides the opportunity for programs to add specific questions to the online version of the survey. Within this particular program, instructors have informal "how can we make it better" discussions with their classes, and evaluations are studied for improvement suggestions.
3.20 How are employers engaged in this program? (e.g. curriculum design, review, placement, work-based learning opportunities)	Employers are engaged through direct outreach with the senior director. The more recent discussions have included the Advisory board, Fire Chiefs, OSFM and other partner agencies on the topic of aligning the college's FSS program with the National Fire Academy's FESHE curriculum. This will assure students are in step with the national model and can more easily progress to 4-year institutions. Other discussions include course content and skills evaluations. There is follow-up with both private employers and governmental employers to evaluate the performance of students once they are in the field. Employers stress the need for students to pass state licensure tests and the importance of hands-on skills training and mastery *prior* to entering employment. Also, because the instructors and skill validators are working professionals, they can very accurately describe the work environment to students and stress what is needed to be hired and to be successful. The newest certificate, Basic Operations Firefighter, was designed with input from these stakeholders. For example, the concept of "saving our own" is introduced in this curriculum, whereas it used to be a more advanced skill part of an Advanced Technician curriculum.
3.21 How often does the program advisory committee meet?	There was a formal advisory committee that provided feedback during the design and building stages of the CES. Since its opening in the fall of 2016, the program

	now relies on the training divisions for course content and employer needs. The college's personnel meet frequently with various stakeholder groups. There is monthly interaction with training officers on an individual department basis. Meetings are held quarterly with the MABAS Division 2 training officers and the State's Attorney and the Police ILLEAS training division are called upon to ensure programming needs are met for the industry. The Chiefs meet at least annually, and the District 509 training officers hold meetings quarterly at the CES where they also have the ability to interact with the Senior Director and the Instructional Coordinator directly on curriculum and programmatic topics.
3.22 How satisfied are employers in the preparation of the program's graduates?	The Senior Director is in constant contact with area employers and, as such, the program is consistently reviewed and critiqued by local Emergency Service providers. The Advisory committee is most interested in students obtaining state licensure. They feel if students score well and pass either Illinois Department of Public Health or Office of the State Fire Marshal exams, they are sufficiently prepared for entry-level positions. The Advisory Committee is also very supportive of FSS adopting the FESHE model. They view this as the college being on the cutting edge of Fire Science Education. Since opening, the CES has also become an Emergency Services *employer* of choice. The campus has hired many local practitioners, and receives inquires asking "Can I come teach?" on an almost weekly basis.
3.23 How is employer satisfaction information collected?	The Director and the Instructional Coordinator are in contact with private employers and fire chiefs through the advisory committee every semester.
3.24 Did the review of program quality result in any actions or modifications? Please explain.	The review of the program has helped push the FESHE changes in the curriculum to the forefront. The final sixth core course was approved by the curriculum committee in Spring of 2018. Next, the college will apply to the National Fire Academy for FESHE certification. To further advance these goals, there is a need for a full time FSS instructor.

DATA ANALYSIS FOR CTE PROGRAM REVIEW Please complete for each program reviewed. Colleges may report aggregated data from the parent program or report on enrollment and completion data individually for each certificate within the program. Provide the most recent 5 year longitudinal data available.					
CTE PROGRAM	Fire Science & Safety				
CIP CODE	43.0203				
	FY2013	*FY2014*	*FY2015*	*FY2016*	*FY2017*
*NUMBER OF STUDENTS ENROLLED (*SU/SR DUPLICATED SEATCOUNT ENROLLMENT for ALL FSS COURSES)*	401	517	404	385	296
NUMBER OF COMPLETERS					
AAS – FIRE SCIENCE & SAFETY	22	14	20	22	12
VS – FIRE SCIENCE & SAFETY	23	11	19	31	11
BVS – FIRE SCIENCE	32	30	29	23	11
BVS – FIRE OFFICER I		1		1	
BVS – BASIC OPERATIONS FIREFIGHTER	(N/A, new certificate)				
*OTHER (PLEASE IDENTIFY) *OVERALL FSS COURSE SUCCESS (A-C) RATES, excluding withdrawals*	87.3%	89.0%	86.8%	89.0%	91.3%
*OTHER (PLEASE IDENTIFY) *TECH-PREP ENROLLMENT, DUPLICATED FSS SEATCOUNT*	35	16	22	10	8
OTHER (PLEASE IDENTIFY)	Program also receives course-level enrollment and success data as part of their Quality review.				
How does the data support the program goals? Elaborate.	Student progress and completion is promoted with the on-ramp/off-ramp model of stackable certificates which earn certification and build towards the AAS degree. **ENROLLMENT** Since the relocation of courses to the CES in FY17, there have been some trends to lower enrollment in certain classes due to the distance to the new Burlington campus. Students who may have used an FSS course as an elective (such as Criminal Justice, Welding and Truck Driving) are not inclined to travel 30 minutes to the CES for one class. This was expected, and as the CES starts to offer more general education classes, more non-				

	traditional emergency Services students will attend classes at the CES in Burlington. The Fire Science program was fairly robust under the previous non-credit model. It has since been found that 80% of the students enrolled were not from district 509, so a significant portion of the potential customer base was lost by taking the program to the for-credit side, due to residency rules. Working around and through this issue has proved very challenging – for example, last semester the West Dundee Fire Chief had 3 students for the 16 credit hour BOF program. Because of residency restrictions, he had to send 1 cadet to ECC, 1 cadet to MCC and 1 cadet to COD. This is not ideal, and next time he would likely send all three to a noncredit academy, thus all three institutions losing out. The lowest enrolled course has been FSS-220: Legal Concerns in the Fire Service. This class is being reevaluated as a requirement of the AAS degree and may instead be moved to an elective as part of the FESHE redesign. The college is currently the only local community college that "requires" the class. Coincidentally, the course also had the lowest success rates in the program. After consultation with both students and employers, the course outline has been modified for 2019 implementation and renamed Legal Aspects of Emergency Services. **SUCCESS** Course-level success for the other courses has been slightly increasing over the review period, reaching 91% for FY17, and are now exceeding the college's CTE average of 88%. The program attributes this to connections made in the classroom. Having local practitioners as faculty and proctors not only validities the instruction but connects the students to the greater 509 community. The new courses which comprise the Basic Operations Firefighter are showing excellent results and will be monitored. **COMPLETION** The very low completer figures for the Fire Officer I certificate are a bit misleading. This program is only sought by current practitioners who, for the most part, are not interested in college credit. They can take a series of five 40 hour-long classes and receive their OSFM certification. Conversely, if they take these classes in the traditional community college setting, it would take too much time (16 weeks over 5 semesters) and be impractical. Instead, they opt out for a noncredit opportunity usually taught by the Illinois Fire Service Institute

	(IFSI) and, once completed, can apply for proficiency credit if they want ECC credit for the courses as part of a larger goal. Declines noted for other awards may be in part due to the relocation of the courses to the CES. In the past, students could take the three courses of the Fire Science BVS as a way to investigate their interest in the career path while they were taking other general courses at the college. These less invested students are not going to drive to Burlington for courses they may or may not want to use. The uptick in the VS Fire Science & Safety can also be attributed to the opening of the CES and a renewed effort to bring back local practitioners to the formal degree setting. Much work has been done to secure proficiency credit for District 509 firefighters and then enrolling them in their last few classes towards the credential. Many of these VS students are working towards degree completion, and the program hopes to see a related increase in AAS degrees as a result of this effort. Over the last two years, 42 student firefighters have been brought in, which is a very large portion of the need within 509 departments, so the awards may level-off once saturation has been reached.
What disaggregated data was reviewed?	Within CTE programs, ECC's IR department provides statistics for program enrollment and completion broken-down by gender, age and race/ethnicity. Patterns for FSS will be addressed in items below. Programs and related internal planning groups will continue to collaborate with Institutional Research to determine if similar enrollment or success metrics by student group can be helpful at the *discipline/course* level. Across the college, faculty are very interested in closing achievement gaps and participate in institutional efforts to raise achievement for all students. Demographic analysis for the FSS program will be discussed below. Disaggregation is provided for course modality and for early college credit students, such as tech prep and middle college. As these populations expand, the college will study their performance as compared to their standard college counterparts. For this report, Institutional Research was able to separate FSS enrollment and completions for those enrolled in just the EMT-B course/certificate program. This will allow a more precise look at the more general FSS program.

Were there gaps in the data? Please explain.	Women and minorities are underrepresented in the Fire/EMS service, and ECC's program wants to attract these students and support them through graduation. For the current five-year period of this report, 13% of the enrolled FSS students were female, as were 24% of the graduates. This indicates a high level of success for women in Fire Science.
What is the college doing to overcome any identifiable gaps?	The college is a Leader College within Achieving the Dream. Under this membership, the *Student Success Infrastructure* coordinates data analysis and new initiatives from an equity mindset. Many projects will address all students, but many are focused on specific populations to address gaps. For example, new welcome activities have been developed for African-American students, and the first annual HBCU college fair was held in 2018, organized by the Student Life Coordinator for Targeted Populations. The Fire Science program very strongly promotes inclusion and equity for all and particularly encourages nontraditional students to complete certificates and consider emergency services as a career. For example, the program enrolls returning adult students who are coached on a process that they have not worked in for many years, making them comfortable in an educational setting. While only 7% of the FSS enrollment for the past five years has been for students age 30 and older, they are completing at slightly higher proportions, indicating success for this subgroup.
Are the students served in this program representative of the total student population? Please explain.	In general, FSS program enrollees (excluding EMT-B in FSS-215) tend to be made up of more White and male students than the general student body. 63% of FSS students in 2017 were White and 26% were Latino, compared to 42% at the college for both groups. Enrollment of African-American students has increased slightly in the recent years and approximates the college proportion at 7%. FSS enrolled 87% men compared to ECC's 46%. Over 90% of Fire Science students are age 30 or younger. This is not unusual for the profession, where recruits tend to come from younger age brackets.
Are the students served in this program representative of the district population? Please explain.	As discussed above, the FSS program differs from the district population with younger and more White, male students.
REVIEW RESULTS	

Action	☒ Continued with Minor Improvements ☐Significantly Modified ☐Placed on Inactive Status ☐Discontinued/Eliminated ☐Other (please specify)
Summary Rationale Please provide a brief rationale for the chosen action.	The Center for Emergency Services in Burlington represents a significant investment by the college and will serve first responders in the surrounding area with state-of-the-art facilities to conduct critical training which will benefit the citizenry. The FSS program is seeking National Fire Academy FESHE (Fire and Emergency Services Higher Education) recognition through an extensive revision of the curriculum to align with national standards. Students coming to the college to begin their career in Emergency Services can be assured that the AAS degree earned at the college is recognized nationally by FEMA and the National Fire Academy and is highly transferrable to four-year institutions as a direct result of the redesign.
Intended Action Steps What are the action steps resulting from this review? Please detail a timeline and/or dates for each step.	Within the upcoming year: • Implement FESHE curriculum 19/20 academic year • Prepare application to National Fire Academy for FESHE recognition for anticipated Summer 2019 recognition • Complete inventory of equipment needs; devise technology replacement plan, 2019 Within the next five years: • Assess new curriculum (ongoing) • Continue research to remove barriers to enrollment and completion, particularly for non-residents (e.g. Employer MOU's, residency requirements, credit vs noncredit) • Growing High School partnerships • Growing non-credit offerings • Growing CE/Continuing Education offerings at Burlington Campus • Growing Criminal Justice programming at Burlington Campus

FIRE SCIENCE AND SAFETY

Entrance Requirements

None

Program Requirements

Students must attain a valid CPR card prior to finishing FSS 215 if they plan to take the national EMT test. Only two CPR cards will be accepted: American Heart Association Healthcare Provider CPR card; or an American Red Cross Professional Rescuer CPR card.

NOTE: The Illinois Department of Public Health and the Joint Commission on Accreditation for Hospitals require drug tests and criminal background checks on students participating in direct patient care as part of their educational program.

Therefore, all students taking FSS 215 are required to pass a drug test and a criminal background check before beginning the clinical portion of the course.

It is the responsibility of FSS 215 students to pay for their own drug testing and criminal background check. Criminal background checks are completed by logging into Certifiedbackground.com (program code: lg38, then follow the prompts).

The results of these tests will be sent directly to ECC and will be kept confidential. Students who fail the criminal background check and/or drug test will be automatically withdrawn and will be charged for the course according to the refund policy. Any questions, please call 847-214-7387.

DEGREE CONFERRED:

ASSOCIATE OF APPLIED SCIENCE IN FIRE SCIENCE & SAFETY

First Semester			Sem. Hrs.
FSS	101	Principles of Emergency Services	3
PSY	100	Intro to Psychology	3
Required Communications Course*			3
Required Math/Science Course*			3/4
General Elective			3
		Total:	15/16

Second Semester			
FSS	102	Fire Prevention Principles I	3
FSS	103	Fire Suppression & Bldg Construction	3
FSS	204	Fire Protection Systems	3
MMT	101	Principles of Management	3
Required Communications Course*			3
		Total:	15

Third Semester			
FSS	201	Fire Fighting Tactics & Strategy I	3
FSS	202	Hazardous Materials	3
CMS	101	Fundamentals of Speech	3
FSS	220	Legal Concern in Emergency Services	3
Fire Science Elective			3
		Total:	15

Fourth Semester			
FSS	203	Fire Service Hydraulics	3
FSS	214	Fire Service Instructor-Basic Level	3
MMT	102	Organizational Behavior	3
Required Liberal Education Course*			3
Fire Science Elective			3
		Total:	15

Program Total: 60/61

*See page 34

General Electives

ART	120	Darkroom Photography I	3
BIO	110	Principles of Biology	4
BIO	240	Human Anatomy and Physiology	5
BIO	245	Human Anatomy and Physiology I	4
BIO	246	Human Anatomy and Physiology II	4
BUS	113	Business Law	3
BUS	140	Business Statistics	3
CAD	101	Introduction to Engineering Design	4
CHM	101	Preparatory Chemistry	5
CIS	110	Introduction to Computers	3
CRJ	101	Introduction to Criminal Justice	3
CRJ	225	Criminal Investigation	3
EMT	121	Paramedic I	6
CDN	101	Introduction to 2D-Design	3
MMT	107	Human Resource Management	3
PHR	102	First Aid and Safety	3
POS	150	Amer Government - National	3
POS	151	Amer Govt State Local	3
PSC	105	Public Safety Telecommunicator	6

Fire Science Electives

FSS	206	Fire Serv Mgt I/Officer Role & Funct	3
FSS	207	Fire Serv Mgt II/Commun & Gr Dynamic	3
FSS	215	Emergency Medical Technician-Basic	8
FSS	110	Basic Operation Firefighter Module A	4
FSS	111	Basic Operation Firefighter Module B	4
FSS	112	Basic Operation Firefighter Module C	4
FSS	113	Vehicle Operator/Rescue Awareness	1
FSS	224	Fire Service Instructor - Level II	3

CERTIFICATE CONFERRED:

VOCATIONAL SPECIALIST IN FIRE SCIENCE & SAFETY

First Semester			Sem. Hrs.
FSS	101	Principles of Emergency Services	3
FSS	204	Fire Protection Systems	3
FSS	202	Hazardous Materials	3
FSS	215	Emergency Medical Technician-Basic	8
		Total:	17

Second Semester			
FSS	102	Fire Prevention Principles I	3
FSS	103	Fire Suppression & Bldg Construction	3
FSS	214	Fire Service Instructor-Basic Level	3
FSS	201	Fire Fighting Tactics & Strategy I	3
FSS	203	Fire Service Hydraulics	3
		Total:	15

Program Total: 32

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN FIRE SCIENCE

			Sem. Hrs.
FSS	101	Principles of Emergency Services	3
FSS	103	Fire Suppression & Building Construction	3
FSS	204	Fire Protection Systems	3
		Total:	9

Program Total: 9

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN FIRE OFFICER I

			Sem. Hrs.
FSS	102	Fire Prevention Principles I	3
FSS	201	Fire Fighting Tactics & Strategy I	3
FSS	206	Fire Service Management I, Officer Role & Function	3
FSS	207	Fire Service Management II, Communication & Group Dynamics	3
FSS	214	Fire Service Instructor–Basic Level	3
		Total:	15

Program Total: 15

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN BASIC OPERATIONS FIREFIGHTER

			Sem. Hrs.
FSS	110	Basic Operation Firefighter Module A	4
FSS	111	Basic Operation Firefighter Module B	4
FSS	112	Basic Operation Firefighter Module C	4
FSS	113	Vehicle Operator/Rescue Awareness	1
FSS	202	Hazardous Materials	3

Total: 16
Program Total: 16

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN EMERGENCY MEDICAL TECHNICIAN-BASIC

			Sem. Hrs.
FSS	215	Emergency Medical Technician-Basic	8

Total: 8
Program Total: 8

PUBLIC SAFETY COMMUNICATIONS

Entrance Requirements

None

Program Requirements

None

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN PUBLIC SAFETY COMMUNICATIONS

Summer Session			Sem. Hrs.
PSC	105	Public Safety Telecommunicator	6

Total: 6

First Semester			
CRJ	198	The Police Service	3
ENG	101	English Composition I **or** BUS 101 Business Communications	3
PSC	206	Public Safety Answering Point (PSAP)	3
PSC	207	Pub Saf Answering Point Application	2
CMS	101	Fundamentals of Speech	3

Total: 14

Second Semester			
CRJ	101	Introduction to Criminal Justice	3
CRJ	111	Stress Management in Law Enforcement	3
PSC	208	Emergency Medical Dispatch	3
PSC	209	Pub Saf Answering Point Practicum	3

Choose one of the following:

PSC	211	Career Management **or** PSC 212 Legal Aspects/Pub Saf Communications	2

Total: 14
Program Total: 34

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN PUBLIC SAFETY COMMUNICATIONS

To complete the Illinois Law Enforcement Training and Standards Board recommendations for public safety telecommunication (9-1-1) basic training, students take the following:

			Sem. Hrs.
PSC	105	Public Safety Telecommunicator	6

Total: 6
Program Total: 6

Career & Technical Education

College Name:	Elgin Community College
Fiscal Year in Review:	FY2018

Program Identification Information

Program Title	*Degree or Cert*	*Total Credit Hours*	*6-Digit CIP Code*	*List All certificate programs that are stackable within the parent degree*
Business	**AAS**	**61-62**	**52.0201**	Supervisory & Administrative Management, VS and BVS

Address all fields in the template. If there are certificates and/or other stackable credentials within the program, please be sure to specify and sufficiently address all questions regarding each stackable credential.

Program Objectives What are the overarching objectives/goals of the program?	As detailed in recent prior reviews for Marketing and Entrepreneurial Studies (FY16), the various business programs at ECC have been consolidated under the umbrella of AAS Business, a 61-62 credit degree which provides students an opportunity study the many facets of a business. Students learn the skills needed to meet the demands of business environment functions and are prepared for employment in today's ever-changing business world. Topics covered include: business basics, principles of management, concepts of marketing, financial accounting, e-commerce, sales, and global business needs. Additional business skills are developed through the study of economics, business law, communication concepts, and applications of math for business. Within the two-year degree, concentrations are available as electives in entrepreneurship, marketing, management and retail management which allow an in-depth study of a specific aspect of business as stackable certificates: • VS Advanced Entrepreneurship • VS Intermediate Entrepreneurship • BVS Introductory Entrepreneurship • VS Supervisory and Administrative Management • BVS Supervisory and Administrative Management • VS Customer Relationship Management

	• BVS Marketing • BVS Retail Management In the future, the Business AAS will be the focus of the review as the parent degree. However, for the purposes of this Program Review report, detail will focus on the specialty of *Management*, as it is due now for the 5-year review. MMT program-level learning outcomes have been defined as: 1. Explain the management functions of planning, organizing, staffing, leading, and controlling. 2. Apply organizational behavior concepts to solve organizational issues. 3. Describe the roles and responsibilities of human resource professionals. 4. Debate ethical dilemmas in management. 5. Compare and contrast global versus domestic business trends, strategies, analysis of environments, and employment opportunities. 6. Demonstrate proficient general business software skills. 7. Describe macroeconomic and microeconomic principles. 8. Demonstrate proficiency in basic accounting principles and practices.
To what extent are these objectives being achieved?	Given the reorganization of the degrees/certificates in the Business area, it makes most sense for all sub-programs to finalize a list of *core* business learning outcomes, and then each concentration would have approximately 3-6 unique ones. As listed above, outcomes 5 through 8 can be applied to the general Business umbrella.
Past Program Review Action What action was reported last time the program was reviewed?	The Action indicated in the last review was *Significantly Modified*: "Significant modification of all Business related programs will be undertaken to meet the needs of students who are planning to transfer to universities and also the needs of students who plan to enter the workforce." Below are the goals set in the previous FY13 report with related progress. **1. Conduct research among area employers to determine needs in management training, gain**

	feedback on curriculum needs and opportunities, and gauge interest for their involvement in the program's advisory council. Progress: Employers emphasize the need for students to be aware of expectations for conducting themselves in the workplace: general workplace preparation, communication, emotional intelligence, and interpersonal skills. **2. Work with Career Development Services as they move towards hiring an Internship Coordinator to optimize opportunities in management.** Progress: Internship coordinator has been hired and program is prepared to offer management students internship opportunities as they become available. **3. Conduct course assessments for MMT-101 and MMT-102, keeping face-to-face and online sections separate in the analysis.** Progress: None. **4. Collaborate among career and technical programs to add management courses as electives, and/or design learning communities leveraging one of the core management courses.** Progress: MMT-101: Principles of Management and MMT-102: Organizational Behavior are currently, required in the Fire Science AAS (until Summer 2019), part of Entrepreneurship and Retail Management certificates and an elective in Accounting. **5. Explore cross-disciplinary "tracks" in areas such as restaurant, retail, healthcare, education, career tech, first responders** Progress: None. **6. Collaborate with Marketing Department to design a new marketing approach and create awareness around curriculum.** Progress: The business brochure has been redone, but a more deliberate promotional program will be necessary to enhance enrollment. **7. Conduct an in-depth analysis of current curriculum versus the research regarding**

	potential changes. Design new, and revise current, curriculum as needed (such as creating leadership certificate; adding a "real-world" math course (Statistics), or Business Math to the certificate; Coaching skills; New Manager Training / Onboarding). Progress: No action initiated on these topics as efforts refocused towards move to AAS in Business. **8. Review opportunities to streamline current curriculum** Progress: Complete; Seven MMT courses withdrawn during Business AAS redesign.

CTE PROGRAM REVIEW ANALYSIS Complete the following fields and provide concise information where applicable. Please do not insert full data sets but summarize the data to completely answer the questions. Concise tables displaying this data may be attached. The review will be sent back if any of the below fields are left empty or inadequate information is provided.	
List all pre-requisites for this program (courses, placement scores, etc.).	There are no program prerequisites for the MMT certificates or the AAS in Business. In order to enroll in certain 1.1 transfer courses, students must demonstrate readiness in the form of test scores (such as ACT/SAT, PARCC), placement results (ALEKS, McCann, writing placement), and/or successful completion of developmental coursework, as outlined on page 13 of the 2018-2019 college catalog and described in Administrative Procedure 1.104: Minimum Competencies.
Please list or attach all required courses (including titles) for completion of this program including institution required courses (e.g. student success, first year, general education requirements, etc.).	Program requirements are noted on the catalog page at the end of this chapter.
Provide a rational for content/credit hours beyond 30 hours for a certificate or 60 hours for a degree.	The management certificates are set at 30 and 15 credits.
INDICATOR 1: NEED	***RESPONSE***
1.1 How strong is the occupational demand for the program?	This program prepares students for the following jobs: • First line managers

	• Administrative office managers • Supervisors • Team Leaders • Management Trainees • Entry level supervisory positions EMSI economic modeling defines the group as "First Line Supervisors of Office and Administrative occupations" and shows 38,050 job openings in 2017 for the local region (Chicago-Naperville – Elgin, IL-IN_WI).
1.2 How has demand changed in the past five years and what is the outlook for the next five years?	The area's trend for the last five years has been decreasing at a very slow pace and the projection trend for the upcoming five years is to be slightly increasing. The industry can fluctuate due to external forces in the national and local environments, such as tax law, interest rates, recession/inflation, outsourcing and market supply and demand. In addition, globalization, foreign competition and the online industries are having direct impact on local businesses offering these types of jobs. Change will also arise from the digitization and technological requirements of essential job functions which require employees to have technology skills and competencies.
1.3 What is the district and/or regional need?	Although the job openings for such occupations seem to have a slowdown in the Kane County area, the region's projection is on the rise slowly but steadily.
1.4 How are students recruited for this program?	New marketing plans are being developed that will be implemented for the revised AAS degree. All Business faculty will assume a greater role assisting recruitment through participation in various events that are targeted to specific audiences, i.e., high school students, incumbent workers looking to gain additional skills, etc. One faculty in particular has launched initiatives to emphasize the "stackable" nature of the courses, certificates, and degrees in the Business area. Program requirements are outlined in syllabi to show students the potential leverage they have with just a few completed courses.

1.5 Where are students recruited from?	Currently, students are recruited via word-of-mouth when taking introductory Business or Management courses. Again, new marketing programs will broaden reach to all students currently, enrolled at the college as well as the local business community to encourage development of their employees.
1.6 Did the review of program need result in actions or modifications? Please explain.	The combined departments will continue to work with local stakeholders to ensure curriculum meets the local need.
INDICATOR 2: COST EFFECTIVENESS	***RESPONSE***
2.1 What are the costs associated with this program?	The main costs associated with this program are instructor salaries and benefits. There have not been any significant increases/decreases to the budget over the last 5 years.
2.2 How do costs compare to other programs on campus?	They are generally in-line with other similar programs without heavy equipment or lab expense.
2.3 How is the college paying for this program and its costs (e.g. grants, etc.)?	The program is paid through the educational fund and tuition revenue; no grants are used in relation to this program.
2.4 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? Please explain.	N/A
2.5 Did the review of program cost result in any actions or modifications? Please explain.	Budget is needed to fund attendance at major conferences and seminars. The program notes an opportunity to use data more effectively in scheduling classes as a way to control and predict cost.
INDICATOR 3: QUALITY	***RESPONSE***
3.1 What are the program's strengths?	One of the things that accounts for the strength of this program is the real-world experiences brought by the adjunct faculty and the advice from the advisory committee.
3.2 What are the identified or potential weaknesses of the program?	For the certificates to be offered fully online, two additional courses need to be converted.
3.3 What are the delivery methods of this program? (e.g. traditional	Courses in Management leverage the flexibility of the online format. Currently, 24 of the 30 credits are offered online for the VS certificate. The MMT

format/online/hybrid/team-teaching etc.)?	sections offered face-to-face are available in the evening to provide development opportunities for employees of the local business community. Most sections, however, follow the traditional 16-week schedule, so enrollment could be further positively affected by including the shorter 8-week format if applicable. As a result of the most recent Advisory Committee meeting and the increasing demand for online courses, consideration has been given to developing the leadership course (MMT-125) in an online format. This is the only course from the BVS that is not yet online. If it were, BUS-260: Global Business (formerly MMT-260) would be the remaining course in the VS to need to be migrated to online. It is anticipated that this format will be offered in Fall 2019.
3.4 How does this program fit into a career pathway?	Under the umbrella of Business, all certificate programs by emphasis have been substantially changed to reflect recent community college trends. The "business major" allows flexibility in the electives for students to specialize in one of four areas of Entrepreneurship, Management, Marketing and Retail Management based on interest and career goal. The management certificate options focus on the effective manager, one who understands the principles and concepts of business and how the entire environment functions. Understanding the interaction between individuals and how to correctly allocate resources will help the manager to be more effective. Students can pursue employment and/or promotion opportunities with the certificates and degree, and have the option to continue towards a Bachelor's degree which opens even more opportunity.
3.5 What innovations have been implemented or brought to this program that other colleges would want to learn about?	The *Entrepreneurial Mindset* is a part of the approach faculty have taken in the business classrooms to instill a sense of innovation and critical thinking in students. The program is excited by the current discussion to increase the involvement of industrial partners and include plant tours as opportunities for unique learning experiences.

3.6 Are there dual credit opportunities? If so please list offerings and the associated high schools.	The four high school districts D300, D301, D303 and U-46 have opportunities for Articulated Credit in Marketing, Management, Introduction to Business and Sales. MMT-101: Principles of Management is also available for dual-credit.
3.7 What work-based learning opportunities are available and integrated into the curriculum?	ECC has introduced a more robust approach to internships, and although internships are not required in order to complete the Business programs, opportunities exist to enhance the students' academic experiences. Since 2017, seven business internships have been run, including one in Human Resource Management. There are options for both credit and non-credit. In some instances, internship experiences in Business are best left to the junior/senior year of a Bachelor's program. Still, there are many other work-based learning opportunities available to management students: • Job shadowing, informational interviews, mock interviews, and resume critique (through career development services). • Professional Perspectives/Career Conversations employer forums (2013-2015 and 2017). • Job fair networking and attendance can be offered as a course requirement. • Management students can join the Collegiate Entrepreneurship Organization (CEO) club and related activities, including Global Entrepreneurial Week. • Faculty have hosted employer guest speakers to support management curricula. • Management students have attended co-curricular MAGIC events that improve their cultural competency in the workplace. The college has created a new division to focus specifically on workforce development and experiential learning, and these opportunities are expected to grow.
3.8 Is industry accreditation required for this program (e.g. nursing)? If so, identify the accrediting body. Please also list if the college has chosen to	No, it is not required. However, there may be opportunity to explore programmatic accreditation through ACBSP – Accreditation Council for Business Schools and Programs. Such an accreditation would allow the program to more firmly establish its

voluntarily seek accreditation (e.g. automotive technology, NATEF).	viability and enhance the relationship and interactions with industry and academic partners.
3.9 Are industry-recognized credentials offered? If so, please list.	N/A.
3.10 Is this an apprenticeship program? If so, please elaborate.	N/A.
3.11 If applicable, please list the licensure examination pass rate.	N/A.
3.12 What current articulation or cooperative agreements/initiatives are in place for this program?	The modifications within the business area were made in concert with several university partners. ECC graduates are able to transfer several Bachelor's degree program via such agreements: • 3+1 Columbia College, Missouri • 3 + 1 Indiana Tech • 2 + 2 Robert Morris University Further work will be completed to review course outcomes and ensure proper alignment. ECC's Director of Transfer Services is amenable to pursuing transfer agreements with any institution the programs identify as an ideal prospect.
3.13 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?	The major relationships have been with the business and university members of the Advisory Committee. In particular, Mike Lee, the President of the Kane County Teachers Union is part of the committee. He is passionate about the achievements of the college's students and several have secured employment with the organization. His commitment to the students extends to his service on the ECC Foundation Board.
3.14 What is the faculty to student ratio for courses in this program? Please provide a range and average.	Management courses utilized 8 faculty (2 full-time) in FY17 (source: ECC Pivot Tables, Tab 6). The average faculty to student ratio within the courses was 12.6 with a range of 1 to 18. This information was provided by Institutional Research, who suggested various ways to calculate the information. This method seems to most closely match what is being asked. Class sizes are capped by faculty contract and vary by discipline. Instructional Deans are more likely to pay attention to the full-time/part-time credit hour ratios than a faculty to student ratio as a measure of quality.

3.15 What professional development or training is offered to adjunct and full time faculty that may increase the quality of this program?	There are plentiful and various professional development opportunities for faculty at the college. The faculty contract allows for professional development funds, and includes part-time faculty. The college offers in-house training on various subjects. The program relies on both internal and external conferences, workshops and seminars; some attendance has been reduced in light of travel restrictions and other financial constraints. The MMT faculty want more professional development and time to meet and debrief on best practices.
3.16 What is the status of the current technology and equipment used for this program?	Lecture/discussion is the primary method of instruction with increased technology potential for simulation exercises and experiential learning. Adjuncts in particular are able to capitalize on the experiences of technological applications in the classroom. The standard classroom setup is sufficient, and students are increasingly likely to bring laptops and smart phones to class.
3.17 What assessment methods are used to ensure student success?	The Management courses are hands-on and foster student engagement by emphasizing experiential learning and case studies. Management instructors use a variety of methods to assess course effectiveness. Each instructor communicates the student outcomes in the syllabus at the outset of the course and is coached to include lower level learning objectives related to each textbook chapter or learning module as the course progresses. These objectives become the basis for direct, indirect, formative and summative assessment tactics. Both formative and summative methods are used to continually improve learning effectiveness over the semester and used as a means to measure the end results. Some of these methods include "real-time" reporting of student grades in D2L, qualitative feedback on writing assignments, and periodic small group breakout sessions where students can quiz each other. There are also research projects, cumulative exams, semester presentations and final projects. MMT faculty utilize the college's early alert system by contacting students who are off to a slow start.

	Participation in the college's formal course assessment program will begin in 2018 for the four MMT concentration courses.
3.18 How satisfied are students with their preparation for employment?	The management program prepares students for employment and further education. On the graduate survey, 88% of respondents indicate they are satisfied with their preparation for further education and 80% indicate satisfaction with job preparation.
3.19 How is student satisfaction information collected?	Despite ICCB rescinding the requirement for the CT Follow-up Survey, ECC's Institutional Research department continues to execute this survey protocol one year after certificate or degree completion. In addition, all completers are surveyed *each year*, not just prior to the review, so a full five years of responses can be studied. For the current review period, there were responses from 25 Management graduates.
3.20 How are employers engaged in this program? (e.g. curriculum design, review, placement, work-based learning opportunities)	These discussions occur primarily with the members of the Advisory Committee. They are done in a formal setting at regularly scheduled meetings and also informally as topics and issues surface while making decisions with regard to curriculum changes. It is critical to be aware of business's short- and long-term labor needs. Course content has been changed to reflect needs of the local business community and employers as identified in annual advisory committee meetings. Most recent committee discussions have focused on the need for key workplace skills include verbal and written communication, problem solving, planning, customer service and organization. Course activities including projects, group tasks and case studies, for example, are designed to learn and practice these skills. In addition, all courses provide critical thinking opportunities producing students with a key advantage when transferring to four-year institutions or moving forward into career options. The committee is also helpful in discussing trends in the business environment to be addressed within the programs. The most recent advisory committee meeting was held May 3, 2018, at which time industry partners agreed on the need to leverage use of technology in the business program, and that faculty

	may need to be trained on various uses of technology in business. This includes exploration of a social media marketing curriculum; a speaker series to expose students to more business leaders, and exploration of leveraging BUS curriculum to non-credit offerings with the intent of attracting incumbent workers to credit classes.
3.21 How often does the program advisory committee meet?	The Business Advisory committee meets annually in the spring, with intervals of e-mails in between.
3.22 How satisfied are employers in the preparation of the program's graduates?	The employers at the Advisory meeting are generally satisfied with the program's graduates but voice the perennial concern that greater emphasis is needed on "soft skills".
3.23 How is employer satisfaction information collected?	Like most CTE programs, MMT strongly relies on employer feedback received during Advisory meetings. Impressions can also be gleaned from the Internship coordinator. If necessary, formal survey feedback can be solicited in cooperation with Institutional Research.
3.24 Did the review of program quality result in any actions or modifications? Please explain.	A greater effort should be placed on distance learning, so students are able to graduate by taking online classes on their convenient time.

DATA ANALYSIS FOR CTE PROGRAM REVIEW

Please complete for each program reviewed. Colleges may report aggregated data from the parent program or report on enrollment and completion data individually for each certificate within the program. Provide the most recent 5 year longitudinal data available.

CTE PROGRAM	**Management**				
CIP CODE	**52.0204**				
	FY2013	*FY2014*	*FY2015*	*FY2016*	*FY2017*
*NUMBER OF STUDENTS ENROLLED (*SU/SR DUPLICATED SEATCOUNT ENROLLMENT for ALL MMT COURSES)*	435	470	506	516	410
COMPLETIONS					
AAS – MANAGEMENT (Degree withdrawn)	3	8	12	10	7
VS – SUPERVISORY & ADMINISTRATIVE MANAGEMENT	2	9	12	9	4

BVS – Supervisory & Administrative Management	12	20	17	22	18
Other (Please identify) **Overall MMT Course Success (A-C) rates, excluding withdrawals*	81.2%	77.0%	79.6%	76.6%	77.8%
Other (Please identify)	Program also receives course-level enrollment and success data as part of their Quality review.				
How does the data support the program goals? Elaborate.	Over the five year review period, seat-count enrollment rose through 2016 with a slight decline in 2017. This is similar to other trends at the college. The streamlined business curriculum should concentrate students in the right courses. The highest course enrollment is MMT-101: Introduction to Management which is required across various programs in addition to the Management certificates. Enrollment will rise/fall as related to those programs. There has been a significant shift in enrollment by modality as students choose online sections of MMT-101: Principles of Management and MMT-107: Human Resource Management. In further addressing these trends, MMT-107 and BUS/MMT-265: Problems and Projects in Business are now only offered as online courses. This is a direct response by the college to provide businesses in the district with the flexibility needed for employee professional development opportunities. Course-level success in MMT is an opportunity for improvement, as averages for three of the four core courses fall slightly below college CTE averages. This may be due to the online sections, which in general tend to have lower success rates than face-to-face. This can be investigated further within the course assessment process. BUS-265 was formerly MMT-265. It is a capstone course for students about to graduate and has the highest success rate in the department, 95% for 2017. Students' performance in the management courses has been satisfactory, and the BVS –Supervisory & Administrative Management certificate completion has been good. There needs to be greater focus on the part of faculty and academic advisors on students completing the certificates. Many students are not aware of the possibility of receiving a credential at this level.				
What disaggregated data was reviewed?	Within CTE programs, ECC's IR department provides statistics for program enrollment and completion broken-down by gender, age and race/ethnicity. Patterns for MMT are not easily analyzed as the courses attract a wider array of students than				

	those just pursuing an MMT certificate or even the AAS in Business. Still, programs and related internal planning groups will continue to collaborate with Institutional Research to determine if similar enrollment or success metrics by student group can be helpful at the *discipline/course* level. Across the college, faculty are very interested in closing achievement gaps and participate in institutional efforts to raise achievement for all students. Disaggregation is provided for course modality and for early college credit students, such as tech prep and middle college. As these populations expand the college will study their performance as compared to the standard college counterparts. For the MMT courses offered in both face-to-face and online formats, differences will be studied for quality improvement.
Were there gaps in the data? Please explain.	N/A
What is the college doing to overcome any identifiable gaps?	ECC is a Leader College within Achieving the Dream. Under this membership, the *Student Success Infrastructure* coordinates data analysis and new initiatives from an equity mindset. Many projects will address all students, but many are focused on specific populations to address gaps. For example, new welcome activities have been developed for African-American students, and the first annual HBCU (Historically Black Colleges and Universities) college fair was held in 2018, organized by the Student Life Coordinator for Targeted Populations. For the MMT program, cultural competency is an important thread within the curriculum. The topic is discussed within the context of the business environment. Faculty believe that skills in this area contribute to an equity environment within the classroom. Students are also encouraged to attend various co-curricular events on campus and in the community addressing contemporary equity issues.
Are the students served in this program representative of the total student population? Please explain.	Students enrolled in MMT coursework approximate the college's demographics. There are 50% White students compared to 42% at the college overall, though it can be noted that white students are over-represented in Fire Science, a program which requires MMT-101. There are slightly less Latino students in MMT than ECC overall (30% to 42%), but there are slightly more African-American students (8% to 5%) and an equal proportion of Asian students (7%).

	Management students are more likely to be male as compared to the college (58% to 47%), though this also speaks to the inclusion of the Fire Science students who are overwhelmingly male. The program's students are slightly younger than the college, with 60% compared to 54% age 17-22, and 9% to 15% age 40 and older. Students who have completed a management certificate or degree over the past five years are more likely to be female and are less likely to be from the 17 – 22 age category. *Source: ECC Program Review Pivot Tables, Tabs 4/4a/4b*
Are the students served in this program representative of the district population? Please explain.	Similar comparisons to the district population are seen as stated above.
REVIEW RESULTS	
Action	☒ Continued with Minor Improvements ☐ Significantly Modified ☐ Placed on Inactive Status ☐Discontinued/Eliminated ☐ Other (please specify)
Summary Rationale Please provide a brief rationale for the chosen action.	As discussed, the business programs at ECC are being streamlined and strengthened. Reducing MMT to its core course will ensure these key, important concepts are built into the AAS in Business, allow stackable certificates and electives of interest. It will be more efficient to schedule and fill the sections of these courses, whether face-to-face or online. As intended in meeting the needs of stakeholders, this program is being embraced by students as the college works to provide businesses in the district with the content and scheduling flexibility needed for employee professional development opportunities. To ensure the courses reflect a dynamic business environment, minor changes are required to ensure content relevant to students and the local business community. As well, attention must be paid to ensure the MMT courses are complementing the learning objectives of the other areas in the Business umbrella and other programs with MMT coursework (ie. Fire Science). Curriculum relevancy and assessment of student learning will ensure a healthy program moving forward. For students, this means offering training and knowledge that will equip them for career success and further academic pursuits. This value proposition will be communicated through outreach

	programs in high schools (for example, the annual Career Exploration program at Streamwood high school) and other channels.
Intended Action Steps What are the action steps resulting from this review? Please detail a timeline and/or dates for each step.	**NEXT YEAR** • MMT will begin participation in the college's formal course assessment process with the assistance of adjunct faculty (FA18 & ongoing). • MMT faculty will review and update textbooks (FA18). • Industry partners agreed on the need to leverage use of technology in the business program, and that faculty may need to be trained on various uses of technology in business. Work on this will begin immediately with traction in the area by end of spring 2019. • Explore the development of online/hybrid format for MMT-125 and BUS-260 to be scheduled next Fall. (FA18) • Explore programmatic accreditation (ACBSP) **NEXT FIVE YEARS** • Given the reorganization of the degrees/certificates in the Business area, it would make most sense for all sub-programs to finalize a list of *core* business learning outcomes, and then each concentration would have approximately 3-6 unique ones (SP20). • Explore social media marketing curriculum (FA20). • Implement a speaker series to expose students to more business leaders. • Explore leveraging BUS curriculum to non-credit offerings with the intent of attracting incumbent workers to credit classes. (FA20).

BUSINESS

The degree in business at Elgin Community College provides the student an opportunity to study the many facets of a business. Students learn the skills needed to meet the demands of business environment functions.

The two-year degree prepares students for employment in today's ever-changing business world. Topics covered include: business basics, principles of management, concepts of marketing, financial accounting, e-commerce, sales, and global business needs. Additional business skills are developed through the study of economics, business law, communication concepts, and applications of math for business.

Within the two-year degree, concentrations are available in entrepreneurship, marketing, management, and retail management. These concentrations allow the student an in-depth study of a specific aspect of business.

If the student is passionate about starting a business and interested in entrepreneurial pursuits, three certificate options exist in addition to the concentration for the two-year degree. Entrepreneurial-minded students should be self-motivated and understand the demand for the product or service they want to provide.

Instruction to lead to a rewarding and interesting career in marketing and retail management can be pursued at Elgin Community College. The available concentration in the two-year degree plus additional certificates provide the student with opportunities to study the following: marketing concepts, pricing, advertising, merchandise planning, product planning/development, promotion, and sales techniques.

The management concentration in the two-year degree, along with two certificate options, allows the student to study the field of management. The success of a business can depend on the manager's ability to plan, organize, staff, and lead the business. To be effective, the manager must understand the principles and concepts of business and how the entire environment functions. Understanding the interaction between individuals and how to correctly allocate resources will help the manager to be more effective.

Entrance Requirements

None

Program Requirements

None

DEGREE CONFERRED:

ASSOCIATE OF APPLIED SCIENCE IN BUSINESS

First Semester			**Sem. Hrs.**
BUS	120	Business Mathematics **or** MTH 125 Finite Math for Business & Mgmt **or** MTH 126 Calculus for Business/Social Science	3/4
BUS	101	Business Communications **or** ENG 101 English Composition I	3
BUS	100	Introduction to Business	3
MMT	101	Principles of Management	3
CIS	110	Introduction to Computers	3
		Total:	15/16
Second Semester			
CMS	101	Fundamentals of Speech	3
PSY	100	Intro to Psychology **or** SOC 100 Principles of Sociology	3
MKT	103	Marketing	3
ECN	201	Principles of Microeconomics	3
Concentration Elective			3
		Total:	15
Third Semester			
ENG	102	English Composition II **or** BUS 142 Report Writing	3
ACC	200	Financial Accounting	4
BUS	145	E-Commerce	3
MKT	105	Sales	3
Concentration Elective			3
		Total:	16
Fourth Semester			
BUS	112	Legal Environment of Business **or** BUS 113 Business Law	3
BUS	260	Global Business	3
HUM	216	Ethics	3
Concentration Electives			6
		Total:	15
		Program Total:	**61/62**

Electives by Concentration

Entrepreneurship Concentration			**Sem. Hrs.**
ENT	111	Small Business Management	3
ENT	101	Entrepreneurship	3
ENT	220	Business Plan Writing	3
ENT	210	Small Business Finance	3

Management Concentration			**Sem. Hrs.**
MMT	125	Leadership Development	3
MMT	102	Organizational Behavior	3
MMT	107	Human Resource Management	3
BUS	254	Business Ethics	3

Marketing Concentration			**Sem. Hrs.**
MKT	115	Advertising and Promotion	3
MMR	101	Principles of Retailing	3
ENT	101	Entrepreneurship	3
CMS	215	Intercultural Communication **or** BUS 254 Business Ethics **or** MKT 290 Marketing Internship	3

Retail Marketing Concentration (Choose 4 courses from the list)			**Sem. Hrs.**
ENT	101	Entrepreneurship	3
MMR	101	Principles of Retailing	3
MMR	206	Retail Management	3
MKT	115	Advertising and Promotion	3
CMS	215	Intercultural Communication	3

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

ENTREPRENEURSHIP

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN ADVANCED ENTREPRENEURSHIP

First Semester			Sem. Hrs.
ENT	101	Entrepreneurship	3
BUS	100	Introduction to Business	3
BUS	120	Business Mathematics **or** MTH 125 Finite Math for Business & Mgmt **or** MTH 126 Calculus for Business/Social Science	3/4
MKT	103	Marketing	3
MMT	101	Principles of Management	3
		Total:	15/16
Second Semester			
BUS	101	Business Communications **or** ENG 101 English Composition I	3
ENT	111	Small Business Management	3
MKT	105	Sales	3
ACC	200	Financial Accounting	4
ENT	220	Business Plan Writing	3
		Total:	16
Third Semester			
ENT	210	Small Business Finance	3
BUS	112	Legal Environment of Business **or** BUS 113 Business Law	3
CIS	110	Introduction to Computers	3
BUS	145	E-Commerce	3
		Total:	12
		Program Total:	**43/44**

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN INTERMEDIATE ENTREPRENEURSHIP

First Semester			Sem. Hrs.
ENT	101	Entrepreneurship	3
BUS	100	Introduction to Business	3
BUS	120	Business Mathematics **or** MTH 125 Finite Math for Business & Mgmt **or** MTH 126 Calculus for Business/Social Science	3/4
MKT	103	Marketing	3
MMT	101	Principles of Management	3
		Total:	15/16
Second Semester			
BUS	101	Business Communications **or** ENG 101 English Composition I	3
ENT	111	Small Business Management	3
MKT	105	Sales	3
ACC	200	Financial Accounting	4
ENT	220	Business Plan Writing	3
		Total:	16
		Program Total:	**31/32**

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN INTRODUCTORY ENTREPRENEURSHIP

			Sem. Hrs.
ENT	101	Entrepreneurship	3
ENT	111	Small Business Management	3
ENT	220	Business Plan Writing	3
MKT	103	Marketing	3
		Total:	12
		Program Total:	**12**

MANAGEMENT

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN SUPERVISORY & ADMINISTRATIVE MANAGEMENT

First Semester			Sem. Hrs.
MMT	101	Principles of Management	3
BUS	100	Introduction to Business	3
BUS	101	Business Communications **or** ENG 101 English Composition I	3
MKT	103	Marketing	3
BUS	145	E-Commerce	3
		Total:	15
Second Semester			
MMT	125	Leadership Development	3
MMT	102	Organizational Behavior	3
MMT	107	Human Resource Management	3
BUS	254	Business Ethics	3
BUS	260	Global Business	3
		Total:	15
		Program Total:	**30**

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN SUPERVISORY & ADMINISTRATIVE MANAGEMENT

			Sem. Hrs.
BUS	100	Introduction to Business	3
MMT	101	Principles of Management	3
MMT	125	Leadership Development	3
MMT	102	Organizational Behavior	3
MMT	107	Human Resource Management	3
		Total:	15
		Program Total:	**15**

MARKETING/RETAIL MANAGEMENT

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN CUSTOMER RELATIONSHIP MANAGEMENT

First Semester			Sem. Hrs.
BUS	101	Business Communications	3
BUS	231	Customer Relationship Management	3
BUS	238	Effective Listening	3
CIS	110	Introduction to Computers	3
MKT	103	Marketing	3
		Total:	15
Second Semester			
BUS	100	Introduction to Business	3
CMS	215	Intercultural Communication	3
MKT	105	Sales	3
MMT	102	Organizational Behavior	3
Customer Relationship Management Elective*			3
		Total:	15
		Program Total:	**30**

*Any 1.2 course

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN MARKETING

			Sem. Hrs.
MKT	103	Marketing	3
MKT	105	Sales	3
MKT	115	Advertising and Promotion	3
BUS	145	E-Commerce	3
		Total:	12
		Program Total:	**12**

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN RETAIL MANAGEMENT

			Sem. Hrs.
MMR	101	Principles of Retailing	3
MKT	103	Marketing	3
MKT	105	Sales	3
MMR	206	Retail Management	3
		Total:	12
		Program Total:	**12**

Career & Technical Education

COLLEGE NAME:	Elgin Community College
FISCAL YEAR IN REVIEW:	FY2018

PROGRAM IDENTIFICATION INFORMATION

PROGRAM TITLE	*DEGREE OR CERT*	*TOTAL CREDIT HOURS*	*6-DIGIT CIP CODE*	*LIST ALL CERTIFICATE PROGRAMS THAT ARE STACKABLE WITHIN THE PARENT DEGREE*
Medical Imaging - Radiography	**AAS**	**72**	**51.0911**	**None**

Address all fields in the template. If there are certificates and/or other stackable credentials within the program, please be sure to specify and sufficiently address all questions regarding each stackable credential.

Program Objectives What are the overarching objectives/goals of the program?	The radiography program prepares students to produce quality diagnostic images that will assist the physician in the diagnosis and treatment of injuries and diseases. Radiologic technologists (radiographers) are needed in every health care setting, including hospitals, outpatient clinics, and physicians' offices. Radiographers are essential members of the healthcare team performing radiologic procedures that are vital to the diagnosis of many injuries and medical conditions. As found in the revised 2017/2018 Student Handbook, the program Goals and Expected Outcomes are as follows: **The Program will graduate competent radiographers** • Graduates will produce quality radiographs • Graduates will practice effective radiation safety for the patient, him or herself and others • Graduates will demonstrate overall competence in clinical practice **The student (graduate) will demonstrate proficiency in problem-solving and critical thinking skills** • Graduates will demonstrate proficiency in problem-solving and critical thinking skills by **<u>modifying procedures</u>** to accommodate patient condition and other variables

	• Graduates will demonstrate proficiency in problem-solving and critical thinking skills by **adapting exposure factors** for various patient conditions, equipment, accessories and contrast media to maintain appropriate radiographic quality. • Graduates will demonstrate proficiency in problem-solving and critical thinking skills by **evaluating radiographic images** for appropriate positioning and image quality and make appropriate adjustments to obtain a diagnostic radiograph. **The student (graduate) will practice effective communication skills in the clinical setting.** • Graduates will practice effective communication skills in the clinical setting by demonstrating effective oral and written communication skills. **The student (graduate) will conduct him or herself in a professional manner.** • Graduate(s) will conduct him or herself in a professional manner by demonstrating professional values and behavior in clinical practice. • Graduate(s) will conduct him or herself in a professional manner by demonstrating professional growth through participation in lifelong learning. **The student (graduate) will provide excellent patient care for a diverse population of patients.** • Graduate(s) will demonstrate increased understanding of the importance of cultural competence in clinical practice. • Graduate(s) will demonstrate increased awareness of the impact of current trends and changes in healthcare affecting global population. **The Program will provide the healthcare community with qualified radiographers.** • A retention rate of 75% or higher • The 5-year average employment rate of graduates within one year of graduation will be 75% or greater. A positive outcome is defined

	as employment in the field for those graduates who declare they are actively seeking employment in the field or pursuing continued education in the field. • First time pass rates of the cohort of graduates on the ARRT (American Registry of Radiology Technologists) credentialing exam will be consistent with or above the national passing rates each year of the exam, with a minimum pass rate of 75%. • Mean scores of cohort of graduates on the ARRT credentialing exam will be consistent with or above the national mean scores each year. • The mean score on the employers' satisfaction survey of the graduates' preparation for employment will be 3.0 (meets expectations) or higher on a 5.0 (exceeds expectations) point scale.
To what extent are these objectives being achieved?	The process of becoming a radiographer is a complex one; involving both mastery of patient care and technical skills and the development of professional behavior and attitudes. The radiography program's competency-based curriculum is designed and organized in a logical and progressive sequence of increasingly complex assignments using a variety of formats, methods and techniques of delivery for student learning and assessment of learning outcomes. Radiography students' progress through the curriculum in "lock step" fashion as each semester's courses is a prerequisite to those that follow. Didactic and clinical course goals and objectives are appropriately coordinated and smoothly blended to guide the students through the phases of: (1) Explanation, (2) Demonstration, (3) Participation/Practice and (4) Evaluation. Throughout the curriculum, student learning outcomes are assessed in the cognitive, psychomotor, affective and interpersonal domains as outlined in the program assessment plan. Integration of clinical and didactic education maximizes student achievement of program objectives. In courses where the higher levels of the cognitive domain (synthesis and evaluation) are goals, collaborative assignments requiring students to engage in problem-based or project-based activities

	serve as important ways to determine if students have reached that level of learning. The sequencing of integrated didactic and clinical education follows a logical sequence of increasingly complex assignments and is closely correlated. This allows the student to progress from observation of radiographic examinations, to assisting, and finally to performing examinations under direct, and later, under indirect supervision with increasing independence. The student gains a level of knowledge and competency that allows for successful performance as a radiographer. Students have sufficient opportunity to practice a variety of outcomes through simulated performance in the on-campus laboratory setting. Students also have multiple opportunities to practice in the clinical setting under direct supervision of a practitioner until the student is evaluated for competency. Procedural competencies are re-evaluated throughout the curriculum until the last clinical semester, when mastery of the outcomes is evaluated prior to program completion.
Past Program Review Action What action was reported last time the program was reviewed?	The previous report's reported action was *Continued with minor improvements*. Actions/goals completed since the last review include: • "Tweaking" lecture vs. lab contact hours to reflect effective content coverage and to ensure consistent application of ICCB guidelines for credit/lab hour ratios. • All course-level assessments have now been incorporated into the program assessment plan. • A new program goal was added: "The student (graduate) will provide excellent patient care for a diverse population of patients". Two objectives were included: "by demonstrating increased understanding of the importance of cultural competence in clinical practice" and "by demonstrating increased awareness of the impact of current trends and changes in healthcare affecting global population". A variety of course-level assessments in both didactic and clinical courses were and will be used to evaluate student learning outcomes for these goals. Faculty continue to explore ways to incorporate learning

	activities to support these goals and will continue to develop assessment activities to evaluate the value of each.

CTE PROGRAM REVIEW ANALYSIS Complete the following fields and provide concise information where applicable. Please do not insert full data sets but summarize the data to completely answer the questions. Concise tables displaying this data may be attached. The review will be sent back if any of the below fields are left empty or inadequate information is provided.	
List all pre-requisites for this program (courses, placement scores, etc.).	Program entrance requirements are noted on the catalog page at the end of this chapter, and include successful prior completion of BIO-110: Principles of Biology, HPE-112: Intro to Healthcare Vocabulary, and a college-level math course, PSY-100: Intro to Psychology, and BIO-245: Human Anatomy and Physiology I. All Health Professions students must pass a background check and provide the following documentation: results of a negative drug test, completed medical form, proof of health insurance coverage, proof of CPR certification. The standards, policies, and procedures of the radiography program are published in the radiography program student handbook. Copies may be obtained online at elgin.edu/radiography. All students applying to the radiography program must attend an information session prior to starting the program. Students admitted to the program will also be required to attend an orientation before radiography classes begin. In order to enroll in certain 1.1 transfer courses, students must demonstrate readiness in the form of test scores (such as ACT/SAT, PARCC), placement results (ALEKS, McCann, writing placement), and/or successful completion of developmental coursework, as outlined on page 13 of the 2018-2019 college catalog and described in Administrative Procedure 1.104: Minimum Competencies.
Please list or attach all required courses (including titles) for completion of this program including institution required courses (e.g. student success, first year, general education requirements, etc.).	Program requirements are noted on the catalog page at the end of this chapter.

Provide a rational for content/credit hours beyond 30 hours for a certificate or 60 hours for a degree.	The AAS Radiography degree is comprised of 72 credits, which matches minimum requirements of the certification agency (ARRT). The curriculum is composed of five clinical courses in addition to the majority of didactic courses which have labs. This impacts the credit hour load for the curriculum. Since all accredited radiography programs are required to follow the national professional curriculum of the American Society of Radiologic Technologists (ASRT), radiography programs offered by other community colleges are similar in course offerings and full-time day enrollment. Within this constraint, however, the program is always looking for ways to ensure the curriculum is as tight, efficient and relevant as possible. For example, Sectional Anatomy has been changed from "required" content to "elective" content in the professional curriculum guidelines. Therefore, effective 18/19, the program has removed the existing sectional anatomy course (RAD-210) since the advanced CT and MR programs include such a course in those respective curricula. In its place, a new two-credit course has been developed to serve as a capstone in the last semester, covering current issues and topics in healthcare impacting medical imaging.
INDICATOR 1: NEED	***RESPONSE***
1.1 How strong is the occupational demand for the program?	The program is designed to prepare students to become radiologic (x-ray) technologists. It prepares them to sit for the ARRT national certification examination which is required for employment in the field. The program is required to track the employment status of its graduates. The 5-year average (2012-2016) job placement rate for ECC's radiography program is 94%.
1.2 How has demand changed in the past five years and what is the outlook for the next five years?	According to the employment data available, a slight increase (2%) in employment of radiographers is projected over the next 10 years. Demand for radiographers has remained relatively steady over the past five years. Since 2010, 100% of The college's radiography graduates who actively sought employment reported that they were working

	in the field with exception of the 2014 cohort where 83% reported employment. Employment of radiography graduates has been steady over the course of a 10-year period. According to IDES, there is not a significant increase in projected need over the next 10 years.
1.3 What is the district and/or regional need?	According to IDES, there is only a slight (2%) projected need for radiologic technologists in general, however the data does not reflect specific areas of specialty within the classification (ie. RT(R)s, RT(R)(MR)s, RT(R)(CT)s, RT(R)(M)s etc.) There may be a higher need for specialists vs. generalists or vice versa. The program is required to track job placement rates for graduates. Data obtained thus far shows a 96.8% five-year average employment rate for the RAD program.
1.4 How are students recruited for this program?	The college's radiography program is selective, admitting 16 students per cohort on a competitive basis. Because of the course-level entrance requirements, many applicants are current students. The Medical Imaging department plans on partnering with the marketing department to develop short videos, using program graduates talking about the strengths of each of the programs offered. These will be available on the program web pages which will provide high visibility in marketing the opportunities to potential students.
1.5 Where are students recruited from?	Faculty and staff attend recruitment activities within the various school districts and at the college. In addition, program information sessions are advertised and conducted at minimum, six sessions a year.
1.6 Did the review of program need result in actions or modifications? Please explain.	Based on past job placement rates and projected employment information, the program does not anticipate making any changes to the current program capacity.
INDICATOR 2: ***COST EFFECTIVENESS***	***RESPONSE***
2.1 What are the costs associated with this program?	The Medical Imaging budget includes funds for four program areas: Radiography, and the advanced certificates for Magnetic Resonance Imaging, Computed Tomography, and Mammography. The entire budget, approximately $433,000, is divided

	among the following categories: salaries and benefits (87%), equipment maintenance and other contractual services (7%), instructional materials and supplies (6%), and travel/conference expenses (<1%). There is one full-time program director, two full-time faculty, and six part-time faculty teaching in these areas. In order to maintain accreditation, highly specialized equipment is required on campus for hands-on training experiences. The Medical Imaging operational budget has increased approximately 75% over the past five years to accommodate the increase in student enrollment across the advanced modalities. Faculty salaries and maintenance service contracts have also risen over this same time period. The Radiography program purchased new equipment in 2012 to equip the radiography laboratory in the new Health and Life Sciences building. Equipment acquisitions included a GE/OEC mobile fluoroscopy unit (C-Arm), a GE Optima mobile x-ray unit and a non-energized radiographic unit which is used for demonstration and practice in the radiography classroom. In 2014, the department acquired a Siemen's *Inspiration Mammomat* (mammography x-ray unit) which was funded by a state grant. This equipment provides mammography students opportunity to practice their skills prior to practicing on live patients in the clinical setting. The department is in the process of upgrading to a direct digital detector in FY2018. With increased technology come increased costs for equipment warranties and maintenance. These operational costs are necessary in order for the Medical Imaging department to maintain its program quality and thoroughly prepare students for today's healthcare workforce.
2.2 How do costs compare to other programs on campus?	Because of the nature of the program's content and the need to assure that students are competent in their skill development, heavy instructional contact hours are necessary. This arrangement is more common in the Health Professions, but not similar to other CTE programs. The program also has significant equipment needs.

2.3 How is the college paying for this program and its costs (e.g. grants, etc.)?	The Medical Imaging department is supported by the college's Education fund. Some equipment has been acquired through grant funds.
2.4 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? Please explain.	N/A
2.5 Did the review of program cost result in any actions or modifications? Please explain.	In light of recent constraints due to the State of Illinois's budget, the college has worked to ensure financial resources for out-of-state travel for programs with accreditation standards to uphold. Faculty and the program director need to attend professional development activities specific to the discipline in order to stay current in the field and maintain accreditation.
INDICATOR 3: QUALITY	***RESPONSE***
3.1 What are the program's strengths?	The program is fortunate to have dedicated and experienced faculty and program director who put students first and work well together as a team to constantly look for ways to improve the programs offered. Clinical partners support the program in a variety of ways and provide input that is invaluable to the program's success. Physical resources provided by the college enhance instruction and provide the students and faculty with the resources needed to graduate competent, employable graduates.
3.2 What are the identified or potential weaknesses of the program?	There are no identified weaknesses of the program. Influences outside the purview of the program have had some negative impacts however. Internal processes within the College but outside of the program are often cumbersome and tedious and can hinder timely response which has resulted in the delay or loss of opportunities for students. In particular: • Increasing competition with similar programs in surrounding areas makes it more difficult to acquire and maintain clinical partnerships that will provide students with essential high quality clinical experiences. • Once additional clinical sites are acquired, streamlining the process for securing clinical

	affiliation agreements in a timely manner is essential and should be a priority. Delays often result in the loss of opportunities for our students. • A solution to this obstacle is outside of the control of the program, however it is recommended that adding additional staffing to the College's legal department and streamlining the process is necessary to expedite the execution of clinical contracts, which would prevent delaying or, in some instances, losing learning opportunities for enrolled students.
3.3 What are the delivery methods of this program? (e.g. traditional format/online/hybrid/team-teaching etc.)?	All courses in the radiography curriculum are delivered as face-to-face courses.
3.4 How does this program fit into a career pathway?	Completion of the AAS degree and passing the licensure exam directly qualifies a graduate for immediate employment. While some entrance requirements can be completed within Early College Credit opportunities, the RAD coursework is all at the post-secondary level.
3.5 What innovations have been implemented or brought to this program that other colleges would want to learn about?	Innovations for the RAD program include incorporating interdisciplinary activities into the curriculum to emphasize the roles that each discipline may bring to the table in a variety of settings. Examples include: Radiographers and Surgical Technologists interactions in the OR during a procedure; CT students interacting with Clinical Lab/phlebotomists emphasizing lab values as applied to decision-making regarding contrast agent tolerance of patients.
3.6 Are there dual credit opportunities? If so please list offerings and the associated high schools.	Students must meet specific requirements for admission to the Radiography program, and cannot still be in high school. Some entrance requirements might be able to be completed by a high school student, such as Biology or Psychology.

3.7 What work-based learning opportunities are available and integrated into the curriculum?	The radiography curriculum includes five clinical courses which provide students with practical experience in the imaging environment under a clinician's supervision. Students rotate through different sites such as hospital imaging departments, immediate care clinics, out-patient imaging centers and orthopedic clinics as part of their clinical education.
3.8 Is industry accreditation required for this program (e.g. nursing)? If so, identify the accrediting body. Please also list if the college has chosen to voluntarily seek accreditation (e.g. automotive technology, NATEF).	The program is required to maintain accreditation from Joint Review Committee on Education in Radiologic Technology (JRCERT). The last review cycle submitted an interim report to the JRCERT in February 2016 and received notification that the 8-year award was maintained with no recommendations with the next visit due the first quarter of 2020. The next accreditation visit will occur in Spring 2019.
3.9 Are industry-recognized credentials offered? If so, please list.	The program is designed to prepare students to become radiologic (x-ray) technologists and prepares them to sit for the ARRT national certification examination which is required for employment in the field. Upon passing the ARRT exam, graduates will obtain a state license from the Illinois Emergency Management Agency-Division of Nuclear Safety (IEMA-DNS).
3.10 Is this an apprenticeship program? If so, please elaborate.	No, this is not an apprenticeship program.
3.11 If applicable, please list the licensure examination pass rate.	The radiography program has had 100% pass rate on the ARRT certification exam since its first graduating class in 2010, with mean scores consistently exceeding the state and national average.
3.12 What current articulation or cooperative agreements/initiatives are in place for this program?	There are active partnerships with Northern Illinois University and Resurrection University toward the B.S. Health Science completion. A similar option under consideration is being discussed with National-Louis University. Though not 4-year institutions, students also have the opportunity to complete Radiation Therapy and Nuclear Medicine programs after ECC through Northwest Medicine and College of DuPage, or Ultrasound through Harper College.

3.13 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?	Consistent with Health Professions Division goals, the Medical Imaging programs have collaborated with other health professions programs by infusing interdisciplinary learning opportunities into the curricula. In addition, faculty have been expanding the use of active-learning pedagogical strategies in the classroom. Faculty participated in an active learning showcase conducted within the division where participants shared methods and strategies used in their classrooms.
3.14 What is the faculty to student ratio for courses in this program? Please provide a range and average.	The Medical Imaging program utilized 5 faculty in FY17 (source: ECC Pivot Tables, Tab 6). The average faculty to student ratio within the RAD courses was 11.2 with a range of 7 to 16. This information was provided by Institutional Research, who suggested various ways to calculate the information. This method seems to most closely match what is being asked. Class sizes are capped by faculty contract and vary by discipline. Instructional Deans are more likely to pay attention to the full-time/part-time credit hour ratios than a faculty to student ratio as a measure of quality. The ratio is lower in the lab courses than lecture courses for safety reasons.
3.15 What professional development or training is offered to adjunct and full time faculty that may increase the quality of this program?	There are plentiful and various professional development opportunities for faculty at the college. The faculty contract allows for professional development funds, and includes part-time faculty. The college offers in-house training on various subjects. Even in light of current travel restrictions and other financial constraints, CTE programs with accreditation requirements regarding development opportunities are guaranteed the continued ability to attend such trainings. The medical imaging faculty have completed post-graduate coursework with the radiography faculty member completing her master's degree in April of 2016. The program director and program faculty attend national conferences and accreditation and assessment workshops as funds are available. Information from these events is shared at departmental meetings and provide opportunity for discussion of curricular, programmatic and accreditation issues at regularly scheduled meetings.

	Faculty belong to the ASRT (American Society of Radiologic Technologists). The program director belongs to ACERT (Association of Collegiate Educators in Radiologic Technology) and AEIRS (Association of Educators in Imaging and Radiation Sciences). Students may join the ASRT as student members and are encouraged to do so to avail themselves of the many benefits of membership to this professional association.
3.16 What is the status of the current technology and equipment used for this program?	Technology is key to the instruction in this program. Students must be prepared to work with the machines they will encounter on clinical rotation and on the job. The industry is moving away from antiquated film and digitizing the images. The capital budget has recently been approved to a purchase a digital flat panel detector for the radiography lab.
3.17 What assessment methods are used to ensure student success?	Faculty are continually trying to find better methods/instruments/activities to assess student learning (i.e. performance) more effectively. Faculty have incorporated a variety of active learning strategies into their classrooms and are developing interdisciplinary activities which will be incorporated into some courses. One of the biggest challenges in Medical Imaging course assessments is *documenting* evidence of student learning in the *clinical setting* (i.e. clinical courses). Achievement of competency in a long list of procedures provides evidence of student learning and readiness for certification in the field. The weak link is that college staff needs to depend on the clinical staff working directly with students at the off-site locations to evaluate student performance. Results are not necessarily objective, or consistent between preceptors. Some staff consistently give high ratings; others consistently give low ratings. An aggregate score cancels out those results which doesn't provide much useful information.
3.18 How satisfied are students with their preparation for employment?	Mean satisfaction score on 5 point scale (latest figures available): 2013 4.69 2014 4.6 2015 4.85 2016 4.91

	The most recent data from the college's CT Follow-up Survey shows 100% of respondents were satisfied with how the program's courses and labs prepared them for the job, 80% indicating "Very Satisfied" *(source: ECC Program Review Pivot Tables, Table #7)*. In their final semester, students complete RAD-240: Career Development, which covers certification exam review as well as job seeking. Students will master skills of career planning, resume and portfolio development, interviewing skills and create a personalized professional development plan.
3.19 How is student satisfaction information collected?	The radiography program sends out its own more detailed graduate satisfaction survey through the E*Value electronic management system one year post-graduation. The program also receives satisfaction data from the CT Follow-up Survey conducted by the college's Institutional Research department.
3.20 How are employers engaged in this program? (e.g. curriculum design, review, placement, work-based learning opportunities)	Employer members of the committee, for the most part, have been very complimentary and supportive of the college's medical imaging programs over the years. They have assisted with recruiting new clinical sites as needed and keep the program updated on industry and/or healthcare system trends and changes that might impact the program, the curriculum or its students. Advisory committee members often communicate emerging trends in the service area, employment needs etc. during meetings. Examples of involvement include: • Based in feedback, an increased emphasis on "soft skills" and coaching on interview skills was added to the Career Development course prior to graduation. • The Medical Imaging Advisory Committee and other communities of interest (i.e. Employers of graduates; graduates; clinical education committee etc...) have agreed that sectional anatomy is more appropriately taught in the advanced modality curricula (CT & MR), supporting the decision to remove it from the RAD AAS degree. • At the most recent meeting (November 2017), the committee broke into small groups to brainstorm and identify future challenges in

	imaging specifically or healthcare in general that could impact their departments and ultimately the programs, its students and/or its graduates or should be considered in relation to possible curricular changes.
3.21 How often does the program advisory committee meet?	The medical imaging advisory committee meets once a year. In years when an accreditation visit is scheduled, the committee may meet twice.
3.22 How satisfied are employers in the preparation of the program's graduates?	Mean satisfaction ratings on 5 point scale (latest figures available): 2013 4.8 2014 4.0 2015 5.0 2016 5.0
3.23 How is employer satisfaction information collected?	Similar to the process in surveying program graduates, a survey is sent out to employers approximately one year post-graduation through the E*Value electronic management system.
3.24 Did the review of program quality result in any actions or modifications? Please explain.	As an accredited program, the program director and faculty are constantly assessing program and student learning outcomes and making minor adjustments aimed at continuous quality improvement. The program review process is just another layer of what is already done on a regular basis as part of the continuing accreditation process. Data indicates that the radiography program is effective in helping students meet their career and professional development goals.

DATA ANALYSIS FOR CTE PROGRAM REVIEW

Please complete for each program reviewed. Colleges may report aggregated data from the parent program or report on enrollment and completion data individually for each certificate within the program. Provide the most recent 5 year longitudinal data available.

CTE PROGRAM	Medical Imaging – Radiography				
CIP CODE	51.0911				
	YEAR 1 FY2013	YEAR 2 FY2014	YEAR 3 FY2015	YEAR 4 FY2016	YEAR 5 FY2017
NUMBER OF STUDENTS ENROLLED (COHORT HEADCOUNT)	16	16	16	15	16
NUMBER OF COMPLETERS (AAS DEGREE)	14	13	8	13	11

OTHER (PLEASE IDENTIFY) ** COHORT COMPLETION RATE*	87.5%	81.25%	50%	87.5%	62.5%
	1 Re-entry; 2 clinical failures; 1 voluntary w/d	1 academic failure; 2 voluntary w/d	3 academic failures; 5 voluntary w/d	2 academic failures; 1 vol w/d; 1 re-entry	4 voluntary w/d; 1 re-entry; 3 ac/cl failures
OTHER (PLEASE IDENTIFY) **OVERALL RAD COURSE SUCCESS (A-C) RATES, excluding withdrawals*	97.7%	96.5%	97.0%	96.8%	95.5%
OTHER (PLEASE IDENTIFY) ** CREDENTIALING EXAM PASS RATE*	100%	100%	100%	100%	100%
OTHER (PLEASE IDENTIFY)	Programs also receive course-level enrollment and success data as part of their Quality review.				
How does the data support the program goals? Elaborate.	The Radiography Program is a 2-year limited enrollment program with a program capacity of 16 students accepted annually. This number is determined by the JRCERT (accrediting body) and is based on number of clinical sites, staff and equipment available for students. As a result, program enrollment is steady. Cohort headcount declines slightly across the 2-year enrollment period due to attrition resulting from a variety of reasons (i.e. Don't like it, personal/medical reasons, academic/clinical failure etc.). When students do consider leaving the program, the director, faculty and retention specialist work with them and make notations regarding the primary reasons for the decision. It has been found that most reasons are personal in nature and are beyond the scope of the program's control. Where possible, information and proper expectations are incorporated into the student handbook and orientation materials.				
What disaggregated data was reviewed?	Within CTE programs, the college's IR department provides statistics for program enrollment and completion broken-down by gender, age and race/ethnicity. Patterns for RAD will be addressed in items below. Programs and related internal planning groups will continue to collaborate with Institutional Research to determine if similar enrollment or success metrics by student demographic group can be helpful at the *discipline/course* level. Across the college, faculty are very interested in closing achievement gaps and participate in institutional efforts to raise achievement for all students. To begin, the program requested a separation of Radiography students from those in the advanced medical imaging programs – all data was previously grouped together.				

Were there gaps in the data? Please explain.	Thus far, the program has not analyzed outcomes data by student demographics. Small n-sizes each year make trends difficult to judge year to year.
What is the college doing to overcome any identifiable gaps?	The college is a Leader College within Achieving the Dream. Under this membership, the *Student Success Infrastructure* coordinates data analysis and new initiatives from an equity mindset. Many projects will address all students, but many are focused on specific populations to address gaps. For example, new welcome activities have been developed for African-American students, and the first annual HBCU college fair was held in 2018, organized by the Student Life Coordinator for Targeted Populations.
Are the students served in this program representative of the total student population? Please explain.	The Radiography program tends to enroll more white students and more female students than the overall student body. Asian students enroll at similar levels, but not Latinos/as or African-Americans. Due in part to the required pre-admission coursework, radiography students tend to be slightly older that the college's average student body, with most falling in the range of 23 – 29 years old. Over the past three years, the program has seen more Latino/a students enroll, with 19% in 2017.
Are the students served in this program representative of the district population? Please explain.	Similar to above, the program is underrepresented compared to the district for students with Latino and African-American backgrounds, and males.
REVIEW RESULTS	
Action	☒ Continued with Minor Improvements ☐ Significantly Modified ☐ Placed on Inactive Status ☐Discontinued/Eliminated ☐ Other (please specify)
Summary Rationale Please provide a brief rationale for the chosen action.	The Medical Imaging Programs have been largely successful. Minor adjustments to ensure sustained enrollment and to enhance the clinical education of students enrolled in the programs have been identified as the focus of future goals. The most significant challenges for the medical imaging programs have been mentioned and include increasing competition from similar programs in the marketplace, contributing to difficulty in securing and maintaining quality clinical sites, and internal processes, including the legal department, which limit the program's ability to be flexible and agile, often leading to lost

	opportunities for students. Once additional clinical sites are acquired, streamlining the process for securing clinical affiliation agreements in a timely manner is essential and should be a priority.
Intended Action Steps What are the action steps resulting from this review? Please detail a timeline and/or dates for each step.	• Work with the Marketing department to develop short videos to include in the program web pages that will be developed to recruit potential students to the Medical Imaging programs. (Marketing department staff, MI Program Director and both clinical coordinators of the aforementioned programs – SU/FA18) • Work with advisory committee members, program graduates and enrolled students (in the advanced imaging programs) to identify and recruit additional clinical sites for the Medical Imaging programs. (Advisory Committee members, MI Program Director and both clinical coordinators of the aforementioned programs. FA18/SP19). • Monitor enrollment trends in the Medical Imaging programs and continue to develop marketing strategies that assure optimum enrollment in all programs (ongoing/perform annually) • Assess student/graduate satisfaction with clinical experiences in all Medical Imaging programs and address concerns/weaknesses to assure excellence in clinical competency (ongoing/perform annually)

MEDICAL IMAGING–RADIOGRAPHY

Radiologic technologists (radiographers) are needed in every health care setting, including hospitals, outpatient clinics, and physicians' offices. Radiographers are essential members of the healthcare team performing radiologic procedures that are vital to the diagnosis of many injuries and medical conditions. When a patient is having an X-ray or other diagnostic imaging procedure, the radiographer positions the patient, operates the equipment to record the image, and then provides the image to a radiologist for diagnosis. Clinical specialties within the profession range from orthopedics to cardiac catheterization. Elgin Community College's Radiography Program has a well-deserved reputation. Graduates of ECC's program are highly skilled and qualified to sit for the national certification examination by the American Registry of Radiologic Technologists (ARRT) and are ready to enter a profession that combines technology with compassion. There are a variety of specialties that you can pursue following your successful completion of ECC's Radiography Program. ECC offers advanced certificate programs in the specialties of mammography, computed tomography, and magnetic resonance. The boundaries of your career in radiologic technology are determined only by your own abilities and interests.

Accreditation

The Radiography Program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606, 312-704-5300. jrcert.org.

Entrance Requirements

All requirements below (except BIO 245) must be completed prior to the December 15th application deadline.

- Score in the 25th percentile or better in each section of the PSB-HOA exam.

Successful completion with a grade of C or better in 5 prerequisite courses:

- BIO 110 or equivalent.
- HPE 112 or equivalent.
- College-level math (MTH 102 preferred) or equivalent.
- PSY 100 or equivalent.
- BIO 245 or equivalent (must be completed prior to summer enrollment in the program).

All applicants will be ranked based on these requirements and the top 16 qualified applicants will be selected for admission to the Radiography Program. Refer to elgin.edu/radiography for a description of the applicant screening process. Students from districts outside of District 509 may apply. Go to elgin.edu/jointagreements to learn more.

Admission Procedures

Applicants must submit the following items to the ECC Records Office:

- ECC application.
- Health professions application.
- Official college transcripts for any courses being transferred from other schools. (Note: To request a transcript evaluation, go to elgin.edu/evaluation.)

Admission to the program is selective. Students may obtain an application for admission online at elgin.edu/radiography. PSB-HOA testing information may be found at elgin.edu/testing. PSB-HOA scores are valid for two years from the date the test is taken. The deadline for applying to the Radiography Program is December 15. After this date, applications will only be considered if space is available. Applicants will be notified of their status by mid-February. New radiography classes begin in May.

Program Requirements

Students must complete all required courses with grades of C or better and meet graduation requirements in order to be eligible to sit for the ARRT national certification exam in radiography offered by the American Registry of Radiologic Technologists and to be eligible for IEMA-DNS state licensure. Prior credits in BIO 245/246 must have been earned within the last 10 years. Students must provide their own uniforms and transportation to and from all clinical sites.

Policies and Procedures for the Radiography Program

All students applying to the Radiography Program attend a face-to-face information session prior to applying to the program. To register for an information session go to elgin.edu/visitecc. Students admitted to the program will be required to attend an orientation meeting in March before radiography classes begin.

Any student demonstrating a positive background check will be denied admission to any health professions program.

Before attending clinical training, students must submit documentation through the Castlebranch portal including: completed medical form which includes proof of immunizations/titer results, proof of health insurance coverage, TB test, and proof of healthcare provider CPR certification. Background checks and drug testing are also conducted through Castlebranch.

Health professions students will be required to update their drug test, TB test/TB survey, and flu vaccine information on an annual basis. Any student demonstrating a positive drug test will be dismissed from the health professions division.

The standards, policies, and procedures of the Radiography Program are published in the radiography student handbook. Copies of the student handbook may be obtained online at elgin.edu/radiography.

DEGREE CONFERRED:
ASSOCIATE OF APPLIED SCIENCE IN RADIOGRAPHY

First Semester			**Sem. Hrs.**
RAD	101	Introduction to Radiography	1
RAD	102	Methods of Patient Care	2
PSY	218	Human Growth and Development	3
ENG	101	English Composition I	3
			Total: 9
Second Semester			
RAD	103	Radiographic Imaging I	3
RAD	104	Radiographic Procedures I	4
RAD	124	Radiography Clinical Practicum I	3
BIO	246	Human Anatomy and Physiology II	4
			Total: 14
Third Semester			
RAD	105	Radiographic Imaging II	3
RAD	106	Radiographic Procedures II	4
RAD	107	Radiologic Physics	2
RAD	134	Radiography Clinical Practicum II	3
			Total: 12
Fourth Semester			
RAD	208	Radiography Procedures III	2
RAD	209	Radiobiology & Radiation Protection	2
RAD	230	Medical Ethics and Law	2
RAD	242	Radiography Clinical Practicum III	3
Required Liberal Education Course (Recommended HUM 216 Ethics)*			3
			Total: 12
Fifth Semester			
RAD	211	Radiographic Imaging III	2
RAD	212	Radiographic Pathology	2
RAD	256	Radiography Clinical Practicum IV	5
CMS	215	Intercultural Communication	3
			Total: 12
Sixth Semester			
RAD	220	Pharmacology	2
RAD	240	Career Development	1
RAD	266	Radiography Clinical Practicum V	5
HPE	270	Global Context of Healthcare	2
ENG	102	English Composition II	3
			Total: 13
			Program Total 72

*See page 34

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

Career & Technical Education

College Name:	Elgin Community College
Fiscal Year in Review:	FY2018

Program Identification Information

Program Title	*Degree or Cert*	*Total Credit Hours*	*6-Digit CIP Code*	*List All certificate programs that are stackable within the parent degree*
Advanced Medical Imaging :				
Computed Tomography (CT)	**BVS**	**25**	**51.0911**	**None**
Magnetic Resonance Imaging (MRI)	**BVS**	**27**	51.0911 **51.9020 ***	**None**
Mammography	**BVS**	**13**	51.0911 **51.0919 ***	**None**

** Initial coding on these certificates was CIP 51.0911; they will be updated to the more specific codes as listed in bold.*

Address all fields in the template. If there are certificates and/or other stackable credentials within the program, please be sure to specify and sufficiently address all questions regarding each stackable credential.

Program Objectives What are the overarching objectives/goals of the program?	Graduates of the advanced certificate programs at the college are highly skilled and qualified to sit for advanced certification examinations by the American Registry of Radiology Technologists (ARRT). To be eligible, students must already be a graduate of a certified radiography program and have passed the certification exam. Refer to specific details by specialty in the appendix. The programs consist of a mix of classroom and clinical courses of varying lengths depending on the student's enrollment status (full-time or part-time): • CT, complete in 2 or 4 semesters • MR, complete in 3 or 6 semesters • MAM, complete in 1 or 2 semesters Computed Tomography (CT) technologists work with special rotating X-ray equipment to obtain slices of anatomy at different levels of the body. Magnetic Resonance technologists operate MR equipment that scans the patient using a combination of magnetic fields and radiofrequency to produce high-resolution images of the body. Mammographers work with sophisticated

low-does X-ray equipment to produce screening and diagnostic images of the breast.

Program Goals and Expected Outcomes for MRI, CT and Mammography Programs

1. **The Program will graduate competent technologists**
   - Graduates will produce high quality images
   - Graduates will practice safety for the patient, him or herself and others
   - Graduates will demonstrate overall competence in clinical practice
2. **The student (graduate) will demonstrate proficiency in problem-solving and critical thinking skills**
   - Graduates will demonstrate proficiency in problem-solving and critical thinking skills by **modifying procedures** to accommodate patient condition and other variables
   - Graduates will demonstrate proficiency in problem-solving and critical thinking skills by **adapting protocols and/or exposure factors** for various patient conditions, equipment, accessories and contrast media to maintain appropriate radiographic quality.
   - Graduates will demonstrate proficiency in problem-solving and critical thinking skills by **evaluating images** quality and to make appropriate adjustments to obtain a diagnostic images.
3. **The student (graduate) will practice effective communication skills in the clinical setting.**
   - Graduates will practice effective communication skills in the clinical setting by demonstrating effective oral and written communication skills.
4. **The student (graduate) will demonstrate professional conduct.**
   - Graduate(s) will demonstrate professional conduct by demonstrating professional values and behavior in clinical practice.
5. **The student (graduate) will provide excellent patient care for a diverse population of patients**
   - The student (graduate) will provide excellent patient care for a diverse population of patients

	by demonstrating increased understanding of the importance of cultural competence in clinical practice. **6. The Program will provide the healthcare community with qualified MR, CT and mammography technologists and** • A retention rate of 75% or higher • The 5-year average employment rate of graduates within one year of graduation will be 75% or greater. A positive outcome is defined as employment in the field for those graduates who declare they are actively seeking employment in the field or pursuing continued education in the field. • First time pass rates of the cohort of graduates on the ARRT credentialing exam will be consistent with or above the national passing rates each year of the exam, with a minimum pass rate of 75%. • Mean scores of cohort of graduates on the ARRT credentialing exam will be consistent with or above the national mean scores each year. • The mean score on the employers' satisfaction survey of the graduates' preparation for employment will be 3.0 (meets expectations) or higher on a 5.0 (exceeds expectations) point scale.
To what extent are these objectives being achieved?	The process of becoming certified in these advanced modalities is a complex one involving a combination of mastery curricular content (cognitive), of patient care and technical skills (psychomotor) and the development of professional behaviors and attitudes (affective). All of the medical imaging programs are well-structured, competency-based curricula designed and organized in a logical and progressive sequence in order to prepare students to practice in the professional discipline. The didactic and clinical course goals are closely correlated, providing opportunities in the current advanced technologies. The curricula allows for effective student learning by providing a knowledge foundation prior to performance of procedures and promotes qualities that are necessary for students/graduates to practice competently, make good decisions, assess situations,

	provide appropriate patient care, and communicate effectively. Students are assigned to a variety of clinical facilities during their enrollment in the program where they are provided multiple opportunities to practice skills learned. Mastery of a prescribed number and variety of clinical competencies are a prerequisite for the student to graduate and to sit for the advanced certification examination upon completion of the program.
Past Program Review Action What action was reported last time the program was reviewed?	The advanced certificates are new. In the prior Radiography program review, development and implementation goals were established. Related accomplishments include: • Additional members of the Medical Imaging Advisory Committee have been added to include recent graduates of the college's advanced medical imaging programs, an adjunct faculty member (and practitioner) of the CT and MRI programs, clinical partner managers and employers of the college's advanced medical imaging graduates. • Clinical education committees for each of the 3 advanced modality programs (CT, MRI, and Mammography) have also been created. • Mirroring the radiography degree, a new program goal was added: "The student (graduate) will provide excellent patient care for a diverse population of patients". Two objectives were included: "by demonstrating increased understanding of the importance of cultural competence in clinical practice" and "by demonstrating increased awareness of the impact of current trends and changes in healthcare affecting global population".

CTE PROGRAM REVIEW ANALYSIS Complete the following fields and provide concise information where applicable. Please do not insert full data sets but summarize the data to completely answer the questions. Concise tables displaying this data may be attached. The review will be sent back if any of the below fields are left empty or inadequate information is provided.	
List all pre-requisites for this program (courses, placement scores, etc.).	**CT:** Each applicant must be a graduate of a JRCERT (Joint Review Committee on Education in Radiologic Technology)-accredited radiography or radiation therapy program and must have passed the ARRT certification examination; or be ARRT – or NMTCB (Nuclear Medicine Technology Certification Board)-

	registered in nuclear medicine technology and a graduate of a JRCNMT (Joint Review Committee on Educational Programs in Nuclear Medicine Technology)-accredited nuclear medicine technology program. **MRI:** Each applicant must be a graduate of a JRCERT-accredited radiography or radiation therapy program and must have passed the ARRT certification examination; or be ARRT – or NMTCB-registered in nuclear medicine technology and a graduate of a JRCNMT-accredited nuclear medicine technology program; or be a graduate of a JRC-DMS (Joint Review Committee on Education in Diagnostic Medical Sonography)-accredited sonography program and have passed the ARRT or ARDMS (American Registry for Diagnostic Medical Sonography) certification examination. **Mammography:** Each applicant must be a graduate of a JRCERT-accredited radiography program and have passed the ARRT certification examination. Additional entrance requirements and admission procedures are noted on the catalog pages at the end of this chapter.
Please list or attach all required courses (including titles) for completion of this program including institution required courses (e.g. student success, first year, general education requirements, etc.).	Program requirements are noted on the catalog page at the end of this chapter.
Provide a rational for content/credit hours beyond 30 hours for a certificate or 60 hours for a degree.	N/A
INDICATOR 1: NEED	***RESPONSE***
1.1 How strong is the occupational demand for the program?	The advanced curricula are designed to provide flexibility for working technologists who wish to advance their careers by adding additional certifications in more than one imaging modality. Students may enroll full or part-time, and switch if needed to meet their goal. Typically, technologists with multiple credentials earn a higher salary commensurate with the

	skills which also adds to the attractiveness of pursuing the credentials past the entry radiographer. Occupational coding is not unique to each specialty, so data is difficult to drill into. From job postings data, MRI is the most in demand, followed by CT and Mammography.
1.2 How has demand changed in the past five years and what is the outlook for the next five years?	Demand has been increasing and will continue to do so. According to the IDES employment data available, a slight increase (2%) in employment of radiologic technologists (all types lumped together) is projected over the next 10 years. Within the healthcare industry, changes to insurance reimbursement may also impact occupational demand. For example, more MR scans will be performed in an outpatient setting than in the hospital, as third party payers will only reimburse hospitals for scans performed on *inpatients*. This means that more studies will be performed in outpatient settings than ever before driving the market to add more outpatient facilities to meet the demand.
1.3 What is the district and/or regional need?	EMSI projects even stronger growth for the job category, as high as 13.8% growth through 2024 for the local region. (Refer to EMSI reports from Nancy) Program capacity is determined by the accrediting body and is based on the number of clinical sites, staff and equipment available for students. This is currently, set at 10 full-time students for each program. Currently, there is excess applicant demand for the CT and MR programs, but the capacity figure will not be adjusted so as not to flood the job market. Job placement rates for the advanced cohorts are the following: CT 2016 100% n=8 2018 *pending* n=5 MAM 2014 100% n=3 2015 100% n=1 2017 100% n=5 2018 100% n=1 MRI 2015 100% n=9 2016 100% n=4 2017 89% n=9 (2 still job seeking after 1 year) 2018 *pending* n=4

	(NOTE: A positive outcome is defined as employment in the field for those graduates who declare they are actively seeking *employment in the field* or pursuing continued education *in the field).*
1.4 How are students recruited for this program?	Approximately ten applicants will be accepted on a first-come, first-served basis. Full-time students will be given priority for clinical placement. A formal marketing campaign was developed by the college which created posters for the advanced programs and distributed them in the surrounding area. Now that a few cohorts have graduated, word of mouth also aids recruitment.
1.5 Where are students recruited from?	Many of the applicants are graduates of the college's Radiography AAS program. Second year Radiography students rotate through the modalities as part of their clinical education which provides them with the opportunity to explore their options and interests and learn more about the advanced certificates. Mammography is now offered as an elective during the second year of the degree, which has resulted in increased interest from that target population. Many of the college's radiography graduates continue their education in the advanced program and become dual-credentialed in the field, which opens up additional job opportunities. Program administration will continue to monitor enrollment and explore other efforts to recruit radiographers into the advanced programs.
1.6 Did the review of program need result in actions or modifications? Please explain.	Based on past job placement rates and projected employment information, the program does not anticipate making any changes to the current program capacity.
INDICATOR 2: COST EFFECTIVENESS	***RESPONSE***
2.1 What are the costs associated with this program?	The Medical Imaging budget includes funds for four program areas: Radiography, Magnetic Resonance Imaging, Computed Tomography, and Mammography. The entire budget, approximately $433,000, is divided among the following categories: salaries and benefits (87%), equipment maintenance and other contractual services (7%), instructional materials and supplies (6%), and travel/conference expenses (<1%). There is one full-time program director, two full-time faculty, and six part-time faculty teaching in these areas. In

	order to maintain accreditation, highly specialized equipment is required on campus for hands-on training experiences. The Medical Imaging operational budget has increased approximately 75% over the past five years to accommodate the increase in student enrollment. Faculty salaries and maintenance service contracts have also risen over this same time period. In 2014, the department acquired a Siemen's Inspiration *Mammomat* (mammography x-ray unit) which was funded by a state grant. This equipment provides mammography students opportunity to practice their skills prior to practicing on live patients in the clinical setting. The department is in the process of upgrading to a direct digital detector in FY2018. With increased technology come increased costs for equipment warranties and maintenance. These operational costs are necessary in order for the Medical Imaging department to maintain its program quality and thoroughly prepare students for today's healthcare workforce.
2.2 How do costs compare to other programs on campus?	Because of the nature of the program's content and the need to assure that students are competent in their skill development, heavy instructional contact hours are necessary. This arrangement is more common in the Health Professions, but not similar to other CTE programs. The program also has significant equipment needs.
2.3 How is the college paying for this program and its costs (e.g. grants, etc.)?	The Medical Imaging department is supported by tuition and fees from the college's Educational fund. The alternating offerings of the MR and CT program courses provide a cost-effective delivery. MR enrolls new cohorts in even years and CT enrolls in odd years. The full-time advanced medical imaging clinical coordinator (faculty) teaches in both the MR and CT programs and oversees the clinical component of all three programs (MR, CT and Mammography). A part-time adjunct faculty teaches in both the MR and CT programs. Mammography courses are taught exclusively by adjunct faculty.

2.4 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? Please explain.	N/A
2.5 Did the review of program cost result in any actions or modifications? Please explain.	The program is currently, exploring the possibility of acquiring a CT scanner to support learning in the CT program. This was discussed at the most recent advisory committee meeting. The faculty are reaching out to communities of interest in order to solicit donation of the equipment. Expenses relating to this acquisition that would impact the departmental budget would include renovation of space, installation of the unit and any maintenance of the equipment. In light of recent constraints due to the State of Illinois's budget, the college has worked to ensure financial resources for out-of-state travel for programs with accreditation standards to uphold. Faculty and the program director need to attend professional development activities specific to the discipline in order to stay current in the field and maintain accreditation.
INDICATOR 3: QUALITY	***RESPONSE***
3.1 What are the program's strengths?	The program is fortunate to have dedicated and experienced faculty and program director who put students first and work well together as a team to constantly look for ways to improve the programs offered. Clinical partners support the program in a variety of ways and provide input that is invaluable to the program's success. Physical resources provided by the college enhance instruction and provide the students and faculty with the resources needed to graduate competent, employable graduates. One of the most significant strengths of the advanced modality programs is the built-in flexibility to accommodate the busy schedule of working RTs who wish to enroll. All of the courses are either online or hybrid in nature with face-to-face sessions held in the evenings. Clinicals are flexed around the student's work schedule as much as possible for student convenience with multiple sites in various geographic locations around the Chicagoland area. There are full-time and part-time tracks to meet the needs of registered technologists regardless of their employment status. In

	addition, the MRI program is the only accredited program in a community college in the state and one of 13 accredited programs in the country. Employers are increasingly seeking graduates of an accredited MRI program and it is becoming a more important feature to students evaluating where to enroll.
3.2 What are the identified or potential weaknesses of the program?	The programs would benefit from additional clinical sites to support the attainment of clinical skills by students. The ability to secure sites quickly is significantly hampered by processes out of the program's control, as it lies with the college's legal department. Computed Tomography: The acquisition of a donated CT scanner and designated space on campus would enhance the skills of the students further, better preparing them for their exposure to the clinical setting by improving the students' familiarity with the equipment. Mammography: One of the initial weaknesses of the program was the apparent lack of interest in the program as indicated by low enrollment. As discussed within this report, several strategies are starting to show results. Another specific challenge for MAM has been the turnover of mammography faculty. Only one faculty member returned from teaching during the pilot year. However, four new adjunct faculty were hired to teach the mammography courses during the fall semester. They have performed exceptionally well and student feedback has been very positive. Magnetic Resonance: One of the strengths of the program could also be considered a weakness. The option for a student to complete the program part-time creates some challenges. Students enrolled in the program part-time complete the didactic courses in the first year and clinicals in the second year. Certification exam results for the first cohort of part-time students did not meet program expectations. In response to those outcomes, faculty incorporated board review sessions in the last clinical semester to ensure student success on the certification examinations. 100% of the 9 students in the 2017 cohort have passed the exam, compared to 75% and 89% for the previous two groups.

3.3 What are the delivery methods of this program? (e.g. traditional format/online/hybrid/team-teaching etc.)?	Courses in the advanced curricula are offered in either online, hybrid (lab courses) or face-to-face (clinical courses) formats. Labs are scheduled in the evenings and the clincals are varied across daytime, evening and night-shift hours to accommodate students' work and home schedules. To support this flexibility, 22 advanced MI online and hybrid courses were developed – 6 in mammography, 6 in CT, 7 in MR, and 3 advanced AMI which support both the CT and the MR programs. To further the integrity of the online testing environment, the program successfully piloted and incorporated *Respondus Lockdown Monitoring* and web-cam videotaping during testing and final exams as security measures.
3.4 How does this program fit into a career pathway?	These programs represent an opportunity for additional professional credentialing after the completion of the AAS degree and related licensure. Advanced certification opens up additional employment opportunities and generally increases salary potential.
3.5 What innovations have been implemented or brought to this program that other colleges would want to learn about?	The advanced certificate programs are innovative as they were developed with the working technologist in mind, as many radiographers wish to increase their marketability and earning potential by becoming multi-credentialed in more than one imaging modality. In addition, the college's MR program is the only accredited MR program in the area; in fact, it is one of two accredited MR programs in Illinois (the other sponsored by Southern Illinois University) and the college's MR program is one of thirteen in the country! ECC's CT program is one of the few CT programs that accept certified nuclear medicine technologists into the program as well as certified radiographers. These skills enhance the nuclear medicine technologists' skills and help to prepare them to operate Positron Emission Tomography (PET)/ Computer Tomography (CT) Scanners and Single-photon Emission Computed Tomography (SPECT)/CT Scanners – advanced technologies in the field of nuclear medicine.

3.6 Are there dual credit opportunities? If so please list offerings and the associated high schools.	N/A
3.7 What work-based learning opportunities are available and integrated into the curriculum?	The advanced curricula include clinical courses which provide students with practical experience in the specific imaging environment. Students rotate through hospital departments, out-patient imaging centers and orthopedic clinics as part of their clinical education.
3.8 Is industry accreditation required for this program (e.g. nursing)? If so, identify the accrediting body. Please also list if the college has chosen to voluntarily seek accreditation (e.g. automotive technology, NATEF).	The MRI program is accredited by JRCERT and received a 3-year initial accreditation award with no recommendations. This accreditation is optional and is a key reason the program is in demand by prospective students, clinical partners, and employers. There are no mechanisms for accreditation of the CT or Mammography advanced programs at this time.
3.9 Are industry-recognized credentials offered? If so, please list.	Students must complete all required courses with grades of C or better and meet graduation requirements in order to be eligible to sit for the advanced national certification exam in each of the three modalities offered by ARRT. The certifications are currently, not required to practice as a CT or MR technologist, but many employers choose to hire only those with the certification and may be a hiring requirement for facilities that are accredited by the ACR (American College of Radiology). MQRSA requires that technologists performing mammography must be certified in Mammography.
3.10 Is this an apprenticeship program? If so, please elaborate.	N/A

<table>
<tr><td>3.11 If applicable, please list the licensure examination pass rate.</td><td>Results for the ARRT Credentialing Exam:

<table>
<tr><th>PROGRAM</th><th>COHORT</th><th>N</th><th>Pass Rate</th></tr>
<tr><td>MR</td><td>2014-2015</td><td>9</td><td>89%</td></tr>
<tr><td>MR</td><td>2015-2016</td><td>4</td><td>75%</td></tr>
<tr><td>MR</td><td>2016-2017</td><td>9</td><td>100%</td></tr>
<tr><td>MR</td><td>2017-2018</td><td>4</td><td>pending</td></tr>
<tr><td>CT</td><td>2015-2016</td><td>8</td><td>100%</td></tr>
<tr><td>CT</td><td>2017-2018</td><td>5</td><td>pending</td></tr>
<tr><td>MAM</td><td>2014</td><td>4</td><td>100%</td></tr>
<tr><td>MAM</td><td>2015</td><td>1</td><td>100%</td></tr>
<tr><td>MAM</td><td>2017</td><td>5</td><td>100%</td></tr>
<tr><td>MAM</td><td>2018</td><td>1</td><td>100%</td></tr>
</table></td></tr>
<tr><td>3.12 What current articulation or cooperative agreements/initiatives are in place for this program?</td><td>N/A</td></tr>
<tr><td>3.13 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?</td><td>With the addition of 3 new programs in advanced medical imaging, several new partnerships have been acquired to support students' clinical skill achievement. They include:
• DuPage Medical Group
  o Lisle (RAD & Mammography)
  o Naperville (Mammography)
• Presence Resurrection Medical Center (MRI)
• Presence Mercy Medical Center (CT)
• Advocate Good Shepherd Hospital (Mammography)
• Advocate Sherman Outpatient Imaging (MRI & Mammography)
• Northshore University Health System
  o Glenbrook Hospital (MRI)
  o Northbrook Court Radiology (MRI)
  o Highland Park Hospital (MRI)
  o Vernon Hills Radiology (MRI)
• Center for Diagnostic Imaging
  o Geneva (MRI, CT, Mammography)
  o Lake in the Hills (MRI, CT)
• Mercy Health System – Woodstock (Mammography; Mobile MRI)
• Northwestern University Health System
  o Physician Group Orthopedics (MRI)
  o Northwestern Central DuPage Hospital (MRI)</td></tr>
</table>

	○ Northwestern Central DuPage Hospital Cancer Center (MRI) ○ Delnor Northwestern Hospital (MRI) • St. Bernard Hospital-Chicago (CT) • Centegra Physician Care – MCO (RAD & MRI)
3.14 What is the faculty to student ratio for courses in this program? Please provide a range and average.	The Medical Imaging program utilized 5 faculty in FY17 (source: ECC Pivot Tables, Tab 6). The average faculty to student ratio within the Advanced modality courses was 10.4 with a range of 2.5 to 17. This information was provided by the Institutional Research department, who suggested various ways to calculate the information. This method seems to most closely match what is being asked. Instructional Deans and Directors are more likely to pay attention to the full-time/part-time credit hour ratios than a faculty to student ratio as a measure of quality. Within the medical imaging programs, class sizes are capped by accreditation standards. Ratios are lower in the lab courses than lecture courses for safety reasons.
3.15 What professional development or training is offered to adjunct and full time faculty that may increase the quality of this program?	There are plentiful and various professional development opportunities for faculty at the college. The faculty contract allows for professional development funds, and includes part-time faculty. The college offers in-house training on various subjects. Even in light of current travel restrictions and other financial constraints, CTE programs with accreditation requirements regarding development opportunities are guaranteed the continued ability to attend such trainings.
3.16 What is the status of the current technology and equipment used for this program?	• The department was awarded a grant to purchase state-of-the-art mammography equipment for the mammography lab and two contrast injectors for use in the CT and MRI programs. • The program has engaged a simulator software which simulates the control panels of CT and MR units. Exercises are integrated into the lab portion of the procedures courses in conjunction with a workbook to enhance instruction in that area. • Faculty are currently, soliciting for donation of a CT scanner for use on campus to further enhance students' skills and to better prepare them for their clinical experience by increasing student familiarity with the equipment.

	• Obtaining an MR scanner is cost prohibitive at this time. • The Mammography program is fortunate to have received a state grant which provided the funds to purchase a Siemen's Inspiration *Mammomat* (Dedicated Mammography X-ray Unit). This mammography lab on campus provides students the opportunity to practice positioning on live models and quality control skills on a live x-ray unit prior to practicing in the clinical setting.
3.17 What assessment methods are used to ensure student success?	Medical imaging programs follow the professional curricula for each discipline. Competency achievement for each program is strictly prescribed by the national certification agency, so students must meet the requirements in order to graduate from the programs. Dedicated faculty and clinical preceptors meet regularly to insure that students are making good progress both academically and clinically. Review for the certification exams is integrated into the curriculum to guarantee successful student outcomes. Assessments at the course level in CT and MR are in line with expectations. The tools used to evaluate course outcomes indicate that those outcomes are being met. During course assessment activities it was noted that some of the outcomes were written at a lower level of Bloom's Taxonomy. This may result in some minor changes to the course outcomes to bring them to a higher level. The program conducted informal discussions with mammography faculty, clinical instructors and program completers to assess possible program/curricular needs. In addition, analysis of certification exam results was conducted. Other factors considered include the recent changes in the ARRT credentialing exam based on a task analysis which eliminated conventional imaging methods (i.e. Film/screen/analog methods). As a result, this content was eliminated and digital mammography methods were enriched prior to enrollment of the current cohort.
3.18 How satisfied are students with their preparation for employment?	Based on the successful student/program outcomes as measured by graduate success on the national certification exams, program completion rates and job

<table>
<tr><td></td><td>placement rates, the programs appear to be meeting the needs of the students.

Due to its accreditation, graduate satisfaction is formally surveyed for the MR completers on a 5-point scale:
<table>
<tr><th>PROGRAM</th><th>COHORT</th><th>Satisfaction</th></tr>
<tr><td>MR</td><td>2014-2015</td><td>4.67</td></tr>
<tr><td>MR</td><td>2015-2016</td><td>4.67</td></tr>
<tr><td>MR</td><td>2016-2017</td><td>pending</td></tr>
<tr><td>MR</td><td>2017-2018</td><td></td></tr>
</table></td></tr>
<tr><td>3.19 How is student satisfaction information collected?</td><td>Within the MR program, detailed surveys are sent out to program completers one year post-completion through the E*Value electronic management system.</td></tr>
<tr><td>3.20 How are employers engaged in this program? (e.g. curriculum design, review, placement, work-based learning opportunities)</td><td>Each program has its own clinical education committee which includes the clinical instructors (preceptors) from each of the clinical sites and the clinical coordinator for that program. Meetings are conducted by the clinical coordinator (full-time faculty) and are held once each semester that the program has enrolled students.

The radiography program's advisory committee has been expanded recently to accommodate the department's growth as three new programs were added beginning in 2014. Representatives from a variety of affiliated clinical sites (managers, administrators, and supervisors), representatives of the various imaging modalities (radiography, MR, CT, and Mammography), a graduate representative from each of the programs and a variety of the college representatives (faculty, retention specialist, advisor, biology faculty etc.) are included in its membership.

From this group, a minor adjustment was made to add an exam review component to the last clinical course (MRI-205). The faculty and clinical education committee recommended this adjustment to improve the pass rate outcomes for the ARRT certification exam. It was felt that this was especially needed for those (part-time) students completing the program in two years, since those students complete the didactic courses in the first year and the clinical courses are completed in the second year.

Employer members of the committee, for the most part, have been very complimentary and supportive of the</td></tr>
</table>

<table>
<tr><td></td><td>college's medical imaging programs over the years. They have assisted with recruiting new clinical sites as needed and keep the program updated on industry and/or healthcare system trends and changes that might impact the program or its students. The program's full-time faculty and clinical coordinator solicited support of a donation of a CT scanner to the program during the most recent meeting (November 2017).

Also at this meeting, the committee broke into small groups to brainstorm and identify future challenges in imaging specifically or healthcare in general that could impact their departments and ultimately the programs, its students and/or its graduates or should be considered in relation to possible curricular changes.</td></tr>
<tr><td>3.21 How often does the program advisory committee meet?</td><td>Meetings are held each semester that the program(s) have students enrolled (Ex: MRI- Fall, Spring and Summer; CT-Fall and Spring; Mammography-Fall).</td></tr>
<tr><td>3.22 How satisfied are employers in the preparation of the program's graduates?</td><td>Due to its accreditation, employer satisfaction is formally surveyed for the MR completers on a 3-point scale:
<table>
<tr><th>PROGRAM</th><th>COHORT</th><th>Satisfaction</th></tr>
<tr><td>MR</td><td>2014-2015</td><td>2.5</td></tr>
<tr><td>MR</td><td>2015-2016</td><td>2.5</td></tr>
<tr><td>MR</td><td>2016-2017</td><td>pending</td></tr>
<tr><td>MR</td><td>2017-2018</td><td></td></tr>
</table>

Anecdotal feedback is received for all of the advanced programs at each Advisory Committee meeting, and generally found to be high. Several members of the advisory committee are employers of graduates of the program.</td></tr>
<tr><td>3.23 How is employer satisfaction information collected?</td><td>Similar to the process in surveying program graduates, a survey is sent out to employers approximately one year post-graduation through the E*Value electronic management system for MR graduates.</td></tr>
</table>

3.24 Did the review of program quality result in any actions or modifications? Please explain.	During the pilot year, it was noted that there was some redundancy in three of the courses (MAM-102, 104, and 105. It was recommended that the course content be reviewed with the possibility of eliminating MAM-104 and incorporating that content into either one or both of the other courses (MAM-102 and/or 105). The plan is to monitor and evaluate at the end of the fall semester. Any adjustments would made prior to the next time the courses are offered.

DATA ANALYSIS FOR CTE PROGRAM REVIEW

Please complete for each program reviewed. Colleges may report aggregated data from the parent program or report on enrollment and completion data individually for each certificate within the program. Provide the most recent 5 year longitudinal data available.

CTE PROGRAM	**Advanced Medical Imaging, Computed Tomography (CT)**				
CIP CODE	**51.0911**				
	FY2013	*FY2014*	*FY2015*	*FY2016*	*FY2017*
NUMBER OF STUDENTS ENROLLED (STARTING COHORT, FT & PT)	(N/A)	(N/A)	(N/A)	10	(off-year)
NUMBER OF COMPLETERS (BVS)	(N/A)	(N/A)	(N/A)	8	N/A
CTE PROGRAM	**Advanced Medical Imaging, Magnetic Resonance (MRI)**				
CIP CODE	**51.0920**				
	FY2013	*FY2014*	*FY2015*	*FY2016*	*FY2017*
NUMBER OF STUDENTS ENROLLED (STARTING COHORT, FT & PT)	(N/A)	(N/A)	10 (FT)	7 (PT)	10 (FT)
NUMBER OF COMPLETERS (BVS)	(N/A)	(N/A)	9	5	9
CTE PROGRAM	**Advanced Medical Imaging, Mammography**				
CIP CODE	**59.0919**				
	FY2013	*FY2014*	*FY2015*	*FY2016*	*FY2017*
NUMBER OF STUDENTS ENROLLED (STARTING COHORT, FT & PT)	(N/A)	(N/A)	5	0	0
NUMBER OF COMPLETERS (BVS)	(N/A)	(N/A)	4	N/A	N/A
How does the data support the program goals? Elaborate.	All students enrolled in the advanced programs are accomplished, credentialed medical imaging technologists, and academic success is therefore very high. The number one				

reason for students withdrawing is job conflicts (i.e. hours change, new job, changes in hours from part-time employment to full-time) which prevent the student from participating. To assist students in meeting their goals, the faculty work with students by allowing them to change from full-time to part-time status if that helps the student meet course/program requirements and stay on track to complete their goal. These job/family demands often interfere with a student's success in time management issues, hampering their success course by course. An effective strategy employed by the faculty is to involve the health professions retention specialist to help students develop methods and habits to insure their success.

The Mammography Program enrolled its first students in Fall 2014 (FY15) with a cohort of five students. There was an inadequate number of applicants in the 2015 and 2016 academic years (FY16 & FY17) to run the program. As a result of increased marketing activity, nine students were accepted into the program for the classes starting in Fall 2017 (FY18), though two backed-out at the last minute.

There has been much discussion about the mammography program from both the clinical site and student perspectives. Concerns/ideas are as follows:

<u>Clinical concerns/ideas:</u>

- Fall semester is an extremely busy time in the mammography departments due to October being Breast Cancer Awareness month and end-of-year volume due to insurance issues. It is difficult to allow students adequate time to perform the required procedures during this busy time.
- Due to the volume during this period, having students in the department adds stress to the staff and concerns that it will impact patient satisfaction outcomes.
- Suggestions that the program be shifted to spring semester OR offer the didactic classes in the fall and defer clinical rotations to the spring, making it a 2-semester program.

<u>Student/faculty concerns/ideas:</u>

- The majority of students enrolling in the mammography program are recent graduates who do not want to wait two semesters before starting the program.
- Competitor programs are only one semester AND offered in the fall semester. Students want to complete the

	program in one semester so they can go to work. They will choose other programs where they can finish sooner. Action: Due to the lack of enrollment over the past two years, it was decided to continue with the 1-semester, fall enrollment. In response to concerns of the clinical partners, only one student will be scheduled at any one time at any clinical site. The outcomes for all stakeholders will continue to be monitored and evaluated upon completion of the FY18 cohort.
What disaggregated data was reviewed?	Within CTE programs, the college's Institutional Research department provides statistics for program enrollment and completion broken-down by gender, age and race/ethnicity. Patterns for Advanced Medical Imaging will be addressed in items below. Programs and related internal planning groups will continue to collaborate with Institutional Research to determine if similar enrollment or success metrics by student group can be helpful at the *discipline/course* level. Across the college, faculty are very interested in closing achievement gaps and participate in institutional efforts to raise achievement for all students. Disaggregation is routinely provided by IR for course modality and for early college credit students, such as tech prep and middle college. Such disaggregation is irrelevant for these programs. To begin, the program requested a separation of Radiography students from those in the advanced medical imaging programs – all data was previously grouped together.
Were there gaps in the data? Please explain.	It is important to note that effective analysis of disaggregated data relies on larger sample sizes. The small cohorts within advanced medical imaging are to be interpreted with extreme caution. However, with the preliminary cohorts completed, it was observed that completion rates for students enrolled in the part-time tracks were lower than the cohorts who were enrolled full-time. For the MR program, part-time students complete the didactic courses in the first year and clinical courses during the second year. By the time this group sat for the certification exam, an entire year passed since didactic courses were completed and the content was not "fresh". Faculty met to discuss this observation and it was decided to incorporate a series of face-to-face review sessions into the final clinical course to "re-fresh" content that was covered in

	the first year. A similar intervention was put in place for the CTI program as well.
What is the college doing to overcome any identifiable gaps?	The college is a Leader College within Achieving the Dream. Under this membership, the *Student Success Infrastructure* coordinates data analysis and new initiatives from an equity mindset. Many projects will address all students, but many are focused on specific populations to address gaps. For example, new welcome activities have been developed for African-American students, and the first annual HBCU college fair was held in 2018, organized by the Student Life Coordinator for Targeted Populations.
Are the students served in this program representative of the total student population? Please explain.	As a small, special admission, advanced credential program, the advanced medical imaging students do not match the overall student population. Much like the radiography degree program, they skew towards white, and even slightly older with 70% age 30 or older. The advanced programs are more likely to enroll men, though in 2017 the split was very close with 46% women.
Are the students served in this program representative of the district population? Please explain.	See above, representation does not match district distribution.
REVIEW RESULTS	
Action	☒ Continued with Minor Improvements ☐Significantly Modified ☐Placed on Inactive Status ☐Discontinued/Eliminated ☐Other (please specify)
Summary Rationale Please provide a brief rationale for the chosen action.	Although there are no mechanism for accreditation of the CT or Mammography programs, the director and faculty continue to assess program and student learning outcomes as if it were accredited, same as the MR advanced certificate and the foundational Radiography degree. This program review is just another layer of what is already done on a regular basis as part of the continuous quality improvement process. Data indicates that the programs are effective in helping students meet their career and professional development goals. Minor adjustments will continue to be made in consultation with faculty and the advisory and clinical groups to ensure

	sustained enrollment and to enhance the clinical education of the students.
Intended Action Steps What are the action steps resulting from this review? Please detail a timeline and/or dates for each step.	• Working through the college's Foundation, investigate availability (through donation) and acquire a CT scanner to be installed on campus to enhance the student laboratory experience. This will also require identifying a location and plan for renovation of space for its installation. FY19-FY22 • Work with the Marketing department to develop short recruitment videos to include in the Medical Imaging web pages. (Marketing department staff, MI Program Director and clinical coordinators – SU/FA18) • Work with advisory committee members, program graduates and enrolled advanced imaging students to identify and secure additional clinical sites. (Advisory Committee members, MI Program Director and clinical coordinators. FA18/SP19). • Monitor enrollment trends in the Medical Imaging programs and continue to develop marketing strategies that assure optimum enrollment in all programs. (ongoing/perform annually) • Assess student/graduate satisfaction with clinical experiences in all Medical Imaging programs and address concerns/weaknesses to assure excellence in clinical competency. (ongoing/perform annually)

ADVANCED MEDICAL IMAGING–COMPUTED TOMOGRAPHY (CT)

Computed tomography technologists are highly trained radiographers who work with special rotating X-ray equipment to obtain "slices" of anatomy at different levels within the body. CT technologists are essential members of the medical imaging team performing scans, which are vital to the diagnosis of a variety of injuries and diseases. Graduates of the advanced certificate program at ECC are highly skilled and qualify to sit for advanced certification examination by the American Registry of Radiologic Technologists (ARRT).

Accreditation

There is no mechanism for accreditation of CT programs at this time.

Entrance Requirements

Each applicant must be a graduate of a JRCERT-accredited radiography or radiation therapy program and must have passed the ARRT certification examination; or be ARRT- or NMTCB-registered in nuclear medicine technology and a graduate of a JRCNMT-accredited nuclear medicine technology program.

Approximately ten applicants will be accepted on a first-come, first-served basis. Full-time students will be given priority for clinical placement.

Admission Procedures

Applicants must submit the following items to the ECC Records Office:

- ECC application
- Health professions application
- Documentation of graduation from a JRCERT- or JRCNMT-accredited program.
- Documentation of ARRT certification.

Program Requirements

Students must complete all required courses with grades of C or better and meet graduation requirements in order to be eligible to sit for the ARRT national certification exam in computed tomography offered by the American Registry of Radiologic Technologists.

Policies and Procedures for Medical Imaging Certificate Programs

Any student demonstrating a positive background check will be denied admission to any health professions program.

Before attending clinical training, students must submit documentation through the Castlebranch portal including: completed medical form which includes proof of immunizations/titer results, proof of health insurance coverage, TB test, and proof of healthcare provider CPR certification. Background checks and drug testing are also conducted through Castlebranch.

Health professions students will be required to update their drug test, TB test/TB survey, and flu vaccine information on an annual basis. Any student demonstrating a positive drug test will be dismissed from the Health Professions Division.

The standards, policies, and procedures of the medical imaging programs are published in the advanced medical imaging student handbook. Copies of the student handbook may be obtained online at elgin.edu/medicalimaging.

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN COMPUTED TOMOGRAPHY

First Semester			Sem. Hrs.
CTI	100	CT Physical Principles I	3
CTI	101	CT Procedures I	3
AMI	110	Advanced Sectional Anatomy I	2
AMI	102	Patient Care and Safety	2
CTI	103	CT Clinical Practicum I	3
			Total: 13
Second Semester			
CTI	200	CT Physical Principles II	3
CTI	201	CT Procedures II	3
AMI	210	Advanced Sectional Anatomy II	2
CTI	204	CT Clinical Practicum II	4
			Total: 12
			Program Total: 25

ADVANCED MEDICAL IMAGING–MAGNETIC RESONANCE IMAGING (MRI)

Magnetic resonance technologists are highly trained radiographers who operate magnetic resonance (MR) equipment that scans the patient using a combination of magnetic fields and radiofrequency to produce high-resolution images of the body. MR technologists are essential members of the medical imaging team performing scans that are vital to the diagnosis of a variety of injuries and diseases. Graduates of the advanced certificate program at ECC are highly skilled and qualify to sit for advanced certification by the American Registry of Radiologic Technologists (ARRT).

Accreditation

The Magnetic Resonance Program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606, 312-704-5300. jrcert.org.

Entrance Requirements

Each applicant must be a graduate of a JRCERT-accredited radiography or radiation therapy program and must have passed the ARRT certification examination; or be ARRT- or NMTCB-registered in nuclear medicine technology and a graduate of a JRCNMT-accredited nuclear medicine technology program; or be a graduate of a JRCDMS-accredited sonography program and have passed the ARRT or ARDMS certification examination.

Approximately ten applicants will be accepted on a first-come, first-served basis. Full-time students will be given priority for clinical placement.

Admission Procedures

Applicants must submit the following items to the ECC Records Office:

- ECC application.
- Health professions application.
- Documentation of graduation from a JRCERT-, JRCNMT-, or JRCDMS-accredited program
- Documentation of ARRT or ARDMS certification.

Program Requirements

Students must complete all required courses with grades of C or better and meet graduation requirements in order to be eligible to sit for the ARRT national certification exam in magnetic resonance offered by the American Registry of Radiologic Technologists.

Policies and Procedures for Medical Imaging Certificate Programs

Any student demonstrating a positive background check will be denied admission to any health professions program.

Before attending clinical training, students must submit documentation through the Castlebranch portal including: completed medical form which includes proof of immunizations/titer results, proof of health insurance coverage, TB test, and proof of healthcare provider CPR certification. Background checks and drug testing are also conducted through Castlebranch.

Health professions students will be required to update their drug test, TB test/TB survey, and flu vaccine on information an annual basis. Any student demonstrating a positive drug test will be dismissed from the Health Professions Division.

The standards, policies, and procedures of the medical imaging programs are published in the advanced medical imaging student handbook. Copies of the student handbook may be obtained online at elgin.edu/medicalimaging.

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN MAGNETIC RESONANCE IMAGING

First Semester			Sem. Hrs.
MRI	100	MR Physical Principles	3
MRI	101	MR Procedures I	3
AMI	110	Advanced Sectional Anatomy I	2
AMI	102	Patient Care and Safety	2
MRI	103	MR Clinical Practicum I	2
			Total: 12
Second Semester			
MRI	200	Clinical Aspects in MR	3
MRI	201	MR Procedures II	3
AMI	210	Advanced Sectional Anatomy II	2
MRI	204	MR Clinical Practicum II	4
			Total: 12
Third Semester			
MRI	205	MR Clinical Practicum III	3
			Total: 3
			Program Total: 27

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

ADVANCED MEDICAL IMAGING–MAMMOGRAPHY

Mammographers are highly trained radiographers who work with sophisticated low-dose X-ray equipment to produce screening and diagnostic images of the breast. Mammographers are essential members of the medical imaging team performing breast imaging procedures, which are vital to the diagnosis of a variety of breast conditions, including early detection of breast cancer. Graduates of the advanced certificate program at ECC are highly skilled and qualify to sit for advanced certification examination by the American Registry of Radiologic Technologists (ARRT).

Accreditation

There is no mechanism for accreditation of mammography programs at this time.

Entrance Requirements

Each applicant must be a graduate of a JRCERT-accredited radiography program and have passed the ARRT certification examination.

Approximately ten applicants will be accepted on a first-come, first-served basis. Full-time students will be given priority for clinical placement.

Admission Procedures

Applicants must submit the following items to the ECC Records Office:

- ECC application.
- Health professions application.
- Documentation of graduation from a JRCERT-accredited program.
- Documentation of ARRT certification.

Program Requirements

Students must complete all required courses with grades of C or better and meet graduation requirements in order to be eligible to sit for the ARRT national certification exam in mammography offered by the American Registry of Radiologic Technologists.

Policies and Procedures for Medical Imaging Certificate Programs

Any student demonstrating a positive background check will be denied admission to any health professions program.

Before attending clinical training, students must submit documentation through the Castlebranch portal including: completed medical form which includes proof of immunizations/titer results, proof of health insurance coverage, TB test, and proof of healthcare provider CPR certification. Background checks and drug testing are also conducted through Castlebranch.

Health professions students will be required to update their drug test, TB test/TB survey, and flu vaccine on information an annual basis. Any student demonstrating a positive drug test will be dismissed from the Health Professions Division.

The standards, policies, and procedures of the medical imaging programs are published in the advanced medical imaging student handbook. Copies of the student handbook may be obtained online at elgin.edu/medicalimaging.

CERTIFICATE CONFERRED:

BASIC VOCATIONAL SPECIALIST IN MAMMOGRAPHY

Courses		Sem. Hrs.
MAM 101	Fundamentals of Breast Imaging	1
MAM 102	Instrumentation and QA	2
MAM 103	Breast Anatomy and Pathology	2
MAM 104	Breast Imaging Techniques	2
MAM 105	Breast Imaging Procedures	3
MAM 106	Mammography Clinical Practicum	3
	Total: 13	
	Program Total: 13	

Career & Technical Education

College Name:	Elgin Community College
Fiscal Year in Review:	FY2018

Program Identification Information

Program Title	*Degree or Cert*	*Total Credit Hours*	*6-Digit CIP Code*	*List All certificate programs that are stackable within the parent degree*
Public Safety Communications	**VS**	**34**	**43.0199**	BVS Public Safety Communications

Address all fields in the template. If there are certificates and/or other stackable credentials within the program, please be sure to specify and sufficiently address all questions regarding each stackable credential.

Program Objectives What are the overarching objectives/goals of the program?	In an emergency, the first people to answer a 9-1-1 call for help are public safety communications specialist or police/fire/emergency medical dispatchers. These well-trained, highly professional individuals send the appropriate type and number of emergency services units in response to calls for assistance, and monitor the activity of emergency services personnel at the scene. They work in a variety of settings, ranging from police and fire stations to hospitals or centralized city communications centers. Public Safety Communications (PSC) is a certificate program within ECC's Emergency Services area. PSC is designed to teach the fundamentals of the discipline and supply the area with trained emergency dispatchers. Students acquire specialized knowledge and skill from current practitioners and train on a unique CAD simulator that recreates real-world scenarios. Learning outcomes for the Basic Vocational Specialist certificate (PSC-105: Public Safety Telecommunicator) – Upon completion, students will be able to discuss and apply the following: 1) The role, function and ethics of a Public Safety Telecommunicator. 2) The elements and dynamics of interpersonal communications. 3) The law enforcement profession, the fire service profession, the emergency medical

	service profession, the emergency management profession, their major operational functions and how Telecommunicators effectively support their efforts. 4) Natural and manmade events adversely affecting the telecommunications function, and of the Incident Command System model for emergency scene management. 5) Telecommunications practices and an awareness of the causes of stress within the profession. 6) The legal issues and areas of liability related to Telecommunicators. 7) The skills to safely and accurately process TTY/TTD emergency and non-emergency calls. 8) The skills to safely and accurately process emergency and non-emergency calls for service, and apply job-related call taking skills, tasks, and knowledge. Students advancing to the Vocational Specialist certificate will also be able to: 9) Define and describe each component of the criminal justice system. 10) The uniqueness of policing on a complex society, including the discretion, ethics, and the psychological and physical impact of policing. 11) The operation and functions of a Public Safety Answering Point. 12) The skills to safely and accurately handle an emergency medical dispatch.
To what extent are these objectives being achieved?	The college's PSC program is still the only one in the state where students receive a certificate from both the State Training and Standards Board as well as NEMRT upon successful completion of PSC-105 (the basic certificate). The program offers an excellent foundation for people who want to work in the emergency services field without requiring an associate's or bachelor's degree. The basic course can also be used as elective credit for the AAS in Criminal Justice.

	The mastery of the skills comes through practice and performance in receiving and dispatching calls. The goal of the program is to develop the student's skills to meet the national call processing time. This includes receiving the call, processing the information, determining the emergency at hand, dispatching the appropriate first responder unit and monitoring the caller and the units responding. PSC-105 is the introduction to the career and the program builds on that introduction to reach Mastery in the upper 200's classes such as PSC-209: Public Safety Answering Point Practicum. Students finish their BVS with the option of taking a career management course or a legal aspects course. These are appropriately placed at the end of the certificate coursework. The course/program has evolved to include instruction/dialogue on a community's culture or multicultural populations and how best a tele-communicator adapts to the needs and expectations of diverse populations. The courses also discuss the active role Emergency Services personnel now take in the community. They discuss, watch and listen to current dispatch centers calls and how these tele - communicators deal with such diversity.
Past Program Review Action What action was reported last time the program was reviewed?	The action on the previous report was Continue with Minor Improvements. Accomplishments from those goals include: **Integrate PSC-207: Public Safety Answering Point Application, EMD (Emergency Medical Dispatch), and NIMS Training (National Incident Management System) into the Basic Vocational Certificate to provide students with a broader skills base necessary to secure a telecommunication position** Progress: (None) **Market the unique feature of the program - the only Simulator CAD system in the region.** Progress: Senior Director has been using Facebook to advertise and market as well as reaching out to and meeting with dispatch center supervisors. **Relocate program to the Public Safety Training Center when it is completed.**

	Progress: Program is now housed in the Center for Emergency Services in Burlington. **Develop and implement an internship program.** Progress: The college has hired an internship coordinator and current PSC instructors take students on field trips to dispatch centers. **Work with employers on job placement or preference program.** Progress: Employers will and do give preference to those holding a BVS in PSC **Provide employers with an opportunity for training their new employees in an 80-hour session.** Progress: No progress has been made. Employers are using sessions in a 40-hour one-week format from an external association, APCO (Association of Public Safety Communications Officials-International), for new hires **Work with high schools to recruit students.** Progress: Centralized within office of High School Partnerships and Transitions **Develop a ninety-minute non-credit class entitled "So You Want to be a 9-1-1 Dispatcher" as an orientation, strategically placed to run prior to the registration for the following semester. The course should be available prior to the start of each fall semester.** Progress: (None)
CTE PROGRAM REVIEW ANALYSIS Complete the following fields and provide concise information where applicable. Please do not insert full data sets but summarize the data to completely answer the questions. Concise tables displaying this data may be attached. The review will be sent back if any of the below fields are left empty or inadequate information is provided.	
List all pre-requisites for this program (courses, placement scores, etc.).	There are no specialized admission requirements for this program. In order to enroll in certain 1.1 transfer courses, students must demonstrate readiness in the form of test scores (such as ACT/SAT, PARCC), placement results (ALEKS, McCann, writing placement), and/or successful completion of developmental coursework, as outlined on page 13 of the 2018-2019 college

	catalog and described in Administrative Procedure 1.104: Minimum Competencies.
Please list or attach all required courses (including titles) for completion of this program including institution required courses (e.g. student success, first year, general education requirements, etc.).	Program requirements are noted on the catalog page at the end of this chapter.
Provide a rational for content/credit hours beyond 30 hours for a certificate or 60 hours for a degree.	The Vocational Specialist in Public Safety Communications is 34 hours. The extra four hours can be attributed to the higher credits of PSC-105 for hands-on practice (6 credits) and the addition of 2 electives (students choose one) – Legal Aspects of Public Safety Communications and Career Management.
INDICATOR 1: NEED	***RESPONSE***
1.1 How strong is the occupational demand for the program?	Demand for dispatchers comes from municipal police, fire, private ambulance and regional/multi-jurisdictional centers. Three area dispatch centers are currently, hiring and have sought out current students (spring 2018). Centers report an increase in the number of calls received. Dispatchers used to be separated for fire and police calls, but today they tend to be consolidated and will learn and respond to both types. According to EMSI data, demand for operators is concentrated in the local region (Chicago-Naperville-Elgin) which holds nearly two-thirds of the jobs throughout the state.
1.2 How has demand changed in the past five years and what is the outlook for the next five years?	According to EMSI data, demand for dispatchers grew significantly between 2001 and 2009. Demand then fell between its peak in 2009 and 2015. It has since leveled off statewide and is expected to drop 3.5% in the Region by 2024. However, there still is a need for trained dispatchers. Though centers are consolidating, the technology is changing and evolving, and there is an aging workforce. Centers need to hire qualified employees quickly or pay expensive overtime and there is high turn-over for entry-level dispatchers at these local/regional centers.

	While the initial implementation of PSC at the community college level was well intentioned, the traditional 16-week college credit format does not best meet this need. Many community colleges have ceased offering the coursework in the standard college-credit format, others now offer it through their continuing education departments.
1.3 What is the district and/or regional need?	A 40-hour one-week model is preferred by ALL the PSC Directors in district 509. This requested format in not conducive to the credit side of the college. A few area community colleges have either moved the program to non-credit or dropped it altogether. The void is currently, being served by APCO, The Association of Public-Safety Communications Officials, which offers various training models in short formats, in person and online, for a very competitive price. Additionally, Elgin Dispatch, the districts largest dispatch center, teaches the required skills in-house for all new hires. Local agencies are advertising $48,000 to $55,000 per year with full benefits and pension. With the current strong job market and record low unemployment, dispatch agencies are finding it hard to recruit and keep employees. As of this report 3 of the 5 largest dispatch centers in District 509 are currently recruiting.
1.4 How are students recruited for this program?	The program reaches potential students via Facebook, ECC Marketing, Dual Credit High School program and District 509 Dispatch Centers.
1.5 Where are students recruited from?	Students are recruited from the college's broader Emergency Services community. Police, Fire and EMT students are all targeted for possible entrance into the PSC program. For the SP18 semester the new criminal justice Instructional coordinator joined the PSC class to better understand its offerings and how it may fit into the required classes for a criminal justice AAS degree. Dual credit for high school students *is* a viable method since the 16-week format *does* work for those students.
1.6 Did the review of program need result in actions or modifications? Please explain.	This review of the program has resulted in a very hard look at the viability of a credit-side PSC program. The director will monitor and see what the dual-credit

	program will do for enrollment and discussions will continue regarding the transition to non-credit side.
INDICATOR 2: COST EFFECTIVENESS	***RESPONSE***
2.1 What are the costs associated with this program?	Salaries and the annual maintenance fee for the system are the main costs for the program.
2.2 How do costs compare to other programs on campus?	PSC does not currently generate the same revenue as other emergency services or CTE programs. During the move to the CES in Burlington, there were additional expenses to update monitors, hardware, and to procure a CAD system.
2.3 How is the college paying for this program and its costs (e.g. grants, etc.)?	PSC is paid through the educational fund.
2.4 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? Please explain.	N/A
2.5 Did the review of program cost result in any actions or modifications? Please explain.	It has been explored to add on additional software, however, given the challenges with enrollment and significant expense to revamp equipment, a critical look at how the program is offered is necessary.
INDICATOR 3: QUALITY	***RESPONSE***
3.1 What are the program's strengths?	The strengths lie with the experienced professional adjuncts, the facilities and equipment available at the Center for Emergency Services, and the relationships between the college and the local community agencies.
3.2 What are the identified or potential weaknesses of the program?	The biggest weakness is that the 16-week format (and abiding by ICCB rules for credit offerings) does not meet employer needs.
3.3 What are the delivery methods of this program? (e.g. traditional format/online/hybrid/team-teaching etc.)?	This program does not have distance learning options for the PSC courses, though some of the other courses in the VS certificate might be available with Distance Learning. The instructors do use D2L to enhance the classroom learning.
3.4 How does this program fit into a career pathway?	Completion of the BVS certificate (the 6-credit course PSC-105) satisfies the Illinois Law Enforcement Training and Standards Board recommendations for

	public safety telecommunication (9-1-1) basic training, and leads to direct employment opportunities. This is a great career pathway for someone wanting to get into the police or fire service. Students are employable at age 18 in this field, but must wait until age 21 to test and join a police or fire department. Many area firefighters get their start in the dispatch center. The VS certificate further prepares the student for the rigors of working in a stressful environment. It should be noted, however, that the industry can also hire high school graduates directly and provide them on-the-job training with the APCO modules. Still, the PSC classes are good for educating potential Telecommunicators of what to expect in the profession.
3.5 What innovations have been implemented or brought to this program that other colleges would want to learn about?	Since relocating to the Center for Emergency Services, the PSC program can boast state-of-the-art equipment and facilities which allow for simulation of real-world scenarios.
3.6 Are there dual credit opportunities? If so please list offerings and the associated high schools.	PSC-105 and the BVS is currently available as a dual-credit opportunity with local high schools from districts 300, 301 and 303 each fall term. The dual-credit program is a significant opportunity for PSC, since the 16-week instruction format is ideal for these students.
3.7 What work-based learning opportunities are available and integrated into the curriculum?	Part of the curriculum for the PSC-105 class includes site visits and job shadowing at dispatch centers. Steps are being taken to establish an internship for PSC students with the Cook County Sheriff's 911 Center.
3.8 Is industry accreditation required for this program (e.g. nursing)? If so, identify the accrediting body. Please also list if the college has chosen to voluntarily seek accreditation (e.g. automotive technology, NATEF).	No.
3.9 Are industry-recognized credentials offered? If so, please list.	The BVS certificate satisfies the basic training requirements recommended by the Illinois Law Enforcement Training and Standards Board (ILETSB). ECC's is the only program where students receive certificates from both ILETSB and NEMRT (Northeast

	Multi-Regional Training Inc., a police academy in North Aurora) upon successful completion of the course. However, such training is not required for employment as many agencies will provide on-the-job training to new-hires. The minimum requirement for hire is a high school degree and a civil service aptitude test.
3.10 Is this an apprenticeship program? If so, please elaborate.	N/A
3.11 If applicable, please list the licensure examination pass rate.	N/A
3.12 What current articulation or cooperative agreements/initiatives are in place for this program?	There are not any articulation agreements in place for PSC, though the program is investigating joining with APCO and offering continuing education to current dispatchers.
3.13 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?	There are some opportunities to partner with APCO to deliver continuing education hours to current dispatch centers. The problem comes with each dispatch center only being able to send one employee at a time due to overtime and staffing issues. This makes it difficult to fill a CE-class with only four dispatch centers in the area.
3.14 What is the faculty to student ratio for courses in this program? Please provide a range and average.	PSC courses utilized 1 part-time faculty in FY17. The average faculty to student ratio within the courses was 6.7 with a range of 1 to 8.
3.15 What professional development or training is offered to adjunct and full time faculty that may increase the quality of this program?	There are plentiful and various professional development opportunities for faculty at ECC. The faculty contract allows for professional development funds which includes part-time faculty. The college offers in-house training on various subjects. Within programs at the Center for Emergency Services, adjuncts are practicing professionals who keep up on training and certifications through their respective main-profession employers.
3.16 What is the status of the current technology and equipment used for this program?	Since the opening of CES in 2016, the department has invested in portable radios and a dispatch center room located at the Burlington campus. The

	equipment is fresh and modern and provides students with the best equipment on the market.
3.17 What assessment methods are used to ensure student success?	The Senior Director monitors success in the PSC-105 course via observation and participation - he attended class, evaluated the curriculum, evaluated the adjunct and assessed the equipment. Within the class itself, students receive very good individual attention from the faculty since class-size tends to be small. 1:1 tutoring and coaching is often used to encourage and assist students.
3.18 How satisfied are students with their preparation for employment?	Because faculty are very well versed in the discipline and are practicing professionals, they can keep students interested, provide real-world scenarios, and help students with employment. Class evaluations suggest that the students are satisfied. Based on post-graduate surveys (FY12 – FY16), 100% of respondents expressed Very Satisfied or Somewhat Satisfied with the content of program courses and 94% with lecture/lab experiences. There is potential for improvement as 27% of respondents stated they were Dissatisfied with information on current employment, however, all the data reported were prior to the equipment investment and the move to the CES.
3.19 How is student satisfaction information collected?	Despite ICCB rescinding the requirement for the CT Follow-up Survey, ECC's Institutional Research department continues to execute this survey protocol one year after certificate or degree completion. In addition, all completers are surveyed *each year*, not just prior to the review, so a full five years of responses can be studied. IR also provides the opportunity for programs to add specific questions to the online version of the survey. There have been 16 responses from PSC completers over the past five years to the college's CTE follow-up survey.
3.20 How are employers engaged in this program? (e.g. curriculum design, review, placement, work-based learning opportunities)	As discussed, instructors in the program are practicing professionals in the field and have an employer lens. They contribute to the development of course content and learning outcomes, and bring information regarding the latest developments in the 9-1-1 industry.

	Employers on the advisory group have been very candid in their opinions of the program's scheduling format – it takes too long for students to become certified and return to the center ready to work. They have also advised that an 8-week model is not viable. Transcripted college credit is not important to them. They agree the content of PSC-105 is valuable, but state there is no real need for a front-line operator to take all of the courses (28 additional credits) in the VS certificate. The higher-level dispatch classes are geared toward supervisors and directors, which is a very narrow niche, and section enrollment minimums would never be met by current local demand.
3.21 How often does the program advisory committee meet?	The committee will meet at least annually, and most recently convened in January 2018. It consists of Elgin and ECC Police departments, directors from a number of area 911 centers and NEMRT. All four large dispatch centers are represented – Elgin, Quad-Comm, Du-Comm and Kane-Com.
3.22 How satisfied are employers in the preparation of the program's graduates?	The number one resource for determining adequate student learning is the employer-based advisory committee. They advise us on whether or not the new employee comes prepared after an ECC class. Overwhelmingly, they say the content is solid, but the college's program in its current state does not provide added value for the amount of time (16 weeks) a student (employee) must attend. They much prefer the format of the 10-hour APCO course.
3.23 How is employer satisfaction information collected?	Advisory Committee discussions and feedback received by the faculty with local employers.
3.24 Did the review of program quality result in any actions or modifications? Please explain.	The advisory committee has made it very clear that the certificates offered in PSC brought very little value to their current employees. While they all said it would be a plus for a prospective employee to have the education, they would still send the new employee to an APCO class after hire. The Dean and Senior Director will be considering how to proceed to balance employer needs, dual-credit opportunities and the potential non-credit model.

DATA ANALYSIS FOR CTE PROGRAM REVIEW
Please complete for each program reviewed. Colleges may report aggregated data from the parent program or report on enrollment and completion data individually for each certificate within the program. Provide the most recent 5 year longitudinal data available.

CTE Program	**Public Safety Communications**				
CIP Code	**43.0199**				
	FY2013	*FY2014*	*FY2015*	*FY2016*	*FY2017*
*Number of Students Enrolled (*SU/SR duplicated seatcount enrollment for ALL PSC courses)*	17	9	19	19	14
OTHER: Seats specific to PSC-105 only	14	9	19	19	14
COMPLETIONS					
VS – Public Safety Communications		1			
BVS – Public Safety Communications	15	8	17	16	7
Other (Please identify) **Course Success (A-C) rates in PSC-105, excluding withdrawals*	88.2%	100%	94.4%	100%	83.3%
How does the data support the program goals? Elaborate.	The PSC program is challenged by low enrollment. The intro course, PSC-105, might run in a semester with 7 to 8 students or up to 18. In Spring 2016, an evening section was able to run. Due to lack of expressed interest, the upper-level courses (PSC-206/207/208/209/211/212) have not been offered in recent years. The geographical move from the main campus to CES may have also played a role in decreased enrollment. The low levels of certificates is not expected to change given external demands. However, expanded dual-credit could increase enrollment and BVS completion.				
What disaggregated data was reviewed?	Within CTE programs, ECC's IR department provides statistics for program enrollment and completion broken-down by gender, age and race/ethnicity. Patterns for PSC will be discussed below. Programs and related internal planning groups will continue to collaborate with Institutional Research to determine if similar enrollment or success metrics by student group can be helpful at the *discipline/course* level. Across the college, faculty are very interested in closing achievement gaps and participate in institutional efforts to raise achievement for all students. Disaggregation is provided for course modality and for early college credit students, such as tech prep and middle college. As these populations expand the college will study their performance as compared to the standard college counterparts.				

	As dual-credit in PSC grows, success of the high-school student will be monitored as compared to their college-counterparts.
Were there gaps in the data? Please explain.	A good proportion of program enrollees are Latino/a, averaging 46% over the past five years and hitting 63% in 2017. However, they only represent 27% of the completers in the same time frame. Females and students under the age of 23 also complete at slightly lower figures than their enrollment in the courses. *(Source: ECC Pivot Tables, Tabs 4a & 4b).*
What is the college doing to overcome any identifiable gaps?	ECC is a Leader College within Achieving the Dream. Under this membership, the *Student Success Infrastructure* coordinates data analysis and new initiatives from an equity mindset. Many projects will address all students, but many are focused on specific populations to address gaps. For example, new welcome activities have been developed for African-American students, and the first annual HBCU (Historically Black Colleges and Universities) college fair was held in 2018, organized by the Student Life Coordinator for Targeted Populations. In particular, the PCS program has had good outreach and success with women and Latinos but more needs to be done to expose the African-American community to the possibilities that a career in Public Safety Dispatch provide.
Are the students served in this program representative of the total student population? Please explain.	Low enrollment will make such figures variable year to year. A five year average of enrollment demographics shows that the PSC program enrolls slightly more Latino students than the college average (44% v. 39%). The program skews female, with a higher than the college average of 64%, reaching 94% in 2017. There are no marked differences based on age, though this would shift with an increase in dual-credit.
Are the students served in this program representative of the district population? Please explain.	Similar comparisons to the district population are seen as stated above for the college.
REVIEW RESULTS	
Action	☒ Continued with Minor Improvements ☐Significantly Modified ☐Placed on Inactive Status ☐Discontinued/Eliminated ☐Other (please specify)

Summary Rationale Please provide a brief rationale for the chosen action.	In its current format, the PSC program's two certificates do not meet employer demand due to cost, time and ease of work scheduling among other reasons. However, the program will remain active to serve the high school students in the dual-credit arena as requested. Moreover, exploration of non-credit offerings in a shorter, condensed version desired by industry presents potential. The Advisory Committee has suggested the college work with APCO to develop coursework in the non-credit format as well as a 40-hour course for new dispatchers that mirrors the current PSC-105.

Intended Action Steps
What are the action steps resulting from this review? Please detail a timeline and/or dates for each step.
	• Discussion with Dean, Senior Director and Advisory Committee regarding the viability of the current program
	• If it remains:
	  o Pursue additional dual-credit enrollment (ongoing)
	  o Ensure objectives and outcomes on course outlines reflect current standards, practice and need (18/19)
	  o Consider PSC-105 as requirement of Criminal Justice AAS program (19/20)
	• If it evolves:
	  o Consider non-credit format for Basic level, SP19
	  o Consider partnership with APCO (basic or advanced), FA19
	• Or, consider for elimination

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN BASIC OPERATIONS FIREFIGHTER

			Sem. Hrs.
FSS	110	Basic Operation Firefighter Module A	4
FSS	111	Basic Operation Firefighter Module B	4
FSS	112	Basic Operation Firefighter Module C	4
FSS	113	Vehicle Operator/Rescue Awareness	1
FSS	202	Hazardous Materials	3

Total: 16
Program Total: 16

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN EMERGENCY MEDICAL TECHNICIAN-BASIC

			Sem. Hrs.
FSS	215	Emergency Medical Technician-Basic	8

Total: 8
Program Total: 8

PUBLIC SAFETY COMMUNICATIONS

Entrance Requirements

None

Program Requirements

None

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN PUBLIC SAFETY COMMUNICATIONS

Summer Session			Sem. Hrs.
PSC	105	Public Safety Telecommunicator	6

Total: 6

First Semester			
CRJ	198	The Police Service	3
ENG	101	English Composition I **or** BUS 101 Business Communications	3
PSC	206	Public Safety Answering Point (PSAP)	3
PSC	207	Pub Saf Answering Point Application	2
CMS	101	Fundamentals of Speech	3

Total: 14

Second Semester			
CRJ	101	Introduction to Criminal Justice	3
CRJ	111	Stress Management in Law Enforcement	3
PSC	208	Emergency Medical Dispatch	3
PSC	209	Pub Saf Answering Point Practicum	3

Choose one of the following:

PSC	211	Career Management **or** PSC 212 Legal Aspects/Pub Saf Communications	2

Total: 14
Program Total: 34

CERTIFICATE CONFERRED:
BASIC VOCATIONAL SPECIALIST IN PUBLIC SAFETY COMMUNICATIONS

To complete the Illinois Law Enforcement Training and Standards Board recommendations for public safety telecommunication (9-1-1) basic training, students take the following:

			Sem. Hrs.
PSC	105	Public Safety Telecommunicator	6

Total: 6
Program Total: 6

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

Career & Technical Education

COLLEGE NAME:	Elgin Community College
FISCAL YEAR IN REVIEW:	FY2018

PROGRAM IDENTIFICATION INFORMATION

PROGRAM TITLE	*DEGREE OR CERT*	*TOTAL CREDIT HOURS*	*6-DIGIT CIP CODE*	*LIST ALL CERTIFICATE PROGRAMS THAT ARE STACKABLE WITHIN THE PARENT DEGREE*
Surgical Technology	VS	45-47	51.0909	

Address all fields in the template. If there are certificates and/or other stackable credentials within the program, please be sure to specify and sufficiently address all questions regarding each stackable credential.

Program Objectives What are the overarching objectives/goals of the program?	Upon completion of the surgical technology program, a student will be able to: 1. Maintain a "surgical conscience" and accountability for personal actions. (affective) 2. Apply their knowledge of the biologic sciences, pharmacology, and biomedical technology to their role in the operating room. (cognitive) 3. Demonstrate and value the learning and skills that are required for safe practice in the operating room. (psychomotor) 4. Communicate effectively with team members, patients, and families. (psychomotor) 5. Assume responsibility as a member of the profession of surgical technology through maintenance of established standards of practice, professional ethics, and ongoing self-evaluation. (affective)
To what extent are these objectives being achieved?	The Surgical Technology program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and approved by the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA), which ensure students receive an education which adheres to strict standards established by the profession. Standards set by these bodies are met or exceeded yearly.

Past Program Review Action What action was reported last time the program was reviewed?	The previous report action was "Continue with Minor Improvements." Actions/goals completed since the last review include: **Move record-keeping into the eValue system.** The eValue system is still used to track clinical time, absences and student evaluations. Students now use eValue to log and track their cases and clinical instructors use it to tabulate required cases and determine the student's need for cases. The department uses eValue to determine each clinical site's case volume and the type of cases available for students. No progress has been made on student evaluation of clinical sites via eValue. **Continue to utilize the Northstar Surgical Technology online review program, as there was a 100% pass rate on the May 2013 National Certification exam.** Students were given access and encouraged to use the Northstar Surgical Technology online review program. The study aid was seemingly very effective as there was a 100% pass rate on the May 2014 National Certification exam. However, budget constraints forced the program to stop using it. Instead, faculty created review quizzes on D2L in an attempt to offer students an additional tool for CST preparation. 82% of the class of 2015 passed and 90% of the class of 2016 passed the CST exam in the first attempt. **The introduction of an Associate of Applied Science degree option is in the planning stages.** Program personnel have investigated various ways to offer an AAS including a distance learning "add-on" or "completion" option in order to give both current students and previous graduates an opportunity to take advantage of the degree opportunity. CAAHEP has recently recommended all surgical technology programs offer an associate degree by 2021. The college began working toward this outcome during spring 2018 and will submit a Form 20 for approval of the degree by the end of fall semester 2018. **Develop short certificate program in Sterile Processing**

	The Sterile Processing Certificate program is in the beginning stages of program development. Five hospitals within the community have stressed the need for the program and have offered support with clinical requirements. The Form 20 will be submitted for approval by the end of the fall term 2018. **Continue to assess Surgical Technology program outcomes as stipulated by ARC/STSA on an annual basis.** All outcomes are reported to ARC/STSA yearly as scheduled. In addition to these previously established goals, SGT has created an administrative Director position for the program which was filled in the interim by an SGT faculty member. A permanent administrator was hired as of Summer 2018.

CTE PROGRAM REVIEW ANALYSIS Complete the following fields and provide concise information where applicable. Please do not insert full data sets but summarize the data to completely answer the questions. Concise tables displaying this data may be attached. The review will be sent back if any of the below fields are left empty or inadequate information is provided.	
List all pre-requisites for this program (courses, placement scores, etc.).	Program admission requirements can be found on the catalog page at the end of this chapter. In order to enroll in certain 1.1 transfer courses, students must demonstrate readiness in the form of test scores (such as ACT/SAT, PARCC), placement results (ALEKS, McCann, writing placement), and/or successful completion of developmental coursework, as outlined on page 13 of the 2018-2019 college catalog and described in Administrative Procedure 1.104: Minimum Competencies.
Please list or attach all required courses (including titles) for completion of this program including institution required courses (e.g. student success, first year, general education requirements, etc.).	Program requirements are noted on the catalog page at the end of this chapter.

Provide a rational for content/credit hours beyond 30 hours for a certificate or 60 hours for a degree.	The Vocational Specialist Certificate in Surgical Technology currently, requires 45 to 47 credit hours, depending on the Biology A&P sequence chosen by the student. The rationale for the surgical technology program continuing to exceed 30 credit hours is based on core curriculum requirements set by the accrediting body. Employers are demanding that entry-level techs have higher level of performance. It is necessary to have a significant amount of time for students to have exposure to all of the clinical components, cases and specialty areas. The credit hours are the minimum required in order to meet all learning objectives.
INDICATOR 1: NEED	***RESPONSE***
1.1 How strong is the occupational demand for the program?	Occupational demand for surgical technologist is strong in the area. The surgical technology certificate leads to direct employment as a surgical technologist, surgeon's assistant or operating room equipment sales representative. The United States Department of Labor indicates surgical technologists in the area make a mean annual salary of $47,960. Surgical technologists in metropolitan areas tend to earn more than those in rural areas and those with CST licensure also to earn more. Graduate placement averages 82%.
1.2 How has demand changed in the past five years and what is the outlook for the next five years?	Demand for surgical technologists has remained steady in the last five years. 16% growth is expected for the Chicago-Naperville-Elgin area through 2024 and 12% state-wide based on EMSI forecasts. The health insurance industry strongly influences practice. Many insurance companies are demanding certain surgeries be performed in surgery centers rather than hospitals, which leaves fewer cases at the program's clinical sites for students. The drive for profit and savings also encourages facilities to hire cost-effective surgical technologists rather than training registered nurses to scrub in and assist in the operating room.
1.3 What is the district and/or regional need?	The district need remains strong with openings in DuPage County in particular increasing higher than average.

1.4 How are students recruited for this program?	Students are recruited to the surgical technology program using informational sessions and flyers posted on campus. A program representative goes to many high school career fairs.
1.5 Where are students recruited from?	Students are recruited from biology classes and attempts to inform prospective students about the profession.
1.6 Did the review of program need result in actions or modifications? Please explain.	The program implemented a distance learning option for students. The distance learning allows the program to use the clinical sites more effectively. Although there is no immediate plans to take in more students, there is the ability to do so when the need arises.
INDICATOR 2: COST EFFECTIVENESS	***RESPONSE***
2.1 What are the costs associated with this program?	The entire Surgical Technology budget is approximately $346,000, divided between salaries and benefits (97%), instructional materials and supplies (3%), and travel/meeting expenses (<1%). There are two full-time faculty and five adjunct clinical instructors who teach in the program. Beginning fall 2018, a full-time program director has been hired to assume leadership responsibilities required by the accrediting agency (ARC/STSA). Operational expenses for the surgical technology program have remained very stable over the last five years due to efforts to secure supply donations from local healthcare agencies. Revenue for this program has also remained relatively stable over the last five years as each cohort is capped at 24 students.
2.2 How do costs compare to other programs on campus?	Health Professions programs are generally more expensive due to the imbalance of credit to contact hours. The surgical technology program was heavy on salaries with three full-time faculty. One recently retired, though savings have been offset by hiring the new director.
2.3 How is the college paying for this program and its costs (e.g. grants, etc.)?	The surgical technology program is supported by the college's education fund.

2.4 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? Please explain.	N/A
2.5 Did the review of program cost result in any actions or modifications? Please explain.	In the next two years the surgical technology program will be transitioning from a Vocational Specialist Certificate to an Associate of Applied Science degree at the recommendation of the accrediting agency. This will involve adding general education courses to the already established core SGT courses. It is anticipated that this curriculum revision will not significantly impact the cost of the program; however, the college has the potential to realize more tuition revenue from the additional courses required in the degree.
INDICATOR 3: QUALITY	***RESPONSE***
3.1 What are the program's strengths?	Strengths of the program include staff members with years of experience in the field they are teaching, a very good reputation in the community and a high certification exam pass rate. The program is well outfitted with modern equipment and facilities. The surgical technology program has twice been named a Galaxy Star Program, which recognizes the commitment made to ensure every student takes the CST exam upon graduation.
3.2 What are the identified or potential weaknesses of the program?	An area of weakness in the program is the lack of cohesion amongst the staff. The adjunct instructors hold full-time hospital jobs. This makes them extremely knowledgeable and current in the field, but makes department meetings a challenge. Scheduling difficulties also make new ideas, such as increased simulation or recording students in lab for later analysis, difficult to implement. It could be advantageous to shift duties around so there is a better understanding of the complete program. The separate labs also create difficulties when trying to standardize the skill sets necessary for their clinical experience. There is not a lot of engagement between the clinical instructors and the curriculum. Some attempts to bring the clinical instructors into the classroom have been tried. The opportunities are very few because of the clinical instructors' other commitments.

	As of May 29, 2018 a Program Director was hired in order to address many of the staff issues. The high level of experience among the Surgical Technology staff will aid in the implementation of better staff communication and collaboration. Regular meetings are expected of all staff. Evening/early morning conference calls will address any schedule conflicts. A combined lab will be trialed in order to achieve continuity throughout the program. Clinical instructors will demonstrate uniform skills to all students in order to avoid confusion. Once students and clinical instructors are on site, weekly communications will occur notifying instructors about the curriculum plans for the week. The communication will allow instructors to bridge the classroom content with the student's clinical experience.
3.3 What are the delivery methods of this program? (e.g. traditional format/online/hybrid/team-teaching etc.)?	Courses are held in the traditional face-to-face format All courses utilize the D2L learning management system as well for organization of material as well as exam administration. D2L allows students ability to revisit course material, homework, and exams in order to better prepare for class. In Fall 2017, four students participated in a trial distance learning option during their 2nd semester called the Alternate Learning Program (ALP). The program was designed to assist students with scheduling options. The students do not attend the face to face classroom lectures. The lecture content is recorded for online viewing by the ALP students at their own convenience. Non-participating students were also able to access the videos in order to review lecture material. ALP students attended clinical sites two days a week, rather than three, each as 12 hour days. In total, six students involved in ALP completed the clinical rotation while successfully finishing the didactic component and passed their exam. We plan to continue using ALP until completion of the 2018 cohort. ALP relies heavily on the availability of clinical sites. Many clinical sites have stated the 12 hour shift is more difficult to cover. In order to continue ALP on a regular basis, the availability of the clinical site must be determined prior to the start of each semester. Due to the limited availability of ALP clinical sites, a formal process must be used to determine eligibility of

	students. Students currently, had to achieve a minimum 3.0 GPA and no late/missing assignments in order to be considered for the program.
3.4 How does this program fit into a career pathway?	As recommended by ARC/STSA, an Associate's degree program will soon replace the certificate. The AAS will allow students the opportunity and knowledge necessary to advance their education. The Surgical Technology program offers experience and education that leads the way to Surgical Assisting, Nursing, Physician Assistant roles, and teaching opportunities.
3.5 What innovations have been implemented or brought to this program that other colleges would want to learn about?	The purchase of anatomical simulators allow the lab instructors to create a more realistic scenario for the students. Throughout the program students complete various assignments based on journal articles. By the time they complete, they will have read and answered the questions to over 30 CEUs worth of material. This gives them more than half of the CEUs necessary to recertify in four years, making the process easier and increasing the likelihood they will remain certified. The SGT students also join the Association of Surgical Technologists at a reduced rate during the spring of their final semester, which helps professional socialization.
3.6 Are there dual credit opportunities? If so please list offerings and the associated high schools.	High school students cannot apply for the SGT program, though they do have the opportunity to take some pre-requisite or required courses (BIO-110: Principles of Biology, HPE-112: Intro to Healthcare Vocabulary, PSY-100: Intro to Psychology) as dual credit in order to get a head start with the program. These opportunities will expand to other general education components with the upcoming AAS degree format.
3.7 What work-based learning opportunities are available and integrated into the curriculum?	Students do participate in hands on training at affiliated clinical sites throughout the second and third semesters of the program. The program has implemented a small initiative called "Winter Internship" where participating hospitals hosted four students during the winter break. These volunteer students get additional exposure to the work of a surgical technologist. The students are able to put this experience on their resume and may even list the

<table>
<tr><td></td><td>manager of the facility as a reference when looking for jobs after graduation.</td></tr>
<tr><td>3.8 Is industry accreditation required for this program (e.g. nursing)? If so, identify the accrediting body. Please also list if the college has chosen to voluntarily seek accreditation (e.g. automotive technology, NATEF).</td><td>Industry accreditation is not mandated by the state, however obtaining employment without certification proves to be quite difficult if not impossible. The college has volunteered to follow the standards of CAAHEP with recommendations from ARC/STSA. CAAHEP accredited programs are held in great regard. Graduation from a CAAHEP accredited program is required in order to become a member the Association of Surgical Technologists (AST) the only Surgical Technologist professional organization in the United States.</td></tr>
<tr><td>3.9 Are industry-recognized credentials offered? If so, please list.</td><td>Completion of the program allows the graduate to sit for the National Board of Surgical Technologist and Surgical Assistant (NBSTSA) certification exam and become a Certified Surgical Technologist, CST. Typically area hospitals require employees to become certified within one year of employment.</td></tr>
<tr><td>3.10 Is this an apprenticeship program? If so, please elaborate.</td><td>N/A</td></tr>
<tr><td>3.11 If applicable, please list the licensure examination pass rate.</td><td>Certification exam pass rates are high and exceed national averages and the accrediting benchmark:<table><tr><td>2017</td><td>84%</td></tr><tr><td>2016</td><td>90%</td></tr><tr><td>2015</td><td>82%</td></tr><tr><td>2014</td><td>100%</td></tr><tr><td>2013</td><td>100%</td></tr></table></td></tr>
<tr><td>3.12 What current articulation or cooperative agreements/initiatives are in place for this program?</td><td>The program is working to create an articulation agreement with Northern Illinois University College of Health and Human Sciences. NIU has developed a new Baccalaureate Degree, “Bachelor of Science in Health Sciences.” The university will accept 30 Surgical Technology program credits into the BS degree. This is a wonderful opportunity for students to use the credits to further their education.</td></tr>
</table>

3.13 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?	Over the review period, the program has added new clinical sites such as OSF St. Anthony Hospital and Edward Hospital. The program continues to strengthen relationships with area hospitals through meetings and communication. The number of physicians on the Advisory Committee has also been increased.
3.14 What is the faculty to student ratio for courses in this program? Please provide a range and average.	The SGT program cohorts are capped at 24 students. The average faculty to student ratio within the courses was 12 with a range of 6.5 to 23 in FY17. Enrollment in the 2nd and 3rd semester courses decreases slightly with some attrition.
3.15 What professional development or training is offered to adjunct and full time faculty that may increase the quality of this program?	There are plentiful and various professional development opportunities for faculty at the college. The faculty contract allows for professional development funds, and includes part-time faculty. The college offers in-house training on various subjects. Even in light of current travel restrictions and other financial constraints, CTE programs with accreditation requirements regarding development opportunities are guaranteed the continued ability to attend such trainings. Within this particular program, funds are available for the director to attend the 2019 Association of Surgical Technologists Educators Conference. The faculty belong to the Association of Surgical Technologists and Association of Operating Room Nurses among other organizations. The students join the Association of Surgical Technologists at a reduced rate during the spring of their final semester. Many professional development courses are also offered through the college. Courses such as "Encouraging Collaboration" have been a great resource.
3.16 What is the status of the current technology and equipment used for this program?	The facilities available in the newly constructed Health Sciences building are fantastic. The program does, however, have some technology and equipment needs: • Simulation equipment and training for faculty in simulations would improve student understanding • The Swivl camera is currently borrowed; something permanent is needed • Classroom laptops will need updating or replacing.

3.17 What assessment methods are used to ensure student success?	Quizzes, exams and projects are the most common methods of assessment used. Clinical sections are assessed using the same evaluation form for all sections. Clinical assessment is complex and can vary from one facility to another. The program has expanded the curriculum beyond just exams. Students now have assignments, projects, D2L quizzes and use journal articles in addition to the traditional textbooks. The program identifies at risk students by monitoring grades and intervening. The program begins with a session from the retention specialist who gives study skills advice. Clinical instructors identify at risk students and discuss options for their needs. A small amount of mentoring between cohorts now takes place as well. As the program begins the work to design the degree, it will investigate how components of the curriculum contribute to student success and identify which components could be reduced, allowing more emphasis on topics students may be weak in. For example the pharmacology course, SGT-105, may not significantly contribute to the overall success of the surgical technology student to warrant a full 3-credit hour course. The content could possibly be taught within the other courses and those credit hours could be used to emphasize other areas.
3.18 How satisfied are students with their preparation for employment?	On the CTE follow-up survey, graduates indicate a high level of satisfaction regarding their preparation. 100% indicate they are very or somewhat satisfied with their job preparation and 86% with information on employment. A separate survey is also required by ARC/STSA which also demonstrates high satisfaction.
3.19 How is student satisfaction information collected?	Despite ICCB rescinding the requirement for the CT Follow-up Survey, the college's Institutional Research department continues to execute this survey protocol one year after certificate or degree completion. In addition, all completers are surveyed *each year*, not just prior to the review, so a full five years of responses can be studied. IR also provides the opportunity for programs to add specific questions to the online version of the survey.

	Within this particular program, student and employer satisfaction information is collected using required forms from ARC/STSA.
3.20 How are employers engaged in this program? (e.g. curriculum design, review, placement, work-based learning opportunities)	The advisory committee is composed of a few different employers in the area along with some practicing surgical technologists, and they are very involved with the program. Their comments are taken seriously and the program attempts to incorporate their ideas into the curriculum and the clinical components. The Alternate Learning Program developed from an employer's need. The core curriculum itself is guided by the Association of Surgical Technologist (AST) which is required of accredited programs. Area employers were surveyed when the program first began to consider the move towards offering the AAS. The response indicated they would not have a hiring preference for SGT graduates with a degree instead of the certificate, but the current decision has been made under guidance from the accrediting body. Another significant change was discussed with them prior to implementation, adding additional clinical sites with a rotation instead of a single placement. There was mixed support of students going to different clinical sites during their time in the program. Surgeons and hospital staff members were most against students seeing three clinical sites and felt two rotations were better for their facilities.
3.21 How often does the program advisory committee meet?	The Advisory Board meets once yearly. All the communities of interest are represented though it is difficult to have all members attend each year. The program has included more than one person from each community of interest on the committee in an attempt to have a robust, productive meeting. Recently, the program has increased the number of physicians on the Advisory Board.
3.22 How satisfied are employers in the preparation of the program's graduates?	Employers and the advisory committee are satisfied with student learning and success and the current levels meet or exceed the accrediting body's requirements. The program boasts 100% employer satisfaction.

3.23 How is employer satisfaction information collected?	Employer satisfaction information is collected using the required survey forms from the accrediting body. Casual comments from employers to faculty are also noted.
3.24 Did the review of program quality result in any actions or modifications? Please explain.	The surgical technology program has to review itself every year due to the reports required by ARC/STSA. This makes the program very proactive from year to year in order to meet thresholds and benchmarks.

DATA ANALYSIS FOR CTE PROGRAM REVIEW

Please complete for each program reviewed. Colleges may report aggregated data from the parent program or report on enrollment and completion data individually for each certificate within the program. Provide the most recent 5 year longitudinal data available.

CTE PROGRAM	**Surgical Technology**				
CIP CODE	**51.0909**				
	FY2013	FY2014	FY2015	FY2016	FY2017
NUMBER OF STUDENTS ENROLLED (DUPLICATED SEATCOUNT IN ALL SGT COURSES)	83	75	82	78	72
NUMBER OF COMPLETERS	17	15	18	21	13
OTHER (PLEASE IDENTIFY) *OVERALL xxx COURSE SUCCESS (A-C) RATES, excluding withdrawals	98.7%	100%	100%	98.7%	98.6%
OTHER (PLEASE IDENTIFY)	Program also receives course-level enrollment and success data as part of their Quality review.				
How does the data support the program goals? Elaborate.	Enrollment for the current review period is higher overall than for the previous five years, with the peak in 2013. Fluctuations in enrollment are due to retention as the program always admits 24 students to each cohort. Enrollment is expected to remain steady for the next five years as there is no plan to increase program capacity. Analysis of persistence shows loss between the first and second terms of the program. Though success is high and students successfully complete the first semester, it is here where they decide whether or not to continue. Students generally have the academic aptitude for the program, but after learning more of the profession they may choose not to continue in the program. The individual course with the lowest success rate is SGT-111: Surgical Technology II, taken in the second semester. This is the students' first exposure to lab or clinical. Their schedule changes drastically from two to five days a week with three being all-day clinical. This big transition is difficult for some students and some will withdraw. Students are advised early				

	on to adjust their commitments to accommodate the demanding schedule. Curriculum changes were implemented to add time to SGT 111 to better prepare them for the clinical experience. Some content was moved back to SGT-102: Intro to Surgical Technology to redistribute some of the didactic material into a less challenging course. The course with the highest success rate is SGT-120: Surgical Technology III, which makes up the entirety of the third and final semester of the program. Students have learned the cognitive material of the curriculum and are developing the necessary psychomotor skills to finish the program. They understand the role of the surgical technologist and wish to work in the field. The 2016 class was the largest surgical technology class the program has ever experienced and achieved a 91% completion rate. Other cohorts are completing at an acceptable rate. The college's surgical technology program meets or exceeds the benchmark set by ARC/STSA.
What disaggregated data was reviewed?	Within CTE programs, the college's IR department provides statistics for program enrollment and completion broken-down by gender, age and race/ethnicity. Patterns for SGT will be addressed in items below. Programs and related internal planning groups will continue to collaborate with Institutional Research to determine if similar enrollment or success metrics by student group can be helpful at the *discipline/course* level. Across the college, faculty are very interested in closing achievement gaps and participate in institutional efforts to raise achievement for all students.
Were there gaps in the data? Please explain.	The program enrolls 70 – 80% female students, yet 90% of the graduates over the past five years have been female. Latino, Asian and African-American students are underrepresented in the program and only the Latino group seems to graduate in the same proportion. However, it is important to note that the n-sizes of these comparisons is very small. For example, only three African American students have enrolled within the past five years and this aligns with the college average of approximately 5%. Lastly, approximately two-thirds of the program enrollees are under the age of 30, but 50% of the completers for the past five years are age 30 or older.
What is the college doing to overcome any identifiable gaps?	The college is a Leader College within Achieving the Dream. Under this membership, the *Student Success Infrastructure* coordinates data analysis and new initiatives from an equity

	mindset. Many projects will address all students, but many are focused on specific populations to address gaps. For example, new welcome activities have been developed for African-American students, and the first annual HBCU college fair was held in 2018, organized by the Student Life Coordinator for Targeted Populations. Within this particular program, the staff and the advisory group may consider investigating equity gaps and discussing barriers and solutions.
Are the students served in this program representative of the total student population? Please explain.	As alluded to above, SGT students skew white and female with a slightly higher proportion of students age 30 and older.
Are the students served in this program representative of the district population? Please explain.	SGT students do not match demographics of the district, see above.
REVIEW RESULTS	
Action	☒ Continued with Minor Improvements ☐ Significantly Modified ☐ Placed on Inactive Status ☐Discontinued/Eliminated ☐ Other (please specify)
Summary Rationale Please provide a brief rationale for the chosen action.	Under recommendation from the accrediting body, the program will move towards an AAS degree instead of the VS certificate. Other adjustments will also be made to continue program success and growth, such as including additional lab time, obtaining additional clinical sites and attracting a larger pool of qualified candidates.
Intended Action Steps What are the action steps resulting from this review? Please detail a timeline and/or dates for each step.	• Obtain more clinical sites (hospitals and surgical centers), FA18/SP19. • Rework curriculum for the degree to include general education coursework and more lab time within SGT, SP19/SU19, Anna Campbell (Program Director). • Market the new AAS opportunity, particularly to certificate alumni who may want to complete their degree. • Implement activities to attain greater number of candidates (open house, information sessions, etc.), FA19 • Build relationships with area High Schools, SP20/SU20.

SURGICAL TECHNOLOGY

Surgical technologists are allied health professionals who are an important part of the team of medical practitioners providing surgical care to patients. Surgical technologists work under the supervision of a surgeon to facilitate the safe and effective conduct of invasive surgical procedures, ensuring that the operating room environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient well-being. Surgical technologists possess expertise in the theory and application of sterile and aseptic technique and combine the knowledge of human anatomy, surgical procedures, and implementation tools and technologies to facilitate a physician's performance of surgeries. Graduates of Elgin Community College's Surgical Technology Program are eligible for certification by the National Board of Surgical Technology and Surgical Assisting (NBSTSA), an administratively independent body from the Association of Surgical Technologists. Students who pass the NBSTSA exam earn the title of certified surgical technologist (CST).

Elgin Community College's pass rate on the NBSTSA surgical technology certification exam during the latest reporting period was 100%.

Accreditation

The Surgical Technology Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 25400 US Highway 19 North Suite 158, Clearwater, FL 33763, (727) 210- 2350, caahep.org, upon the recommendation of the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA), 6 W. Dry Creek Circle Suite #110, Littleton, CO 80120, Phone: 303-694-9262, Fax: 303-741-3655, info@arcstsa.org. Accreditation through ARC/STSA ensures students receive an education in surgical technology adhering to strict standards established by the profession. In addition, Elgin Community College is regionally accredited through North Central Association of Colleges and Schools.

Entrance Requirements

- Score in the 25th percentile or better in each section of the PSB-HOA exam.
- Grade of C or better in BIO 110 or equivalent. (Note: Students who have earned a grade of C or better in BIO 240 or BIO 245 and BIO 246 or equivalent are not required to complete BIO 110 and will be ranked first in the screening process.)

All applicants will be ranked based on these requirements and the most-qualified individuals will be selected for admission to the Surgical Technology Program. Refer to elgin.edu/surgicaltech for a description of the applicant screening process.

Admission Procedures

Applicants must submit the following items to the ECC Records Office:

- ECC application.
- Health professions application.
- Official college transcripts. (Note: To request a transcript evaluation go to elgin.edu/evaluation.)

Admission to the program is selective. Students may obtain an application for admission online at elgin.edu/surgicaltech. PSB-HOA testing information may be found at elgin.edu/testing. PSB-HOA scores are valid for two years from the date the test is taken. The deadline for applying to the Surgical Technology Program is October 1. After this date, applications will only be considered if space is available. Applicants will be notified of their status in October. New surgical technology classes begin in January.

Program Requirements

Students must complete all required courses with grades of C or better to be eligible for graduation and to sit for the National Surgical Technologist Certification exam offered by the National Board of Surgical Technology and Surgical Assisting (NBSTSA), 6 W. Dry Creek Circle, Suite 100, Littleton, CO 80120, (800) 707-0057, nbstsa.org. Ninety-two percent (92%) of Elgin Community College's most recent surgical technology graduates passed the CST exam on their first attempt.

Students must apply for and complete this exam during the final semester of the program. Students must provide their own uniforms and transportation to and from all clinical sites.

Policies and Procedures

Students applying to health professions programs must provide a valid Social Security number in order to be screened for placement on the Illinois Health Care Worker Background Check Registry. Students must be listed on this registry in order to be eligible to complete required clinical training. Any student demonstrating a positive background check will be denied admission to any health professions program. A valid Social Security number is also needed to apply for licensing/certification exams.

Before attending clinical training, students must have the following documentation on file in the health professions division office: negative drug test results, completed medical form which includes proof of immunizations/titer results, completed baseline eye exam form, proof of health insurance coverage, and proof of healthcare provider CPR certification.

Health professions students will be required to update their drug test, TB test/TB survey, and flu vaccine information on an annual basis. Any student demonstrating a positive drug test will be dismissed from the Health Professions Division.

The standards, policies, and procedures of the Surgical Technology Program are published in the surgical technology student handbook. Copies of the student handbook may be obtained online at elgin.edu/surgicaltech.

CERTIFICATE CONFERRED:
VOCATIONAL SPECIALIST IN SURGICAL TECHNOLOGY

First Semester			**Sem. Hrs.**
HPE	112	Intro to Healthcare Vocabulary	3
SGT	102	Intro to Surgical Technology	5
BIO	240	Human Anatomy and Physiology **or**	
BIO	245	Human Anatomy and Physiology I **and** BIO 246 Human Anatomy and Physiology II	5/8
SGT	105	Concepts of Pharmacology & Anesthesia	3
		Total:	16/18
Second Semester			
SGT	111	Surgical Technology II	12
PSY	100	Intro to Psychology	3
		Total:	15
Third Semester			
SGT	120	Surgical Technology III	14
		Total:	14
		Program Total:	**45/47**

- Although the course sequences as shown on this page are based on full-time enrollment, students may complete their course of study on a part-time or three-quarter time basis.
- The primary aim of these programs is to prepare students for immediate employment. However, many opportunities exist to include these courses in a bachelor's degree. See an advisor for information.
- Degrees and certificates are subject to change without notice. For the most current curricula, go to elgin.edu/academics.

Academic Disciplines	
College Name:	Elgin Community College
Fiscal Year in Review:	FY2018
Discipline Area:	**Mathematics**
Review Summary Complete this section to review the Academic Discipline as a whole. Use the Course Specific Review portion of this template for each course reviewed in the Discipline.	
Program Objectives What are the objectives/goals of the discipline?	To earn a transfer Associates degree, students must complete three (A.A.) or nine (A.S.) credits in the Math department. Various math courses are also part of many A.A.S. degrees. The full catalog of math offerings can be classified into "strands": Developmental Education; General Education; Elementary Education; Business/Social Science; and Math Intensive (STEM). The Math department has established the following program-level student learning outcomes: 1. Number Sense, Properties, and Operations • Apply the order of operations and properties of real numbers in computations, as well as reason and draw conclusions from numerical information. • Translate problem situations into their symbolic representations and select computational procedures, including the use of integers, fractions, decimals and/or percentages, to solve problems. 2. Measurement • Measure and compare quantities using appropriate units, instruments and methods. • Estimate measurements and determine acceptable levels of accuracy. • Use appropriate technology, instruments and formulas to solve problems. • Support outcomes, interpret results and communicate findings. 3. Geometry and Spatial Sense • Apply physical models, graphs, coordinate systems, patterns and properties of geometry as problem solving strategies.

	4. Data Analysis, Statistics, and Probability • Organize, describe and make predictions from existing data. • Determine, describe and apply the probabilities of events. 5. Algebra and Functions • Manipulate algebraic expressions correctly, and to use algebraic concepts and procedures to describe patterns and relationships in data, solve problems and predict results. • Use the basic mathematical functions (polynomial, rational, exponential, logarithmic and trigonometric) to model and solve real world problems. • Recognize the geometric representation of a function described by an English phrase.
To what extent are these objectives being achieved?	The program offers a full array of classes for various transfer and career paths, including a full STEM sequence culminating with Linear Algebra and Differential Equations and many business math offerings such as Finite Math and Business Calculus. Two separate stats courses are offered with the same IAI code but different credit hours, to meet a student's need of either a general education math class or a more advanced statistics course. Revisions and updates have been made to allow for a more seamless transfer to popular 4-year destination schools. Some of the program's courses are not typically offered at other community colleges, such as the PMGE, Linear Algebra, the combination Basic and Intermediate Algebra, the choice in Statistics, and the four-credit Differential Equations course.
How does this discipline contribute to other fields and the mission of the college?	As mentioned, math courses fulfill key degree requirements for most students. The array of choices allow for flexibility in meeting their needs. Math can be a challenging subject for many students. The college's faculty have learned about and incorporate the principles of a Growth Mindset in the classroom to encourage student success. Math courses also contribute to further success in college and the workplace. Student employability and general skill development is enhanced with the technology incorporated into the curricula and use of

	these programs allows students to feel comfortable learning similar programs in their future careers. Faculty and employers continually communicate that they are looking for critical thinking skills in their students and employees. The math department focuses on critical thinking and problem solving rather than just procedural mathematics, which relates directly to some of the college's General Education outcomes. Critical Thinking and Quantitative Literacy are obvious, but faculty have also discussed where and how to emphasize Communications and Global/Multi-cultural Literacy. This program also addresses students' financial challenges by supporting three scholarships through the ECC Foundation including a memorial to Mr. Holstrom. Students are able to use this money while at the college or to take it with them to their transfer institutions.
Prior Review Update Describe any quality improvements or modifications made since the last review period.	• MTH-101 has been replaced with MTH-104: Liberal Arts Mathematics which has a revised focus on problem solving utilizing Excel. • Faculty participated on the development and subsequent revision of the 4th year math course offered in district high schools via the partnership through the Alliance for College Readiness. (See further discussion in the Developmental Math chapter of this Program Review report). • Math Ambassadors program was launched to send a panel of the college's math students to district high schools to answer questions about college. The current goal is to involve four faculty and 25 students as ambassadors. • The usage of the MyMathTest online tool has been phased out with the conversion from Compass to ALEKS (Assessment and Learning in Knowledge Spaces) placement. • Honors sections of Math courses were not able to be sustained due to low enrollment; however, in FA17 a blended section of MTH-190: Calculus with Analytic Geometry I was offered where a subset of the seats were set aside for honors students. • Through the Student Success Infrastructure (SSI), an initiative was launched to run sections of MTH-102: General Education Statistics and then MTH-

	112: College Algebra with a Supplemental Instruction model. Three semesters of mostly quantitative data showed only modest success. Given the constrained financial resources, a decision was made to suspend the model. On a positive note, participating faculty learned more about the effectiveness of active learning methods, and will be incorporating more of them into their general teaching practices. • Over the past several years, program faculty have continued to develop and leverage an internal online handbook for instructors. It is becoming a comprehensive resource benefiting both seasoned instructors and new-hires. The challenge with such a resource is to ensure it stays up to date. With a recent migration to a new platform, a few faculty have taken on webmaster roles to reduce the single burden. • To encourage continued growth of the math-intensive sequence, the differential equations course was redesigned to more closely align with universities in the state to improve transferability. As a result, several training sessions were designed by a faculty member and taught to 4-5 others. The linear algebra course, which was only offered periodically, is being offered regularly to better meet students' needs. • Each semester, an Integration Contest is offered for Calculus II and higher students to encourage review of these math skills and to provide a fun math afternoon for students. • Effective SU16 semester, the calculus sequence has been expanded to be 15 total credit hours by adding one credit hour to MTH-90: Calculus w/Analytic Geometry I. Faculty have indicated that the timing worked out nicely with the additional hour allowing more time for students to master the material and create a better transfer. This has been followed by an update to MTH-210: Calculus w/Analytic Geometry II to remove some overlap material. • Studied options, selected and implemented new placement tool, ALEKS. Effectiveness of cut scores and other policies continue to be reviewed.

	• Faculty Mentoring Program: Implemented during FY14. This program continues in the math *department and is now being expanded to a few other departments on campus. • The division invited professionals from surrounding businesses such as Argonne and Fermilab to be judges in the Skyway STEM competition. Faculty have connected students with people at these companies to secure internships and scholarships. • A second and third Smart Board have been installed in Math classrooms. Faculty who use the Smart Boards found that it aids greatly in their teaching, allowing for a more interactive classroom. Students appreciate the dual projection and ability to interact with the material in a more engaging way. Faculty continue to request to use the Smart Boards and have collegially agreed to take turns in that room. Additional Smart Boards would alleviate that challenge.

REVIEW ANALYSIS

Complete the following fields and provide concise information where applicable. Please do not insert data sets but summarize the data to completely answer the questions. The review will be sent back if any of the below fields are left empty or inadequate information is provided.

Indicator 1: Need	**Response**
1.1 What mechanisms are in place to determine programmatic needs/changes for AA, AS, AFA, and AES academic programs? How are programmatic needs/changes evaluated by the curriculum review committee and campus academic leadership?	Institutionally, degree requirements are vetted through the faculty-led Curriculum Committee and approved proposals are forwarded to the Vice President. Within this proposal process, initiators are encouraged to review implications and discuss potential changes with the affected division's faculty and administration. Where larger conversations are needed, such as the recent change to the AS degree requirements, an ad-hoc cross-functional group is formed. Where relevant, data is provided by Institutional Research to inform discussion and decisions. The department regularly works with faculty at other community colleges in the state to ensure consistency at the 2-year level. Additionally, faculty work closely with the Transfer Coordinator with 4-year institutions around the state to improve course and degree transferability. Then, status is communicated directly

	to Advising through regular meetings and updates to ensure the most up-to-date information is being given to students. In 2017, a cross-functional team which originated in Curriculum Committee studied the state requirements for the A.S. degree and the GECC (General Education Core Curriculum), and subsequently revised the Math courses and credits which would apply towards the degree. Widening the scope in this fashion should allow more flexibility for students with math-intensive majors to complete the A.S. degree by applying upper-sequence courses towards the Math/Science portion of the requirements rather than to elective credit. See catalog page at the end of this chapter.
1.2 How are students informed or recruited for this program?	The wide variety of offerings to fulfill degree requirements are a benefit to students. Faculty work with Advising to help students understand the best course selections for their educational goals, as well as the message to not delay or avoid taking a math course. Though low enrolled, the two technical math courses (MTH-107: Technical Math I, MTH-109: Technical Math II) currently serve students in the A.A.S. degree programs in the Career Tech Education areas, particularly students working toward degrees and certificates in Industrial Machine Tool, Welding, and transfer students who need a vocational math course for residency requirements. Growth is anticipated for these courses with the new Computer Integrated Manufacturing degree over the next five years. The program offers a variety of scheduling options to meet student needs. All developmental and general education courses are offered in day and evening schedules at least one semester each year. Overall, approximately 25% of all sections are in the evening. Developmental through College Algebra are also offered as late-start 12-week sections, which allows students to step back in the sequence if they find a course too challenging at the start of a term. A Saturday section of General Education Statistics course has been well received and a wide array of courses are also offered in an eight week summer term. Summer sections are well attended by new freshmen, those in education or STEM majors where the number of

	courses required extends their two year degree by a semester, and local students who reverse-transfer from other 4-year schools. Support and co-curricular functions also serve to recruit and retain students. The Math Lab is open for students enrolled in any course and has space, technology and faculty to help students with their homework. Mu Alpha Theta is a National Mathematics Honors Society available to qualifying students. Faculty and students have started an Engineering Club and several students have participated in the Skyway STEM competition. Statistics (MTH-120) students have participated in the Annual Excellence in Honors Competition and won in the Research category. The annual Integration Contest gives Calculus II and above students, an opportunity to practice their strategies for solving integrals in a competitive setting. The contest happens toward the end of each semester and it offers great incentives for the top winners. Lastly, the program has helped host the STEM Skyway Competition and the annual WYSE competition for local high school districts. Skyway gave students an opportunity to explore projects related to their courses. WYSE has helped the college maintain a stronger connection with local high schools, and during the competition, faculty have provided some mathematics presentations to engage students with mathematics and the math courses offer at the college.
INDICATOR 2: COST EFFECTIVENESS	***RESPONSE***
2.1 What are the costs associated with this discipline?	The operational costs associated with the Math department include: salaries and benefits (97%), office and instructional supplies (<1%), printing (2%), computer software (<1%), and travel (<1%). There are currently twelve full-time faculty and approximately 52 part-time faculty in the department, including two instructional coordinators who share duties. Aside from printing, salaries and benefits are the only significant costs associated with this area. Salary costs have gradually increased over the last five years as salaries and benefits have increased at the College. This applies to the math department as a whole, including the developmental courses. The revenue collected through tuition and fees

	(approximately $3M) more than pays for the expenses (approximately $2M) associated with running the Math department each year. Revenue from tuition has increased steadily each year with an increase of 17% over the last five years. Overall revenue in the Math department since FY2013 has increased by 9%. Salary and benefits have shown small increases in comparison, with an overall increase of 3% since FY2013.
2.2 What steps can be taken to offer curricula more cost-effectively?	Operational expenses have been reduced by approximately $15,000 in the last year to due to strategic budgeting and cost containment measures put into place with regard to printing. The Math department has collectively agreed to reduce non-essential printing; there have been no complaints from students regarding decreased resources. The Dean monitors enrollment numbers carefully and has been strategic in making decisions about which sections to offer each semester.
2.3 Is there a need for additional resources?	Additional faculty would assist the department to be more innovative, productive and involved in campus and district wide projects. A proposal for two new math faculty positions has been submitted to cabinet for approval. The department continues to undergo new curriculum development to accelerate students' pathways to college-level math classes. As developmental education math sections are slowly replaced by more college-level sections on the schedule each semester, this may result in additional budgetary expenses for the program as a whole. College-level math courses often require access to specialized software or technology which may need to be purchased within the next five years. Additional computer lab space is needed to support innovation in the classroom. There are not enough computer labs for classes that need to exist in the computer classrooms (such as excel-based MTH-104) in addition to other sections that want computer lab space on a weekly or occasional basis. In 2017, the department implemented a "portable lab" pilot. A laptop cart was on loan for face-to-face classes to check out when needed for instruction. The pilot was

	immediately popular to classes for online projects, viewing academic websites, and start-up help with specific course software. Based on this success, the department would like to obtain its own portable laptop cart(s) for use in face-to-face classes to address the dire need for more class computer access. Additionally, the math department will be investigating new ways to schedule sections in order to more effectively utilize the two computer lab classrooms that are dedicated to the math department. Lastly, a small team within the department has researched and recommended a computer monitoring software for the labs which can ensure more student focus and academic integrity.
INDICATOR 3: QUALITY	***RESPONSE***
3.1 Are there any alternative delivery methods of this discipline? (e.g. online, flexible-scheduling, accelerated, team teaching, etc.)?	The department has had two faculty who have piloted a flipped classroom model where students use online instruction to prepare for the face-to-face classroom activity. Hybrid courses are also offered, which supplement face-to-face classroom hours with technology learning and assessment activity outside of class. Through discussions with colleagues across the state, the program discovered that the college does not offer as many online or hybrid math options as peer institutions. Faculty continue to discuss the related pedagogical concerns about several math classes in these formats and will continue to collect and study enrollment data for distance learning accessibility. Faculty have a felt need for additional proctored testing space, computers, staff, and expanded hours for required proctoring in strictly online courses. Budget cuts have scaled back staff in this area. A new test scheduling software will be implemented over the next five-year cycle to assist students by spreading out the testing appointments for shorter waiting times.
3.2 If the college delivers the course in more than one method, does the college compare success rates of each delivery method? If so, how?	Yes. As part of the review process, Institutional Research provides programs with pivot tables which display five-year trends in retention and success rates by course and modality, and provides an average for each modality for comparison. The tele-course modality was sunset college-wide several years ago

	upon reflection on the data which showed its reduced levels of success. Aside from MTH-101 and 102, success rates in online sections were significantly lower than those of traditional sections, though this is to be expected in mathematics at any community college. Recently, encouraging retention rate increases were seen in online sections of MTH-102 and MTH-120. This trend may be attributable to the new and increased efforts by faculty to connect students to additional online resources and a push to more clearly and frequently stated student expectations at the start of the semester.
3.3 What assessments does the discipline use to measure full-time and adjunct instructor performance in the classroom?	Faculty evaluation at the *classroom* level is executed by the dean's office and governed by the processes outlined in the college's Faculty Evaluation Handbook. Frequency and format of the evaluation differs based on employment status and membership in the faculty union. Various assessments are conducted by each program at the *course* level to monitor and improve student learning. Specific to this program, implementation of programs such as the Mentoring program and the Math Professional Day, consistently communicate to potential faculty that their success at the college is a priority to the department.
3.4 How does the discipline identify and support at-risk students?	The department holds monthly meetings where many topics are discussed with faculty plus the dean and associate dean. Additionally, one benefit of the math department faculty now being primarily located in the same building is the benefit of "Hallway" conversations. Regularly, faculty can be found in the hallways and shared offices having conversations about curriculum and pedagogy. Many materials and ideas are also communicated via email and via the electronic Math Department Handbook. Because many students carry math anxiety with them from prior experiences, faculty are familiar with the Growth versus Fixed Mindset paradigm, and emphasize the theory within the classroom. The department also clearly and regularly attempts to connect students with the Tutoring Center, Math Lab

	and other services having additional supports for unprepared or underperforming students. The Math Lab is a great resource where students can dialogue together and ask a math professional questions. The lab has 11 computers, printers, reference textbooks, and supplies to assist students. It also boasts two break out rooms that can be used for group study. The Math Lab is marketed in the New Student Orientation guide and is usually found in the syllabus of most instructors. For over ten years, the program has supported students in developmental courses by offering free Final Exam Review Workshops. Two transfer level workshops were added to the repertoire in 2017: MTH-102 and MTH-112. The workshops are marketed in the Math Lab, Tutoring Center, and by each individual instructor who is emailed a schedule. Several courses use online homework software which has become a popular formative assessment tool and source of skill remediation. Math faculty also use advanced graphing and calculation technologies inside and outside the classroom to enhance student learning in Algebra, Trigonometry, Statistics, and Calculus. These include Maple, Wolfram Alpha, Geogebra, Excel, Stat Crunch and DESMOS. Graphing calculator sessions are offered, particularly for MTH-112 (College Algebra). The two-hour workshop is generally offered twice at the beginning of a semester. Marketed in the Math Lab and in MTH-112 classes, the workshop exists to assist students unfamiliar with graphing calculator features, to increase their success in this course.
3.5 To what extent is the discipline integrated with other instructional programs and services?	The math department has previously partnered with all other departments in the division, the English and Reading departments, the department of Developmental Education and College Transitions, Marketing, IT, Registration, Advising, Tutoring, SSI, and many others to ensure maximized potential for the primary services of the math department. Several courses are part of the college's Accelerate College program with high schools in Districts 300 and 303 which allows high school students to get a head start by potentially earning college credit while dually enrolled in high school. These courses currently

	include: MTH-102, MTH-104, MTH-112, MTH-120, MTH-125, MTH-190, MTH-210 and MTH-230.
3.6 What does the discipline or department review when developing or modifying curriculum?	The math department has had many conversations about curriculum and programmatic issues in the past five years. These conversations always begin at a department meeting where all faculty members are invited to be part of an ad hoc committee. The following topics have been addressed by various committees: • Revising the Calculus sequence • Expanding Linear Algebra and Differential Equations • Discussing a potential Pre-calculus class • Implementing PMGE • Removing geometry as a prerequisite to our general education math classes • Changing placement cut for groups 1A and 1B • Implementing study skills outcomes in MTH-096 • Revising overlap in 096 and 098 outcomes • Changing pedagogy across all sections of MTH-104 to make it Excel based • Selecting an open course MTH-114 text • Discussing the change to requirements in middle school teachers. Such continual study and implementation require significant time investment. Additional full-time faculty would build additional capacity on topics such as placement (ALEKS) and course success rates and dual-credit development. Course outcomes and credit hours have been modified to align more closely with 4 year institutions. The ability and ease of courses to transfer to four-year schools are paramount. In October 2017, discussions at the IAI meeting resulted in changes to math-intensive STEM courses (MTH-190, 210, 230, 240 and 250) which incorporated the idea that the targeted weight for required, comprehensive finals should be at least 15% of the student's overall grade. These type of stipulations assist the college's courses to transfer to 4 year institutions. Differential Equations (MTH-250) and Linear Algebra (MTH-240) typically are not accepted at many Illinois universities, but with reconfigured content and an additional credit hour

	(MTH-250) and sample student assessments and syllabi, the courses will now transfer to many schools in the state, including University of Illinois, UIC, NIU, and IIT.
3.7 When a course has low retention and/or success rates, what is the process to address these issues?	These actions are similar to item 3.4 above. As a more specific example, faculty use Spartan Alert, an early alert system that connecting students to available resources on campus and helps identify underlying issues that prevent student success. In terms of student retention and success, some of the challenges that exist deal with college readiness, placement, and math anxiety. The department is keen to eliminate any detrimental effect of student misplacement. The new placement system (ALEKS) was implemented in October 2017. There has since been constant collaboration with the college's Testing Center as well as ALEKS professionals, to assess placement into specific classes and measure success. Such study may tweak ALEKS placement measures ensure optimal students success without limiting access. The program is also ramping up marketing efforts to encourage students to use the ALEKS modules to refresh their knowledge and retake the placement test multiple times. The math department fully participates in the college's annual Course Assessment process and has won several awards. Significant time and effort is devoted to collecting and analyzing data regarding student learning, and then in reporting and sharing the findings with faculty. Where room for improvement is found, updates are made to the course's Instructor File, which helps ensure the recommendations are incorporated into future sections. For example, in MTH-230, students narrowly missed expectations to understand the relationship between partial derivatives and the graph of a function of two variable. Resulting changes included communicating to instructors to increase student exposure to visual aides to graphically interpret partial derivatives. In addition, the textbook was changed to include more helpful visuals and faculty are encouraged to use 3D graphing technology throughout their instruction of Calculus III.

LIST ANY BARRIERS ENCOUNTERED WHILE IMPLEMENTING THIS DISCIPLINE.
Faculty spent extensive time finding a placement tool to replace COMPASS and implementing new policies to reduce barriers and encourage more accurate placement. Continual study will be needed as the state moves to use SAT in place of ACT. The Math Department is pleased that ALEKS contains a remediation component for students to study forgotten topics, particularly with the high number of students who do not take math in their last year of high school and after that gap are taking college placement tests. High school grades, ACT scores, and retake policies are all a part of the new "multiple measures" placement strategy at Elgin Community College. As discussed above, there is a desire to incorporate more use of active and interactive technology in the classroom, but there are constraints related to space and scheduling to address.

DATA ANALYSIS FOR ACADEMIC DISCIPLINES Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5 year longitudinal data available.					
ACADEMIC DISCIPLINE AREA	Mathematics				
COURSE TITLE	**MTH-102: General Education Statistics**				
COURSE DESCRIPTION	An introductory course in descriptive and inferential statistics for students in liberal arts and health-related fields. Applications and concepts are emphasized rather than theoretical formulations. Calculators and computers will be used to help make statistical ideas more accessible to students.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
NUMBER OF STUDENTS ENROLLED (DUPLICATED SEATS)	584	584	656	728	758
CREDIT HOURS PRODUCED	1,752	1,752	1,968	2,184	2,274
SUCCESS RATE (% C OR BETTER) AT THE END OF THE COURSE, EXCLUDING WITHDRAWALS AND AUDIT STUDENTS	77.2%	74.8%	75.6%	75.8%	75.6%
IAI STATUS (LIST CODE) OR FORM 13 STATUS (LIST SIGNATURE DATES AND INSTITUTIONS)	M1 902	M1 902	M1 902	M1 902	M1 902
COURSE TITLE	**MTH-104: Liberal Arts Mathematics**				
COURSE DESCRIPTION	This course focuses on mathematical reasoning and the solving of real-life problems, rather than on routine skills and appreciation. Finance, statistics, and mathematical modeling are studied in depth, with one optional topics chosen from the following list: probability, graph theory,				

	logic/set theory, and game theory. The use of graphing calculators and/or computers is required.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
Number of Students Enrolled (Duplicated seats)	(N/A)		183	198	261
Credit Hours Produced	(N/A)		549	594	783
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	(N/A)		81.6%	78.6%	84.7%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)			M1 904		
Course Title	**MTH-110: Math for Elementary Teaching I**				
Course Description	This course of a two-part sequence that meets the requirements for state certification in elementary teaching. Problem-solving and mathematical reasoning are main threads throughout the course. The course content includes: whole numbers, integers, rational numbers, sets, reasoning, numeration systems, number theory, and real numbers. Course pedagogy involves students as active participants in the learning process. The two-course sequence, MTH-110/113, fulfills the Illinois Transferable General Education Core Curriculum requirement only for students seeking state certification as elementary teachers or special education teachers.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
Number of Students Enrolled (Duplicated seats)	105	86	101	95	58
Credit Hours Produced	315	258	303	285	174
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	94.3%	96.5%	91.0%	88.3%	85.2%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	ISU, 2/2016; NEIU, 2/2016; UIS, 1/2016				
Course Title	**MTH-112: College Algebra**				
Course Description	Study of more advanced algebraic theory and techniques required the study of calculus. Topics include: properties of functions and their graphs; classes of functions including				

	polynomial, rational, exponential, and logarithmic; systems of equations; theory of equations, conic sections; sequences, series, and binomial expansion.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
Number of Students Enrolled (Duplicated seats)	969	1,019	1,028	1,024	1,032
Credit Hours Produced	3,876	4,076	4,112	4,096	4,128
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	73.5%	67.2%	74.4%	76.6%	75.1%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	Form 13s on file are out-of-date. A current search on Transferology indicates acceptance, including Northern Illinois University, Illinois State University, University of Illinois Urbana & Chicago. See chapter addendum.				
Course Title	**MTH-113: Math for Elementary Teaching II**				
Course Description	The second course of a two-part sequence that meets the requirements for state certification in elementary teaching. Problem-solving and mathematical-reasoning are main threads throughout the course. The course content includes: functions, statistics, probability, geometric figures, and measurement. Course pedagogy involves students as active participants in the learning process. The two-course sequence, MTH-110/113, fulfills the Illinois Transferable General Education Core Curriculum requirement only for students seeking state certification as elementary teachers or special education teachers.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
Number of Students Enrolled (Duplicated seats)	50	59	70	66	48
Credit Hours Produced	150	177	210	198	144
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	94.0%	98.3%	94.2%	83.1%	82.6%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1 903				
Course Title	**MTH-114: Trigonometry**				

COURSE DESCRIPTION	The primary objective of this course is to prepare students for calculus and post calculus courses. Topics include analytical geometry, trigonometric functions, trigonometric identities, inverse trigonometric functions, and solving trigonometric equations.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
NUMBER OF STUDENTS ENROLLED (DUPLICATED SEATS)	334	283	326	351	323
CREDIT HOURS PRODUCED	1,002	849	978	1,053	969
SUCCESS RATE (% C OR BETTER) AT THE END OF THE COURSE, EXCLUDING WITHDRAWALS AND AUDIT STUDENTS	67.9%	72.2%	74.5%	68.4%	73.2%
IAI STATUS (LIST CODE) OR FORM 13 STATUS (LIST SIGNATURE DATES AND INSTITUTIONS)	Northern Illinois University 6/29/16, Illinois State University 2/9/16, University of Illinois at Urbana-Chicago 3/4/16				
COURSE TITLE	**MTH-120: Statistics I**				
COURSE DESCRIPTION	An introductory course in probability and statistics. The ability to handle basic algebraic manipulation is a prerequisite skill. The emphasis of the course is on the use rather than the derivation of the formulas and theorems. The aims of the course are to provide the student with a working knowledge of statistics in order to follow the statistics in the literature of his/her particualur field and to provide an introduction for more advanced work in statistics. Major topics are: frequency distributions, sampling, testing hypothesis, regression, correlation, analysis of variance, chi-square, and probability. These and other topics are approached from a fundamental viewpoint to make the study both sound and useful.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
NUMBER OF STUDENTS ENROLLED (DUPLICATED SEATS)	317	318	311	379	404
CREDIT HOURS PRODUCED	1,268	1,272	1,244	1,516	1,616
SUCCESS RATE (% C OR BETTER) AT THE END OF THE COURSE, EXCLUDING WITHDRAWALS AND AUDIT STUDENTS	83.6%	81.4%	79.5%	80.4%	86.4%
IAI STATUS (LIST CODE) OR FORM 13 STATUS (LIST SIGNATURE DATES AND INSTITUTIONS)	M1 902/BUS901				

COURSE TITLE	**MTH-123: Computer Science for Engineers**				
COURSE DESCRIPTION	This course is an introduction to computer programming with a strong emphasis on mathematical applications relevant to science and engineering. Students will learn a disciplined approach to problem-solving and algorithm development using selection, repetition and sequence control structures. Programming topics will include an introduction to basic hardware and operating systems, storage and variables, procedural and data abstraction, parameter passing, arrays, strings, data files, error-handling, program-testing, documentation, and proper programming style. Mathematical topics will include matrices, linear interpolation, convergence, linear regression, roots of functions, and solution of simultaneous linear equations, graphing, and numerical integration. This course will be taught using the C++ programming language.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
NUMBER OF STUDENTS ENROLLED (DUPLICATED SEATS)	24	34	39	29	15
CREDIT HOURS PRODUCED	96	136	156	116	60
SUCCESS RATE (% C OR BETTER) AT THE END OF THE COURSE, EXCLUDING WITHDRAWALS AND AUDIT STUDENTS	78.3%	87.5%	89.2%	92.9%	66.7%
IAI STATUS (LIST CODE) OR FORM 13 STATUS (LIST SIGNATURE DATES AND INSTITUTIONS)	Major: CS 911				
COURSE TITLE	**MTH-125: Finite Math for Business and Management**				
COURSE DESCRIPTION	Emphasis applications of mathematics in business and the social sciences. Topics include functions, graphical and algebraic methods for solving systems of linear equations, matrices and matrix algebra, systems of inequalities and linear programming, the simplex methods, spreadsheet solutions to linear programming problems, set theory, logic and Boolean algebra, counting and probability theory, and Markov chain methods.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
NUMBER OF STUDENTS ENROLLED (DUPLICATED SEATS)	118	130	122	101	108
CREDIT HOURS PRODUCED	354	390	366	303	324

Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	89.3%	88.5%	83.9%	95.0%	87.7%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1 906				
Course Title	**MTH-126: Calculus for Business/Social Science**				
Course Description	An introductory course in differential and integral calculus for students majoring in business or the social or life sciences. A working, rather than a theoretical, knowledge of calculus concepts and applications is emphasized.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
Number of Students Enrolled (Duplicated seats)	238	246	226	263	267
Credit Hours Produced	952	984	904	1,052	1,068
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	86.0%	77.2%	80.1%	80.2%	81.1%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1 900-B				
Course Title	**MTH-190: Calculus with Analytic Geometry I**				
Course Description	This is the first of three courses in the calculus sequence. Families of function include polynomial, rational, radical, trigonometric, inverse trigonometric, exponential and logarithmic. Topics include limits and continuity; the definition of derivative, rate of change, and slope; differentiation including product, quotient, chain rules, high order derivatives, and implicit differentiation; applications of derivatives including extrema, Mean Value Theorem, first and second derivative tests, related rates, optimization, and differentials; integration including definite and indefinite integration, area, The Fundamental Theorem of Calculus, and differential equations.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
Number of Students Enrolled (Duplicated seats)	311	319	292	313	291
Credit Hours Produced	1,244	1,276	1,168	1,252	1,455

Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	77.1%	72.7%	72.8%	75.2%	66.5%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1 900-1/MTH 901				
Course Title	**MTH-210: Calculus with Analytic Geometry II**				
Course Description	This is the second of three courses in the calculus sequence. Topics include applications of integration, analytical integration techniques, and numerical integration techniques; indeterminate forms, *L'Hopital's* Rule, and improper integrals; sequences and series, convergence tests, power series, Taylor polynomials, and Taylor series; parameterization of curves, and calculus of parametric curves; calculus of polar coordinate system, and conic sections.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
Number of Students Enrolled (Duplicated seats)	182	180	210	210	201
Credit Hours Produced	910	900	1,050	1,050	1,005
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	76.3%	77.9%	78.5%	78.7%	74.9%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1 900-2/MTH 902				
Course Title	**MTH-230: Calculus with Analytic Geometry III**				
Course Description	Third and final course in the calculus sequence. Topics include the following: vectors in 2 and 3 dimensions: planes and lines in space, surfaces and quadric surfaces, space curves; cylindrical and spherical coordinates; vector-valued functions and their graphs; functions of two or more variables; partial derivatives, directional derivatives, gradients; double and triple integrals; applications involving functions of several variables; vector fields, line integrals and Green's Theorem; parametric surfaces, surface integrals, the Divergence Theorem, and Stokes' Theorem.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
Number of Students Enrolled (Duplicated seats)	79	105	122	68	108

Credit Hours Produced	395	525	610	340	540
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	68.4%	80.6%	78.4%	84.6%	81.1%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1 900-3/MTH 903				
Course Title	**MTH-240: Introduction to Linear Algebra**				
Course Description	First course in vectors and matrices, vector spaces, and linear transformations. The ideas discussed not only serve as good introduction to the more abstract courses a mathematics student meets at the junior-senior level, but they also have many useful applications outside of mathematics. Covers the following topics: vectors, matrices, operations on matrices, inverse of a matrix, solutions of systems of linear equations, rank of a matrix, vector spaces and subspaces, linear dependence and independence, basis and dimension, linear transformations, sums, composites, inverses of linear transformation, and eigenvalues, inner products and orthogonality, including the Gram- Schmidt process. Quadratic forms and other additional topics could be included, as time permits.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
Number of Students Enrolled (Duplicated seats)	(N/A)	10	10	6	0
Credit Hours Produced		40	40	24	0
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students		100%	66.7%	83.3%	N/A
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	MTH 911				
Course Title	**MTH-250: Differential Equations**				
Course Description	Topics include linear equations of first order, linear equations with constant coefficients, general linear differential equations, variation of parameters, the method of undetermined coefficients, linear independence and the Wronskian, exact equations, separation of variables, and various applications of these. In addition, the course covers systems of linear differential equations, the Laplace				

	transform, series methods in solving differential equations, and an introduction to boundary value problems.				
	FY13	*FY14*	*FY15*	*FY16*	*FY17*
Number of Students Enrolled (Duplicated seats)	30	55	55	41	55
Credit Hours Produced	90	165	165	164	220
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	77.8%	94.5%	84.9%	97.5%	96.3%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	MTH 912				
How does the data support the course goals? Elaborate.	Math success rates are typically lower than those of other subjects, due to the compounding nature of the material and historical trend of underprepared students. Therefore, faculty are not alarmed by these success rates. Courses with fewer students enrolled are also going to fluctuate more year to year. The largest decline in success from year 4 to year 5 (38%) was in MTH-123: Computer Science for Engineers. The course was taught in a rotation of instructors from the Math and Computer Information Science departments, but is now taught only by CIS faculty. Over time, math faculty with credentials to teach this course have retired. In addition, the math department had increased the number and quality of higher-level math course offerings to students, namely the revised Differential Equations and Linear Algebra courses. This provides students alternate math credit options to fill up their major requirements. MTH-240: Linear Algebra is also consistently low enrolled, but ran 3 consecutive years in the 5-year cycle, a frequency the program hopes to sustain.				
What disaggregated data was reviewed?	Within CTE programs and for transfer degree recipients, statistics are shown for primary breakdowns in gender, age and race/ethnicity. The college will be collaborating with Institutional Research to determine if similar demographic analysis can be helpful at the *discipline/course* level. Across the college, faculty are very interested in closing achievement gaps and participate in institutional efforts to raise achievement for all students. Disaggregation is provided for course modality, honors and for early college credit students, such as tech prep, middle college				

	and Accelerate College. As these populations expand the college will study their performance as compared to their standard counterparts.
WERE THERE IDENTIFIABLE GAPS IN THE DATA? PLEASE EXPLAIN.	As previously mentioned, the department is very interested in placement and how it relates to course success and progression. The program has also investigated success data that breaks out the metrics based on how a student entered a particular course, such as placement into it or matriculation through a sequence, and in particular, if they progressed up through developmental education. The ideal outcome is that successful completion of developmental coursework sufficiently prepares students to succeed in the next level course at similar rates to other students. The department has begun establishing baseline data to track this given the most recent changes to the developmental and general education course options.
ACADEMIC COURSE REVIEW RESULTS	
Intended Action Steps Please detail action steps to be completed in the future based on this review with a timeline and/or anticipated dates.	**Upcoming academic year:** • Implement and evaluate a co-requisite model for MTH-104. (Nicole Scherger, Michelle Turner, Dan Kernler) – FA18 • Develop and evaluate a geometry placement instrument using ALEKS (Dan Kernler and Greg Wheaton) – FA18 • Determine effectiveness of PMGE (MTH-095) by analyzing student success in college-level general education math courses (MTH-102/104) (Kenneth Beynon and new faculty) – SP19 • Analyze ALEKS data to determine effectiveness of placement (Dan Kernler and new faculty) – SP19 • Update department course flow cart graphic to reflect new courses and changes to AS degree requirements – FA18 **Next five years:** • Investigate transitional math requests and assist with course development for interested high schools (Abby Bailey and Lori Jones) – FA19 • Continued analysis of ALEKS data to determine effectiveness of placement (Dan Kernler and new faculty) – AY20 • Continued research and investigation into co-requisite models. (Nicole Scherger, Michelle Turner, Dan Kernler) – AY20 • Explore the necessity of adding late-start general education MTH courses

	• More concerted effort to document, communicate and implement action items resulting from course assessment.
Rationale Provide a brief summary of the review findings and a rationale for any future modifications.	Over the next five years, our department will be focusing efforts on accelerating students to college-level math course completion. Specifically, there are two committees that will be working on a co-requisite model and state-mandated transitional math course. The former enables students to enroll more quickly into a college-level math course which includes "just-in-time" remediation, while the latter will provide high school students with an immediate opportunity for college-level placement. In addition, the department will make a more concerted effort to document, communicate, and implement action items resulting from course-level assessments. Unique professional development opportunities will continue to be offered via roundtables, math professional days, and mentoring. Lastly, the department seeks to conduct ALEKS placement data analysis, improve course-level success rate analysis, and better utilize lab space.
Resources Needed	The program will need more full-time faculty to serve on the committees mentioned above and spearhead course-level success analysis. There will be various meetings, conferences, and trainings associated with both co-requisite model and transitional math implementation. There is a need for additional lab space, a mobile laptop cart, or other such resources to best meet the technical needs of instructors. Lastly, the program looks forward to continued support from CETL (Center for Enhancement of Teaching and Learning) to host math-specific trainings and workshops. This support would mainly be in the form of available alternate lane credit and event marketing.
Responsibility Who is responsible for completing or implementing the modifications?	As noted above, key faculty will lead various goals.

MAS 243 Massage Therapy Practice Clinic III (1.5) ..... (0, 3)

Prerequisite: MAS 142.

Under the supervision of instructors, students apply principles, techniques, and procedures learned to assess and treat clients, who are members of the community, individually in a setting that simulates a professional therapeutic massage practice. Students will serve as, and gain experience as, both a massage therapist and an office manager. Students will also practice short massage event sequences and appropriate event intake. Students will demonstrate professional therapeutic communication skills, the proper application of both basic and more advanced bodywork techniques, proper body mechanics and draping techniques, use proper safety and sanitation practices, demonstrate critical thinking skills, and create documentation of each session. (1.2)

Proficiency Credit: Not Available
Pass/No Credit: Not Available
NOTE: A criminal background check, drug test, and appropriate PSB-HOA test scores are required for the Massage Therapy (MAS) Program. For more information please refer to elgin.edu/massage.

MAS 250 Business for Massage Therapists (2.5) ..... (2.5, 0)

Prerequisite: Grade of C or better in MAS 110.

In this course students will learn the fundamentals of massage therapy business. Course topics will focus on the business plan, ethics, record-keeping, finances, policies, procedures, professionalism, communications, marketing, and advertising. Students will discuss target markets, as well as identify success strategies and obstacles to success when managing a business. Local business people will present during this course, sharing their experiences with students. Students will create a résumé and cover letter and practice interview skills based on their new profession as a massage therapist. Professional development, client retention, and career longevity will also be a focus of the course. (1.2)

Proficiency Credit: Not Available
Pass/No Credit: Not Available
NOTE: A criminal background check, drug test, and appropriate PSB-HOA test scores are required for the Massage Therapy (MAS) Program. For more information please refer to elgin.edu/massage.

MATHEMATICS

DEGREE REQUIREMENTS

MTH 102, 104, 120, 125, 126, 190, 210, and 230 fulfill the mathematics requirement for the Associate in Arts, Associate in Science, and Associate in Fine Arts degrees.

MTH 190, 210, 230, and 250 fulfill the mathematics requirement for the Associate in Engineering Science degree.

MTH 113 fulfills the mathematics requirement for elementary education majors only for the AA degree.

All MTH courses numbered 100 and above may be applied to the area of concentration and elective requirement for the AA and AS degrees.

All MTH courses numbered 100 and above may be used to fulfill the math requirement for the Associate in Liberal Studies degree and the math/science requirement for the Associate of Applied Science degree.

PLACEMENT FOR MATHEMATICS

Math requirements vary greatly based on a student's major, degree, or certificate. Choosing the correct math courses should be done with an ECC advisor.
Even though certain math ACT, SAT, and SAT3 scores (see below) will exempt you from the ECC math placement test, you may still wish to take it to qualify for higher level math courses.

I. Initial Placement into Transfer-Level Mathematics Courses:

Students may be initially placed into MTH 102 or 104 if they satisfy one of the following:

1. Math ACT score of 23 or higher.
2. Math SAT score of 540 or higher.
3. Math SAT3 score of 570 or higher.
4. Appropriate score on ECC's math placement test for placement into MTH 102 or 104.
5. Score on ECC's math placement test for placement into MTH 098 and an unweighted high school GPA 3.5/4.0 with a C or better in both semesters of second year high school algebra.
6. Successful completion of a transfer-level mathematics course at another institution.

Students may be initially placed into MTH 110 or 112 if they meet ECC's geometry prerequisite* and satisfy one of the following:

1. Math ACT score of 23 or higher.
2. Math SAT score of 540 or higher.
3. Math SAT3 score of 570 or higher.
4. Appropriate score on ECC's Math Placement Test for placement into MTH 110 or 112.
5. Score on ECC's Math Placement Test for placement into MTH 098 and an unweighted high school GPA 3.5/4.0 with a C or better in both semesters of second year high school algebra.
6. Successful completion of an approved transfer-level mathematics course at another institution.

Students may be initially placed into MTH 114, 120, 125, 126, or 190 if they meet ECC's geometry prerequisite* and satisfy one of the following:

1. Math ACT score of 28 or higher.
2. Appropriate score on ECC's math placement test for placement into each respective course.
3. Successful completion of the equivalent course at another institution.

II. Initial Placement into Developmental Mathematics Courses:

Students who do not have an appropriate ACT, SAT, or SAT3 score will be required to take ECC's math placement test, which will determine the initial placement into developmental or transfer level courses.

All students must also satisfy ECC's geometry prerequisite* before taking MTH 110 or 112.

*All students wishing to enroll in any transfer-level mathematics courses, except MTH 102 and 104, must first satisfy ECC's GEOMETRY PREREQUISITE, which can be accomplished by satisfying one of the following:

1. C or better in two semesters of high school geometry.
2. Appropriate score on ECC's math placement test.
3. Appropriate score on ECC's geometry placement test.
4. C or better in MTH 097.
5. Successful completion of an approved transfer-level mathematics course at another institution.

Go to elgin.edu/testing for more information regarding placement testing.

TRANSFER SEQUENCES

Science, engineering, and mathematics majors should try to complete the sequence MTH 112, 114, 190, 210, 230, 250, and possibly 240, depending on their transfer institution's requirements. Entrance into this sequence depends on previous background in high school or college, and it may not be necessary to start at the beginning of the sequence.

Business and social sciences students should complete MTH 120, 125, and/ or 126, depending on their transfer institution's requirements.

Questions on math course sequences may be determined by a conference with a member of the Mathematics Department or the advising staff.

DEVELOPMENTAL STUDIES

MTH 090, 095, 096, 097, 098, and 099 make it possible for students with skill deficiencies to prepare for regular college-level courses before or in conjunction with enrollment in college courses.

Developmental studies courses are distinguished from other courses by a prefix code numbered below 100. They are not intended for transfer and cannot be used to fulfill the requirements of any associate degree.

Course	Fall	Spr	Sum	Varies
MTH-090	X	X	X	
MTH-095	X	X		
MTH-096	X	X	X	
MTH-097	X	X	X	
MTH-098	X	X	X	
MTH-099	X	X		
MTH-102	X	X	X	
MTH-104	X	X	X	
MTH-107	X	X		
MTH-109	X	X		
MTH-110	X	X	X	
MTH-112	X	X	X	
MTH-113	X	X	X	
MTH-114	X	X	X	
MTH-120	X	X	X	
MTH-123	X	X		
MTH-125	X	X	X	
MTH-126	X	X	X	
MTH-190	X	X	X	
MTH-210	X	X	X	
MTH-230	X	X		
MTH-240			X	
MTH-250	X	X		

MTH 090 Pre-Algebra (3)..... .(3, 0)

Prerequisite: None

This course is designed as a review of the basic operations of arithmetic and an introduction to algebra. The emphasis is on operations with fractions, decimals, percents, and signed numbers. It is intended for the student who needs a review of arithmetic and pre-algebra skills. This course precedes technical math or beginning algebra. (1.4)

Proficiency Credit: Not Available
Pass/No Credit Not: Available

MTH 095 Preparatory Math for General Ed (6).....(6, 0)

Prerequisite: Grade of C or better in MTH 090 or appropriate placement score.

This course focuses on developing mathematical maturity through problem-solving, critical thinking, data analysis, and the writing and communication of mathematics. Students will develop conceptual and procedural tools that support the use of key mathematical concepts in a variety of contexts. The instruction should emphasize the connections between verbal, numerical, symbolic and graphical representation of the concepts being taught whenever possible. Emphasis should be placed on modeling and problem-solving, with techniques and manipulations covered in context. The appropriate use of technology, such as a graphing calculator, is strongly encouraged. Course is repeatable three times. (1.4)

Proficiency Credit: Not Available
Pass/No Credit: Not Available

MTH 096 Basic Algebra (4).....(4, 0)

Prerequisite: Grade of C or better in MTH 090 or appropriate placement test score.

This course is designed to be a first course in algebra. Although emphasis is placed on techniques and manipulations, problem-solving and logical reasoning are main threads throughout the course. Topics include: operations and properties of real numbers; linear equations and inequalities in one and two variables; systems of linear equations in two variables; operations with polynomials including factoring; polynomial equations; and applications. Additionally, the course includes study skills strategies. Course is repeatable three times. (1.4)

Proficiency Credit: Not Available
Pass/No Credit: Not Available

MTH 097 Plane Geometry (3).....(3, 0)

Prerequisite: Grade of C or better in MTH 095 or MTH 096 or appropriate placement test score.

Plane Geometry is a one-semester course which covers the fundamental concepts of geometry for students who lack credit in one year of high school geometry or need a review of the subject matter. This course is designed to prepare students for further work in mathematics and many math-related fields. The subject is developed in the context of a logical system with constructions, numerical problems, symbolic and graphical representations, deductive reasoning, algebraic concepts, geometric theorems, integrating problem-solving, and applications throughout the course. Course is repeatable three times. (1.4)

Proficiency Credit: Not Available
Pass/No Credit: Not Available

Acceptance status of MTH-112: College Algebra within Transferology, 7/25/18

Northern Illinois University ☆

1 Match

The matches below indicate specific courses you may be awarded after transferring, assuming you earned a passing grade in the transferred course. Matches may change depending upon your choice of major.

Courses from:

Elgin Community College

- MTH112 COLLEGE ALGEBRA 2018 → MATH110

University of Illinois At Chicago ☆

1 Match | **1 Miss**

The matches below indicate specific courses you may be awarded after transferring, assuming you earned a passing grade in the transferred course. Matches may change depending upon your choice of major.

Courses from:

Elgin Community College

- MTH112 COLLEGE ALGEBRA 2018 → MATH110

Illinois State University ☆

1 Match | **1 Miss**

The matches below indicate specific courses you may be awarded after transferring, assuming you earned a passing grade in the transferred course. Matches may change depending upon your choice of major.

Courses from:

Elgin Community College

- MTH112 COLLEGE ALGEBRA 2018 → MAT119

University Of Illinois At Urbana - Champaign ☆

1 Match

The matches below indicate specific courses you may be awarded after transferring, assuming you earned a passing grade in the transferred course. Matches may change depending upon your choice of major.

Courses from:

Elgin Community College

Expand all notes

- MTH112 COLLEGE ALGEBRA 2018 → MATH112

Developmental Math	
College Name:	**Elgin Community College**
Fiscal Year in Review:	**FY 2018**
Review Summary	
Program Objectives What are the objectives or goals of the program/discipline?	Objectives for the developmental sequence in the college's mathematics department is to prepare students for college-level math courses as well as to satisfy minimum competency requirements in other transfer courses with a basic math skill pre-requisite. The developmental sequence is now branched to accommodate a student's future goals, either Science, Technology, Engineering, and Mathematics (STEM or non-STEM) focused.
To what extent are these objectives or goals being achieved?	Program faculty have initiated curriculum changes for better topical scaffolding and alignment, routinely monitor "developmental climb" success statistics, and utilize course assessment techniques to ensure a standard experience across sections of the developmental offerings. These courses also formally include study skills as learning outcomes appearing on the outline in CurricUNET. With the introduction of MTH-095: Preparatory Math for General Education (PMGE) in Fall 2016, the developmental sequence is even more adept at meeting students' needs to complete their basic skills development. This course is for students who do not indent to pursue an A.S. or STEM focused programs and do not need to enter the college algebra/calculus sequence.
How does this program contribute to other fields and the mission of the college?	As mentioned, the developmental math sequence serves as a gateway to allow underprepared students a pathway to college-level success. In addition, program

	faculty believe that the critical thinking, problem-solving and technological skills which students learn in these courses are essential to future success in other coursework as well as in the workplace. At the college, math faculty are leading and contributing to research and implementation of best practices in placement, course design and pedagogy to ensure the best learning environment for students with developmental need. Math faculty regularly consult with other program faculty to assist in choosing the correct level of math pre-requisite to meet the skills students will need to be successful.
Prior Review Update Describe any quality improvements or modifications made since the last review period.	• The previously mentioned PMGE course compliments MTH-099: Combined Basic & Intermediate Algebra as an additional means to accelerate student progress through the developmental sequence. • After study and discussion, MTH-097: Geometry was removed as a prerequisite to general education math courses. • The department adopted a multiple-measures placement policy which allows students with a sufficiently high H.S. GPA to enroll in college-level math courses instead of needing to first complete a development course. • The department continues to study and refine common final exams for developmental courses to ensure consistent learning across sections. • Updates to topics and outcomes in the developmental courses have been sent through Curriculum Committee to reduce unnecessary overlap but still ensure sufficient scaffolding. • The math faculty participated in the development of a 4th year practical math course to be offered at district high schools. • Faculty have received additional professional development about helping students read and decode math textbooks.

	• With the sun setting of ACT's COMPASS placement test product, the program adopted Assessment and Learning in Knowledge Spaces, (ALEKS) which will allow for more accurate placement.

Review Analysis

Complete the following fields and provide concise information where applicable. Please do not insert data sets but summarize the data to completely answer the questions. Review will be sent back if any of the below fields are left empty or inadequate information is provided.

Indicator 1: Need	**Response**
1.1 Detail how the offerings are sufficient and aligned to meet the needs of students across all programs served and supportive academic programs (e.g. tutoring, co-requisite, summer bridge, AE-ICAPS, foundational mathematics).	• The math department has worked hard to create diverse offerings for students, particularly those with developmental need. This includes PMGE and the combination Algebra course (MTH-099) to help accelerate them through their developmental classes. • Math faculty participate in the college's Alliance for College Readiness to remain abreast of changes at the secondary level. • Resources at the Math Lab and the Tutoring Center also support student learning. • Math faculty are active members of Curriculum Committee, Assessment Committee and the college-wide Student Success Infrastructure initiative through Achieving the Dream.
Indicator 2: Cost Effectiveness	**Response**
2.1 What are the costs associated with this program?	Operational and faculty costs for developmental math are not separate from the college-level portion of the program. Faculty teach both types of courses. The operational costs associated with the Math department include: salaries and benefits (97%), office and instructional supplies (<1%), printing (2%), computer software (<1%), and travel (<1%). There are currently, twelve full-time faculty and approximately 52 part-time faculty in the department, including two instructional

	coordinators who share duties. Aside from printing, salaries and benefits are the only significant costs associated with this area. Salary costs have gradually increased over the last five years as salaries and benefits have increased at the College.
2.2 How is the college paying for this program and its costs (e.g. grants, etc.)?	Standard instructional funds are used for this program. The revenue collected through tuition and fees (approximately $3M) more than pays for the expenses (approximately $2M) associated with running the Math department each year.
2.3 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? If so, please elaborate.	N/A
2.4 Based upon this review, what steps are being taken to offer curricula more cost-effectively?	Revenue from tuition has increased steadily each year with an increase of 17% over the last five years. Overall revenue in the Math department since FY2013 has increased by 9%. Salary and benefits have shown small increases in comparison, with an overall increase of 3% since FY2013. Operational expenses have been reduced by approximately $15,000 in the last year to due to strategic budgeting and cost containment measures put into place with regard to printing. The Math department has collectively agreed to reduce non-essential printing; there have been no complaints from students regarding decreased resources. The dean monitors enrollment numbers carefully and has been strategic in making decisions about which sections to offer each semester.
2.5 Are there needs for additional resources? If so, what are they?	The department is undergoing new curriculum development to accelerate students' pathways to college-level math classes. As developmental education math sections are slowly replaced by more college-level sections on the schedule each semester, this may result in additional budgetary

	expenses for the program as a whole. College-level math courses often require access to specialized software/technology, which may need to be purchased within the next five years.
Indicator 3: Quality	**Response**
3.1 How is the college working with high schools to reduce remedial needs?	• Math faculty participate in the college's Alliance for College Readiness (ACR) by serving on teams and regularly attending district meetings. Through the ACR, ECC math faculty participated in the 2014 development of a fourth-year high school math course (*Expanding Mathematics through Applications)* and a more recent week-long workshop to revisit it. • Math faculty also have worked to provide information to students prior to testing to fully understand the testing and placement process, and the importance of being prepared. • The Math Department is pleased that ALEKS contains a remediation component for students to study forgotten topics, particularly with the high number of students who do not take math in their last year of high school and after that gap are taking college placement tests. • Through the Alliance, college and high school math faculty have built relationships and have a firm understanding on college expectations.
3.2 What is the college doing to develop and implement co-requisite or pathway models to ensure students placing into development education finish the sequence within one academic year?	Students with developmental need in mathematics have different pathways, depending on their educational goals. For those pursuing non-STEM fields, the newly developed PMGE course, MTH-095, will allow completion in one semester. Those needing pre-algebra can take the six credit hour MTH-099 which combines two levels into one semester. Even if a student is placed two levels below college, the course sequence of MTH-096:

	Basic Algebra and MTH-098: Intermediate Algebra, can be completed in one academic year. Course-level assessment and other such activities focus on increasing retention and success in these courses to support student transition into college-level work. The co-requisite model is not currently, employed for the math department.
3.3 Provide a description of the remedial/developmental sequence. Colleges may attach a graphic representation.	The college's website has a page devoted to the intricate process of choosing the correct math course pathway depending on a student's educational goals. These visuals are also appended to this chapter.
3.4 Are there any alternative delivery methods of this program? (online, flexible-scheduling, team-teaching, accelerated, etc.)?	Most developmental courses are offered in the traditional face-to-face classroom format, with some sections of MTH-098 being offered online or in a hybrid format. Program faculty are aware that this is a more conservative approach than some local peer community colleges, but are not yet confident that the distance modality best serves the needs of student success. However, the college's learning management system, D2L, is leveraged within the courses. As previously discussed, MTH-099 is a 'combination' course accelerating progress through the content of MTH-096 and MTH-098 in one semester.
3.5 What innovation has been implemented or brought to this program?	After much research, the department unanimously approved a proposal from the faculty placement committee to revise math placement procedures to include multiple measures. The revised proposal will allow students placing into MTH-096 with a 3.5 or higher high school GPA to take the accelerated MTH-099 combination course. Students placing into MTH-098 who have a 3.5 or higher high school GPA can place into several college-level courses (MTH-102: General Education Statistics, MTH-104: Liberal Arts Mathematics; MTH-110: Math for Elementary Teaching, or MTH-112: College Algebra.

3.6 To what extent is the program integrated with other instructional programs and services?	Though housed in separate academic divisions, math collaborates with both the English and Reading departments to ensure cross discipline conversations about Developmental Education. Faculty have begun working more closely with advising through regular meetings and updates to ensure they are aware of the many changes being implemented. Through Curriculum Committee, faculty ensure the most appropriate level of math course is set as a pre-requisite in content courses to match the skills needed for success (ex. BIO-101: Nutrition for Contemporary Society).
3.7 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?	Faculty *within* the Math department work as a collaborative group to assess and improve student learning in the developmental sequence. Additional partnership activity has been done via the ACR structure, including workshop discussions on using technology in high school and college math classrooms and additional outreach to U-46 faculty and administrators in hopes of obtaining greater participation. The math department has previously partnered with all other departments in the division, the English and reading departments, the division of Developmental Education and College Transitions, Marketing, IT, Registration, Advising, Tutoring, SSI, and many others to ensure maximized potential for the primary services of the math department.
3.8 How well are completers of remedial/developmental courses doing in related college-level courses?	The program will monitor this progress. A baseline dataset has been created to study the effects of implementing new courses, pathways and placement policies. It is anticipated that success rates in general education mathematics courses will be sustained or improved, and that students will be more likely to persist in college through the general education course sequence. Research

	shows that students with shorter developmental pathways have higher rates of persistence through the end of the general education courses.
3.9 What professional development or training is offered to instructors and/or staff to ensure quality programming?	• Faculty regularly attend and present at conferences to share ECC's innovations and connect with peers around the state and country. • ECC faculty are able to enroll in college development opportunities as desired via its Center for Excellence in Teaching and Learning (CETL). A new director was hired in 2018 and has been working with faculty to determine their current needs. • In addition, the math department also routinely sponsors self-developed opportunities for its faculty. For example, a workshop half-day (8 a.m. to noon) is offered in late spring which allows new information to be incorporated into plans for fall semester. Topics have addressed specific student study skills that were added to the curriculum; a presentation on reading and decoding a Math textbook; time management, and a keynote webinar from Alan Bass, an expert in the field of study skills. Everyone walked away with ideas, handouts, and resources they could implement immediately in their classes, not only for Basic Algebra, but for all Math courses. • Faculty have developed strong collaboration mechanisms within the department through increased materials and utility of the Math Department Handbook website, increased conversations during topical Roundtable discussions, and internal trainings and orientations. • With funding from the Student Success Infrastructure in FY14, the math department developed a Faculty Mentoring program which has continued as is being expanded to a few other departments on campus. • Such self-sponsored activities consistently communicate to potential faculty that their

	success at the college is a priority to the department.

List any barriers encountered while implementing the program.

- As is common with such intensely collaborative initiatives, it can be a challenge to facilitate consistent and robust participation in the Alliance for College Readiness.
- External forces have necessitated internal changes in placement processes at cut scores, but the program faculty do enjoy the research and analysis required to make data informed decisions to further student success. In the coming years, such studies will focus on the state-wide shift to the SAT exam.

Data Analysis for Remedial Math

Please complete for each course reviewed as part of the Remedial Math, Cross-Disciplinary Review. Provide the most recent 5 year longitudinal data available.

Course Title	**MTH-090: Pre-Algebra**				
Course Description	This course is designed as a review of the basic operations of arithmetic and an introduction to algebra. The emphasis is no operations with fractions, decimals, percent, and signed numbers. It is intended for the student who needs a review of arithmetic and pre-algebra skills. The course precedes technical math or beginning algebra.				
	FY13	**FY14**	**FY15**	**FY16**	**FY17**
Number of Students Enrolled	560	485	421	391	397
Credit Hours Produced	1,680	1,455	1,263	1,173	1,191
Success Rate (% C or better) at the end of the course, Excluding Withdrawals and Audit students	67.2%	67.4%	68.9%	76.1%	68.7%

Course Title	**MTH-095: Preparatory Math for General Ed**
Course Description	This course focuses on developing mathematical maturity through problem-solving, critical thinking, data analysis, and the writing and communication of mathematics. Students will develop conceptual and procedural tools that support the use of key mathematical concepts in a variety of contexts. The instruction should emphasize the connections between verbal, numerical, symbolic and graphical representation of the concepts being taught whenever possible. Emphasis should be placed on modeling and

	problem-solving, with techniques and manipulations covered in context. The appropriate use of technology, such as a graphing calculator, is strongly encouraged.				
	FY13	**FY14**	**FY15**	**FY16**	**FY17**
Number of Students Enrolled	(New Course)				146
Credit Hours Produced					876
Success Rate (% C or better) at the end of the course, Excluding Withdrawals and Audit students					65.2%
Course Title	**MTH-096: Basic Algebra**				
Course Description	This course is designed to be a first course in Algebra. Although emphasis is placed on techniques and manipulations, problem-solving and logical reasoning are main threads throughout the course. Topics include: operations and properties of real numbers; linear equations and inequalities in one and two variables; systems of linear equations in two variables; operations with polynomials including factoring; polynomial equations; and applications. Additionally, the course includes study skills strategies.				
	FY13	**FY14**	**FY15**	**FY16**	**FY17**
Number of Students Enrolled	1,155	1,026	1,020	935	766
Credit Hours Produced	4,620	4,104	4,080	3,740	3,064
Success Rate (% C or better) at the end of the course, Excluding Withdrawals and Audit students	64.4%	67.7%	61.6%	62.2%	65.5%
Course Title	**MTH-097: Plane Geometry**				
Course Description	Plane Geometry is a one-semester course which cover the fundamental concepts of geometry for students who lack credit in one year of high school geometry or need a review of the subject matter. This course is designed to prepare students for further work in mathematics and many math-related fields. The subject is developed in the context of a logical system with				

	constructions, numerical problems, symbolic and graphical representations, deductive reasoning, algebraic concepts, geometric theorems, integrating, problem-solving, and applications throughout the course.				
	FY13	**FY14**	**FY15**	**FY16**	**FY17**
Number of Students Enrolled	271	246	224	210	106
Credit Hours Produced	813	738	672	630	318
Success Rate (% C or better) at the end of the course, Excluding Withdrawals and Audit students	78.8%	84.2%	84.3%	76.3%	81.0%
Course Title	**MTH-098: Intermediate Algebra**				
Course Description	This course is designed to be a second course in Algebra. Although emphasis is places on techniques and manipulations, problem-solving and logical reasoning are main threads throughout the course. Topics include: factoring polynomials, absolute value equations and inequalities: rational and radical expressions and equations; complex numbers; quadratic and polynomial equations; properties of functions and their graphs, including polynomials and exponential functions, and applications.				
	FY13	**FY14**	**FY15**	**FY16**	**FY17**
Number of Students Enrolled	1,221	1,167	1,177	1,143	1,185
Credit Hours Produced	4,884	4,668	4,708	4,572	4,740
Success Rate (% C or better) at the end of the course, Excluding Withdrawals and Audit students	70.6%	67.1%	66.5%	66.0%	63.4%
Course Title	**MTH-099: Combined Basic and Intermediate Algebra**				
Course Description	This course is designed to be a combination of basic and intermediate algebra. Although emphasis is placed on techniques and manipulations, problem-solving and logical reasoning are main threads throughout the course. Topics include: operations and properties of real numbers; linear equations				

	and inequalities in one and two variables; systems of linear equations in two variables; operations of polynomials, including factoring; absolute value equations and inequalities; rational and radical expressions and equations; complex numbers; quadratic and polynomial equations; properties of functions and their graphs, including polynomial and exponential functions; applications.

	FY13	FY14	FY15	FY16	FY17
Number of Students Enrolled	108	104	130	154	171
Credit Hours Produced	648	624	780	924	1,026
Success Rate (% C or better) at the end of the course, Excluding Withdrawals and Audit students	73.8%	73.0%	59.1%	61.8%	83.5%

Review Results

Rationale Provide a brief summary of the review findings and a rationale for any future modifications.	The department is pleased by a shift in overall MTH enrollment from developmental to college level as local high school students enter the college more prepared and the placement mechanisms become more precise. Over the next five years, efforts will focus on accelerating students to college-level math course completion. Specifically, committees will work on a co-requisite model for developmental math and the state-mandated transitional math course. The former enables students to enroll more quickly into a college-level math course which includes "just-in-time" remediation, while the latter will provide high school students with an immediate opportunity for college-level placement. In addition, the department will make a more concerted effort to document, communicate, and implement action items resulting from course-level assessments. Professional development opportunities will continue to be offered via roundtables, math professional days, and mentoring. Lastly, the department seeks to conduct ALEKS placement data analysis, improve course-level success rate

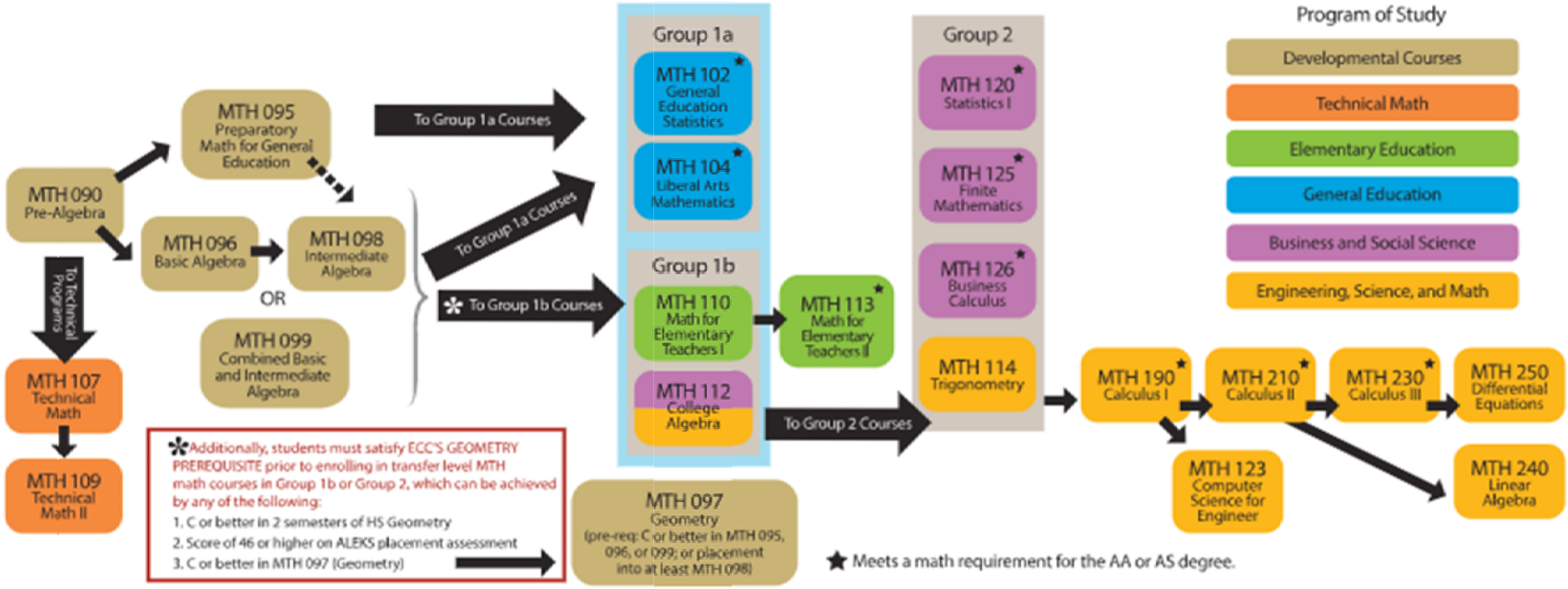
	analysis (based on placement route), and better utilize lab space.
Intended Action Steps Please detail action steps to be completed in the future based on this review with a timeline and/or anticipated dates.	• Implement and evaluate a co-requisite model for MTH-104 – FA18 • Develop and evaluate a geometry placement instrument using ALEKS – FA18 • Determine effectiveness of PMGE (MTH-095) by analyzing student success in college-level general education math courses (MTH-102/104) – SP19 • Analyze ALEKS data to determine effectiveness of placement – SP19 • Investigate transitional math requests and assist with course development for interested high schools – FA19 • Continued analysis of ALEKS data to determine effectiveness of placement – AY20 • Continued research and investigation into co-requisite models – AY20 To be able to accomplish the numerous things mentioned above, the department is in need of more resources. Resources include additional full-time faculty and also additional computer lab space.

MATH PLACEMENT CHART

Test	Scoring Criteria				
	Math Subscore	Group 1a MTH Courses	Group 1b MTH Courses	Group 2 MTH Courses	MTH 190
ACT	less than 23: ALEKS placement assessment is required	23-27	23-27	28 or higher	28 or higher
SAT (before March 2016)	less than 540: ALEKS placement assessment is required	540 or higher	540 or higher	640 or higher	640 or higher
SAT3 (March 2016 and later)	less than 570: ALEKS placement assessment is required	570 or higher	570 or higher	660 or higher	660 or higher
GED: High School Equivalency	less than 165: ALEKS placement assessment is required	165 or higher	165 or higher	ALEKS placement assessment is required	ALEKS placement assessment is required
HiSET:High School Equivalency	less than 15: ALEKS placement assessment is required	15 or higher	15 or higher	ALEKS placement assessment is required	ALEKS placement assessment is required
ALEKS: Placement Assesment	0-13 MTH 090				
	14-25 MTH 095, 096, 107				
	14-25 and an unweighted high school GPA of 3.5 are eligible to enroll in MTH 099				
	26-29 MTH 099				
	30-45 MTH 098	30-45 and an unweighted high school GPA of 3.5 or higher and two semesters of HS algebra II with a C or better are eligible to enroll in MTH 102 or MTH 104. Students who also have two semesters of HS geometry with a C or better are eligible to enroll in MTH 110 or MTH 112.			
		42-60	46-60	61-75	76-100

Diagram of Math Placement

Progression on MTH course completion.



STUDENT AND ACADEMIC SUPPORT SERVICES The ICCB Program Review requires each college to submit a statement of the review of student and academic support services that the college completed during the year. A completed and comprehensive review will likely be between **4 – 8 pages in length**.	
College Name:	**Elgin Community College**
Fiscal Year in Review:	**FY2018**
Review Area:	**Career Development Services**
Program Summary Please provide a brief summary of the function of the program.	The primary function of Career Development Services is to work with students who are undecided or unsure about their academic major and/or career, and students who are anticipating and preparing for employment upon graduation. Career Development Services at ECC is housed in the Student Success Center. Co-located also in the Student Success Center are: Wellness, Transfer, Veteran, Disability, and Academic Advising. The centralization of student focused services within the Student Success Center allows for seamless service for students starting their first semester through graduation. Services include: • One-on-one career counseling with or without career assessments. Career counseling includes: o Self-assessment o Career exploration o Career decision making o Implementation of goals o School search o Job search • Assessments, include: o Myers-Briggs Type Indicator o Strong Interest Inventory o Values Exercises o Skills Assessment o FOCUS®2 career assessment • Job search strategies • Résumé building and review • Employability skills • Soft skills • Re-careering for community members, which includes: o Job search strategies o Résumé building and review o Interview success strategies

	Career Development Services at ECC differs from other community colleges' Career departments in that ECC's primary function is assisting students with choosing a major. Research shows that students who have chosen a major have a sense of purpose, which contributes to them being more likely to stay in school.
Prior Review Update Describe any quality improvements or modifications made since the last review period.	Progress on the goals from the previous FY14 report is noted below. **Participate in New Student Pathways pilot** Progress: GSD-120: Exploring Careers and College Majors was offered tuition-free to 47 self-identified undecided students. On the first day of class, students completed a survey which asked them to choose among a list of 10 adjectives describing their current feelings about their uncertainty on a major/career. The majority of responses included anxiety, frustration, fear and worry. On the last day of class, students took the survey again. Now the responses indicated excitement, thanks, motivation, no worries and relief. Upon completion of the class, 100% of the students responded positively to questions regarding their major/career. The course continues to be offered free to undecided students and has expanded to other areas. It is now offered as an option to dually-enrolled high school students in the Accelerate College program and was offered as a pilot to young men at the St. Charles Correctional Center in summer 2016 by the High School Partnerships and Transitions department. **Track and analyze student data from application through graduation** Progress: In the past, the student system would not accept "undecided" as a student's program of study, so standard procedure was to code them as Associate of Arts. With system improvements and a desire to serve these students, as of August 2017 Career Development Specialists began tracking those without a major upon application, and scheduled an appointment for assistance. Appointments were tracked and outreach could be continued for those who remained undecided. A communication calendar was created as well as a series of three communications based on different states in the career decision-making process:

How is your career exploration going? Have you chosen your major? Would you like to talk about your career? Outreach concluded once a student indicated they had chosen a major or responded that they did not need further assistance.

Develop and pilot a career counseling syllabus

Progress: Career decision-making milestones are infused in the Academic Advising syllabus.

Research and discuss potential pilots to increase offerings of career-focused GSD-120 sections with academic deans

Progress: Goal not pursued due to lack of interest.

Explore online career advising/computer-assisted career guidance system (FOCUS®2) that supports the mission of Career Development Services

Progress: FOCUS®2, an online educational and career planning assessment tool was leased in July 2015. Usage has increased, especially for undecided students who may not enroll in GSD-120. A collaboration with the office of Admissions includes information about the FOCUS®2 assessment in New Student welcome letters. Since 2015, overall usage of FOCUS®2 has increased 10%. There had been interest to utilize Focus2 in the COL-101 orientation course, but this was not implemented due to a shift in the course's curricular purpose.

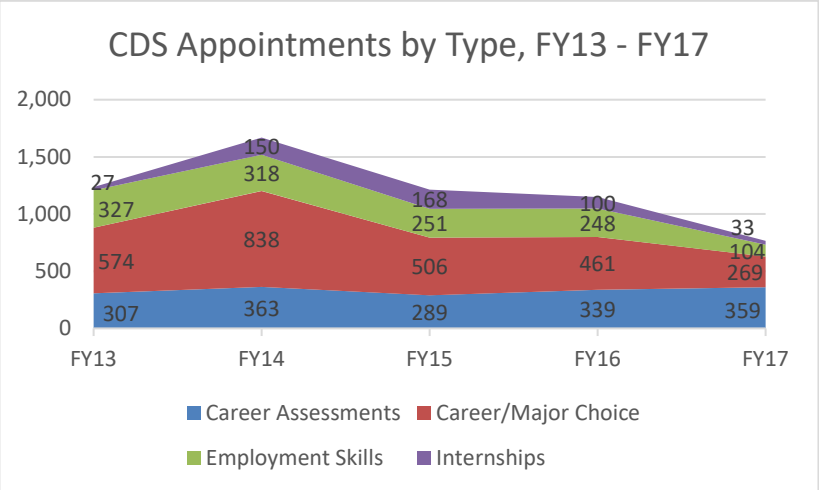
Two re-organizations have occurred in Career Development Services since the 2014 program review. In 2015, Veteran Services was relocated to the newly created Student Success department. In 2018, Internship Services was relocated to the newly created Workforce Development department. Previous goal updates from these areas include:

Increase outreach services to promote Veteran student success

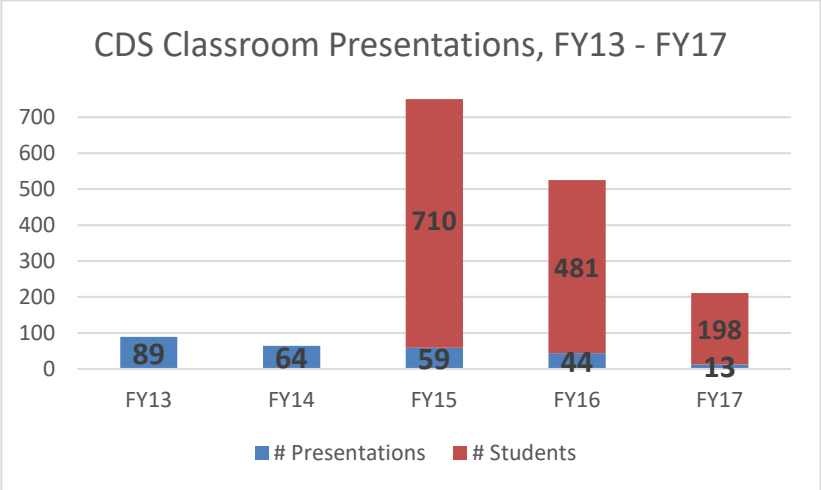
Progress: Veterans Services was moved to the Student Success department in 2014. A permanent Veterans Resource Center was dedicated and opened in May 2017. Student-veterans can study, relax and network with peers. Other activities included updates to the veteran checklist and bookmark and the website. The Veterans newsletter continues to provide relevant,

	timely information to veteran students and the college in both an online and print format. **Increase Veteran-only programming (Honors Society, Military Branches United, Orientation, COL-101)** **Increase outreach services to promote Veteran student success** Progress: Eligible Veteran graduates may now wear the veterans' honor society military cord at commencement. There has been an increase in the number of Veteran students inducted into the S.A.L.U.T.E. Veteran National Honor Society; 15 of them to date since 2013. The special learning community of COL-101 for veterans was scheduled but did not run due to low enrollment. **Benchmark, create, promote and launch credit-bearing GSD Internship course** Progress: Proposal presented to Deans' Council for feedback before being sent to Curriculum Committee. Discussion raised challenges for additional consideration; development put on hold. Responsibility for internships relocated to Workforce Development in spring 2018. **Increase experiential learning opportunities for students** Progress: 33% increase in students participating in experiential learning; 43% increase in employers offering experiential learning sites; New, local internship opportunities increased from 9 in 2014 to 27 in 2015; Students pursuing internship opportunities increased from 52 in 2014 to 138 in 2015. Responsibility for this area now lies with Workforce Development. **Build Career Advisory Board to provide insight and advice on local employment trends, curricula, programs/services, and job preparedness** Progress: Revision to new Academic and Transfer Advising department was prioritized above this goal. Not pursued due to other institutional initiatives to streamline employer services. CDS will become more student focused. **Increase offering of credit course, workshops, printed materials, and online resources that assist students with**

	learning how to effectively obtain employment or internships Progress: Résumé and interview workshops held for ICAPS students prior to job fair. Updated online career resource pamphlet. Presented on résumé building, cover letters, interviewing skills, LinkedIn, internships and business etiquette to over 20 classes in Health Professions and Business/Career-Technologies divisions. **Investigate and utilize EMSI Career Coach online resource which provides information on current and projected academic and career information, employment opportunities and employers** Progress: Not pursued as the college purchased a different product, Burning Glass. Instead, CDS researched, conceptualized, designed and created new student resources to support career counseling, Career Assessment Package (CAP) appointments, and job-search appointments. These included worksheets used during appointments to assist in understanding of material and an updated online career resource guide. **Expand workforce development initiatives** Progress: Responsibility for this goal has moved to the Manager of Strategic Partnerships **Develop, maintain and enhance relationships with employers for the purpose of increasing career development and employment opportunities for students** Progress: Responsibility for this goal has moved to the Manager of Strategic Partnerships **Inform, educate and consult with employers on the nature of services provided and student internship availability.** Progress: Responsibility for this goal has moved to the Manager of Strategic Partnerships
What are the identified or potential weaknesses of the program?	There is a current lack of staff to foster growth in services. The department wants to pursue opportunities and new approaches to engage undecided students early in their academic career which can contribute to better retention, persistence and completion.
What are the program's strengths?	Career Development Services is co-located with Academic Advising in the Student Success Center. This was a

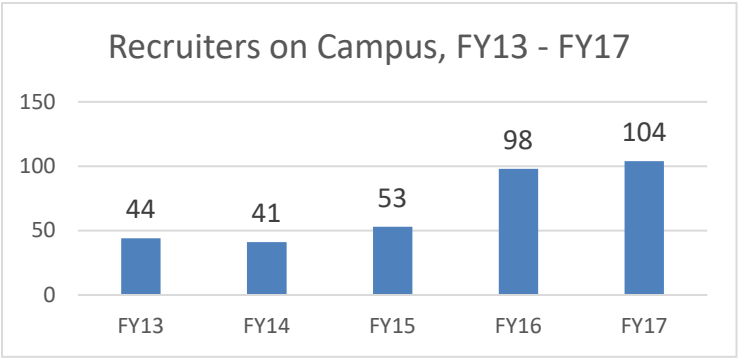
	deliberate move to offer seamless services between the two units as well as with Wellness, Disability, Veteran and Transfer Services. Students can receive many support services with one convenient stop. Additionally, the staff within these departments can very easily exchange information, collaborate on workshops and events, and provide referrals. The college hosts a cross-departmental activity for students called The Game of Life. Recent revisions provide a more interactive and meaningful learning experience for students. These varied means to provide information seeks to empower students so they can confidently make informed decisions regarding their college and career paths.
Rationale Detail all major findings resulting from the current review.	**DISCUSSION OF NEED** **<u>Services</u>** The mission of Career Development Services is to educate and empower students in identifying, developing, and implementing their career and educational goals. The mission is achieved by offering the following services to students: • Career Information/Exploration • Career Counseling • Career Assessments • Job Search Strategies and Interviewing Skills • Job Employability Skills **<u>Utilization</u>** Student appointment data for FY13 – FY17 is displayed below: 

Classroom presentation data for FY13 – FY17 is displayed below (note, participation figures not kept for FY13 – FY14):



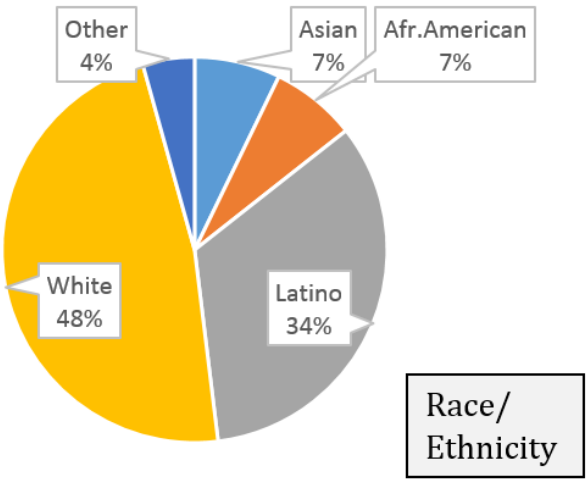
Employment-related activities during 2017 include:

- Assisted 42 students interested in internships; 13 students interviewed and were hired.
- Coordinated and facilitated four industry specific job fairs:
  - Technical Education/Manufacturing Job Fair; 35 employers and 75 students attended
  - Business and Professional Services Job Fair; 26 employers and 96 students attended
  - Health Professions Job Fair, spring 2017; 33 employers and 105 students attended
  - Communication Design, spring 2017; 13 employers and 11 students attended and participated in portfolio evaluations and informational interviews
- The number of student employment recruiters on campus for FY13 – FY17 is presented below:

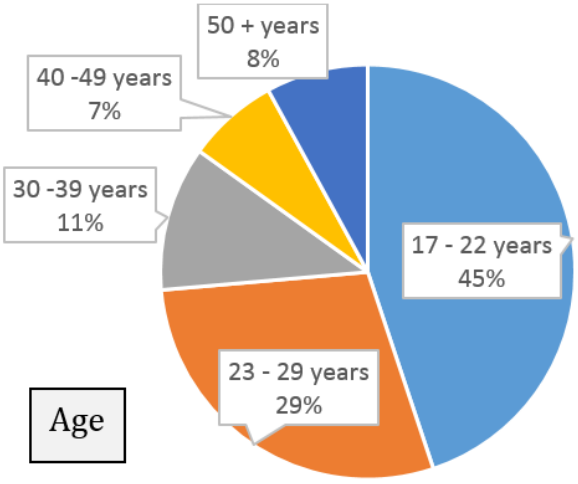


Demographics

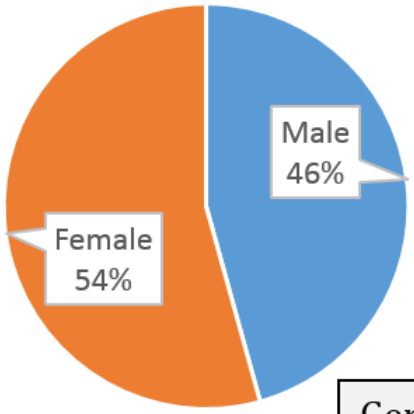
The demographic data for students who use Career Development Services has been analyzed for the period of late 2013 to June 2017 from the SARS system and is shown below.



Race/ Ethnicity



Age



Gender

Some shifts in student demographics are related to other areas at the college. For example, there has been a decrease in adult students receiving career counseling with assessments based on the conclusion of the AARP grant in Spring 2017. A decline has been noted in the number of students referred from the TRiO program, and students in the ABEC/ESL area are getting career information from their faculty rather than from in-class presentations given by the career development specialists.

Currently, outreach efforts from CDS are not tailored to specific student populations other than those who are undecided about their program of study. This may be an opportunity to explore potential need across the college and possibly justify another position.

Staffing

Staffing within CDS has undergone changes as positions and departments were reorganized within the college. Prior to May 2014 there was a Director of CDS. These responsibilities are now absorbed as additional duties for the Associate Dean of Advising, Transfer and Career Development Services. Prior to July 2015 there were four staff members who met with students: a full-time Internship Coordinator, a full-time Veteran and Success Coordinator and two part-time Career Development Specialists. While the full-time coordinators had other duties, part of their time was devoted to career-related services with students on behalf of the department. In the current state, just the two part-time specialists remain.

DISCUSSION OF COST

Budgeting

The CDS budget, like most others, has been affected by the Illinois budget crisis at the state level. Most recently, there has been no funding for student engagement resources or professional development activities. The majority of the budget is allocated to salaries and general operational expenses.

Efficiencies

Recent student programming has incorporated both career development and academic advising allowing for a cost-saving, better use of resources and better student engagement.

Resources

No significant changes are expected over the coming years, but the program would benefit from funding a full-time career development specialist.

DISCUSSION OF QUALITY

Assessment

Learning outcomes have been defined for the program. After participating in Career Development Services, students will have knowledge of:

- The 5-step developmental process of career decision making
- The role that their self-concept plays in making effective career decisions
- The various elements that comprise an individual's career self-concept (personality, values, interests, unique characteristics, abilities, and aptitude)
- The various resources available for engaging in the career exploration and planning process and how to conduct effective career exploration
- The role that work-related and core life values play in career decision making
- The connection between self-concept and educated career decision making
- Career options worthy of continued exploration
- Setting short- and long-term goals
- Job search and employability skills and strategies
- Career decision making as a life-long process

Satisfaction surveys developed and administered by the department provide both quantitative and qualitative feedback and are used to evaluate effectiveness of services provided to students through class presentations, events and one-on-one meetings. Moving forward, institutional-level surveys will also be reviewed for student impressions, such as the Community College Survey of Student Engagement (CCSSE), the Noel-Levitz Student Satisfaction Inventory, and the Career-Technical and University Transfer Graduate surveys.

Additionally, faculty expectations and feedback are used to measure effectiveness and confirmation on whether outcomes have been met. Evaluation forms are used to measure whether presenter was effective in presenting the material. Classroom presentations are created based on the expectations stated from the faculty member and are often

tied to graded assignments. Feedback from faculty and on the evaluations have been positive.

The department has created an annual Student Engagement Plan that consists of activities, planning steps, outcomes and measurements.

Availability

Career Development Specialists work 25 hours per week Monday through Friday between 8 am – 5 pm. Every attempt is made to stager working hours to ensure that one Specialist is always available during normal business hours. Evening hours are available upon request to meet with a student who is unavailable during the day.

Partnerships

Partnerships across campus have resulted in a greater awareness of services offered by CDS and the importance of declaring a major early in a student's academic career. In addition to working with students one-on-one in the office, the specialists work with faculty to present career topics within the classroom.

In addition to collaborating on communications pieces with Admissions, Advising and New Student Orientation, CDS has collaborated with Financial Aid to revise and deliver a new *Game of Life* activity, which resulted in a more interactive and meaningful learning experience for students.

Much of the initial work on reaching and serving undecided students was leveraged within a college committee to work on the Pathways to Results initiative. Through this process the department was better able to identify undecided students in the system and to offer the GSD-120 course free to charge.

Partnerships exist with community organizations to provide career development services, including The Boys & Girls Club of Elgin and Dundee Townships. CDS works with ECC's Alliance for College Readiness to reach partners within District 509 and career counseling services are available to high school junior and seniors within the district.

Personnel

The staff in the department are experienced career professionals with Masters degrees in Counseling which significantly contributes to the quality of services provided. They meet twice a month as a department. In addition to services focused on student success, in spring of 2017 an

internal staff development interactive presentation was created and given at the Student Services and Development division meeting, *Developing and Promoting Yourself Professionally.*

While the college's overall enrollment is lower than it was at the start of the review period, changes in staffing have also affected the number of students served.

Year	FTE/ Staff	# Students Served
FY14	4	1,492
FY15	3.5	1,199
FY16	2	771
FY17	2	754

Intended Action Steps
Please detail action steps to be completed in the future based on this review with a timeline and/or anticipated dates.

FY2019:

- Meet with student-facing departments (TRIO, Admissions, Registration & Records, and Student Life) to enhance relationships, understand their needs, emphasize value of services, and give them the tools they need to promote CDS engagement.
- Pursue additional promotion activities for CDS with students:
  - Include an UNDECIDED flyer in packet for all students attending New Student Orientation promoting career counseling, CAP appointments, GSD-120 and FOCUS®2 as a way to explore career options.
  - Increase promotions of Undecided major/career exploration options.
  - Connect with Spartan Leaders and provide them with resources they need to peer-promote CDS services.
  - Reach out to ECC clubs to educate them about CDS and promote student engagement.
  - Participate in New Student Convocation promoting CDS services.
  - Promote CDS services by theme via tables in various locations and times, themes to include: Mission statements, setting goals, résumé reviews, job search, FOCUS®2, and interviewing skills.
  - Promote CDS services through social media.

	○ Reach out to MDCLR-coded (must declare major) students via email promoting services and offering discount on CAP. • Data will be collected and aggregated to assess whether the above new initiatives will be continued or discontinue. • Promote CDS services to faculty via email invitation to visit classrooms and present on various career topics. • Pilot drop-in times for various career services. **NEXT FIVE YEARS:** • Implement mandatory career appointment for students who have reached 30 credits but have not yet decided on a program of study/major (fall 2019) • Implement required career assessment upon application (fall 2020) **REQUIRED RESOURCES:** Any expansion of CDS would necessitate a full-time career development specialist.

STUDENT AND ACADEMIC SUPPORT SERVICES The ICCB Program Review requires each college to submit a statement of the review of student and academic support services that the college completed during the year. A completed and comprehensive review will likely be between **4 – 8 pages in length**.	
College Name:	**Elgin Community College**
Fiscal Year in Review:	**FY2018**
Review Area:	**Tutoring**
Program Summary Please provide a brief summary of the function of the program.	The current mission statement for the college's Tutoring Center is as follows: "We believe in and are dedicated to the whole student. We believe all students have the right to learn all they can. Our job is to help them be as successful as they can be. We will be understanding and supportive. We will acknowledge and respect individual differences and share our view of the need for life-long learning. To this end, we will provide personalized service and a range of tutoring options to meet the needs of a diverse student body." The central goal of the Tutoring Center is to be a learning-centered environment that helps students achieve their academic goals in support of the college's strategic plan. The program-level learning outcomes have been defined through this review. Upon regular participation in Tutoring services, students will be able to: • Identify gaps in their own content knowledge or preparation and ask appropriate questions • Gain confidence in their academic abilities • Advocate for themselves in the classroom • Manage their study time effectively The college's President, Dr. Sam, consistently describes tutoring as an essential part of students achieving academic success in college when he addresses new students at Convocation. Each year he tells them, "Your transcript will *not* show that you went to Tutoring; but if you *don't* go, it *will* show!" Any student that is enrolled in a for-credit class is able to use all of the Tutoring Center's services. Over this past five-year review period, services have included drop-in, private/appointment (free and for a fee), online, in-class, workshop and peer-led formats. The Tutoring Center is

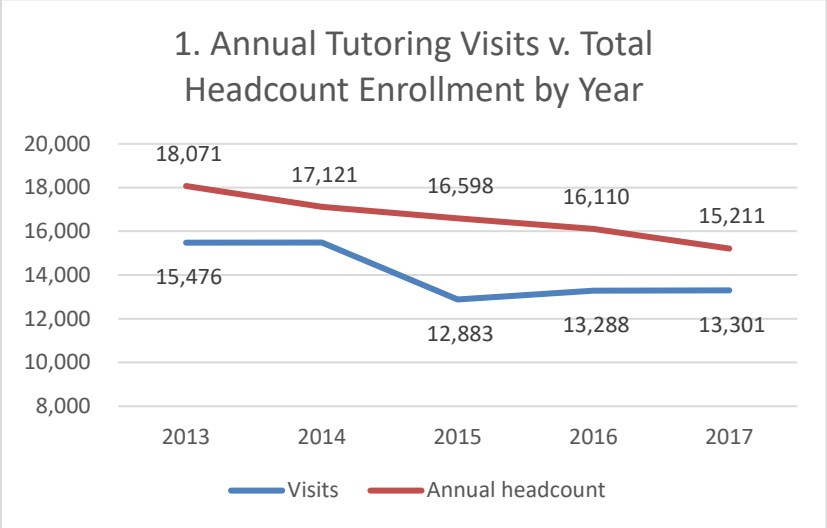
	located on the second floor of the library and has satellite locations in key areas across the main campus. The Tutoring Center communicates its services to students in as many different ways as possible. Students are informed about tutoring services on campus visits during orientation, when they meet with their advisors, at convocation, and later by their instructors and class syllabi. The Center is advertised in the annual student planner, on the college's website and social media, and via the distribution of posters and thousands of bookmarks around campus each semester. The Director is invited to speak to new dual-credit high school students each semester, and similarly, the Director of High School Partnerships & Transitions has been invited to attend a Tutoring Center staff meeting to discuss the students' unique needs with the staff. As this population is expanding, this relationship is critical. Ultimately, the best way for students to learn about the Tutoring Center is through personal interaction. Instructors are encouraged to bring their classes to the Center or invite the Director for Tutoring Services to speak to the students so that they learn who we are, where we are located, and what we do to assist student learning.
Prior Review Update Describe any quality improvements or modifications made since the last review period.	Progress on the goals from the previous FY13 report is noted below. **1. Develop study skills workshops in fractions, positive/negative numbers, sentence structure, commas, test-taking, test anxiety, time management, note-taking, using textbooks, and vocabulary development.** • While the study skills workshops garnered positive feedback from participants, they were not run with enough frequency or consistency, and were expensive and logistically challenging. During college-wide budget cuts in 2016, these workshops were converted to private tutoring study-skills sessions, enabling the same service to be offered, but in a personalized and more cost-efficient manner. **2. Provide access to supportive online websites, especially in math** • The Kahn Academy website has been posted on all computers in the Tutoring Center for students to access. Math tutors are aware of the site and will refer students there for additional information.

	3. Determine reasons for the decrease in ABEC students' use of tutoring services and put a plan in place to remedy. • At one time, attendance to ABEC tutoring was mandatory in the syllabus. When that requirement was removed, attendance started to fall, and then the tutors for the program began leaving. Replacements weren't hired and the program was eventually ended. **4. Align ESL tutoring to ABEC curriculum.** • As mentioned, the ESL specific tutoring program was eliminated, no further alignment activities were implemented. **5. Improve, increase and promote study skills workshops** • As mentioned above, the study skills workshops have evolved to individual delivery and are available any time a student wishes to make an appointment. This service is promoted to students and staff discuss ways to strengthen it. **6. Partner with ABEC to improve student use of tutoring for ABE/GED/ESL** • To the current director's knowledge, no formal relationship was ever developed with the ABE/GED/ESL programs. This is something to be addressed in the near future. **7. Explore the use of Supplemental Instruction models for tutoring** • Under the umbrella of the Student Success Infrastructure (SSI), a committee developed and launched a Supplemental Instruction pilot. Faculty and administrator training was received from the University of Missouri Kansas City, a leader in this service. • The pilot began in Spring 2016 with three sections of MTH-102: General Education Statistics. A student peer tutor was hired for each section. This tutor would attend each class each day and also facilitate two (optional) out-of-class support sessions per week. The student tutors were hired, trained and supervised by the Director. • The pilot continued through Spring 2018 and had expanded to also include MTH-112: College Algebra. • Identifying students willing to commit to the peer tutor role was a significant challenge each semester. Through the course of the pilot, ten peer tutors were trained. • Because attendance at the supplemental sessions was optional, attendance varied.

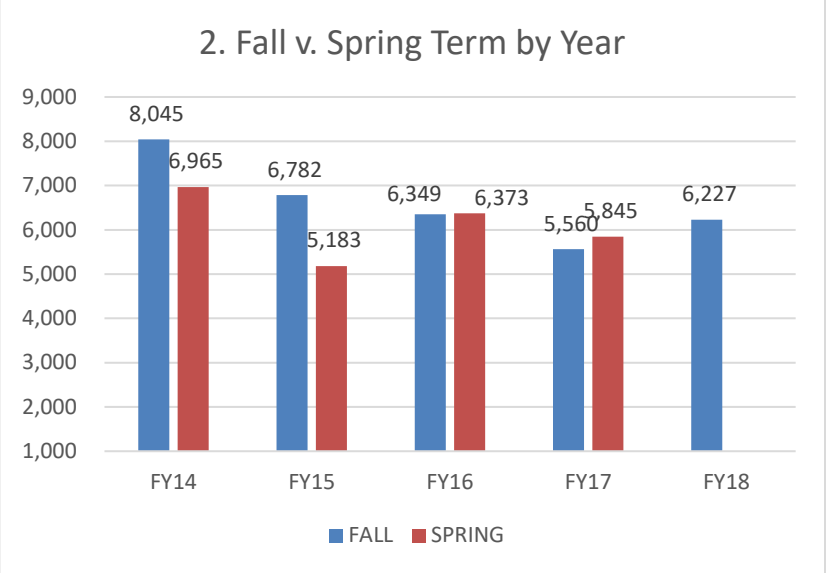
	• Assessment results generally pointed to the conclusion that students attending the supplemental sessions performed better than those who did not, but the findings were not robust. • The decision was made to discontinue this form of Supplemental Instruction after the Spring 2018 term. **8. Expand tutor training.** • All new tutors now go through mandatory orientation. Those hired at the start of the semester go through training together; tutors hired during a semester get a one-on-one orientation. • In Fall 2017, Friday afternoon tutoring hours were cut to build-in time for additional professional development. • Tutors complete routine self-evaluations and the director meets with each of them throughout the semester to provide individualized feedback.
What are the identified or potential weaknesses of the program?	During this review, the Director visited the websites of 18 peer institutions' tutoring centers. One thing that each of them had in common is that all of their tutoring services are free, whereas the college charges for private tutoring after five sessions. This topic will be discussed further in this report. Other identified opportunities for improvement concern additional areas of study for which tutoring can be provided. The center desires to have more interactions with students in the classroom to tell them about the services. There is a need to solicit meaningful feedback from the students directly to find out what they want from the Tutoring Center. Much of the current record-keeping is still paper-based, so there are ongoing investigations on means to update the systems without changing the services offered. Though not a weakness, the director will continue to build stronger relationships with other areas of the college to provide services to unique populations of students, particularly those enrolled in the Adult Basic Education and ESL programs, as well as dual-enrollment high school students.
What are the program's strengths?	The college's Tutoring Center provides exceptional and timely service to students seeking academic support in over 100 courses across many areas of study. The director and staff work closely with academic departments and other campus partners to keep them informed of the available services and to listen to suggestions in order to improve. The top priority

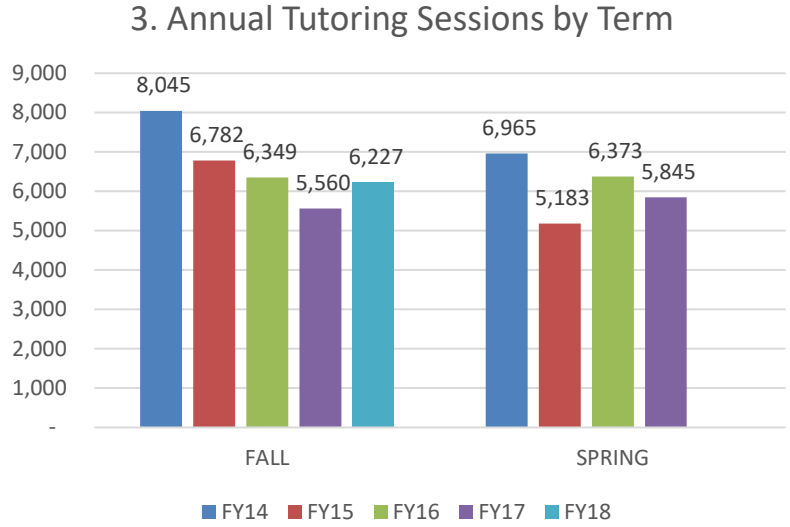
	is to always help students, treating them as individuals and recognizing that blindly following procedures by the letter is not beneficial to anyone. One of the greatest strengths is flexibility which allows quick response to feedback. The current Director came to the college in 2016 and has developed fruitful relationships with key offices and faculty across campus. Working directly with faculty, he is able to develop a keen understanding of student needs by discipline and is better poised to secure specific resources for student success, such as textbooks, anatomical models and microscopes. Moving forward, the director is committed to building stronger relationships with Student Life, High School Partnerships/Dual Enrollment, and other non-instructional departments that share overlapping goals with the Tutoring Center. In the peer review exercise, it was found that the college is one of the few institutions with expanded evening and Saturday hours. As a program, the center is aware that community college students often have many demands on their time that could make attending tutoring during normal business hours difficult. To be as accessible to all students as possible, drop-in and private tutoring services are offered six days a week (including Saturdays) and are open until 8 p.m. Monday-Thursday. Additional interaction with tutors is provided online via D2L for any student not on campus, which extends service through weekends and holidays.
Rationale Detail all major findings resulting from the current review.	**DISCUSSION OF NEED** **<u>Services</u>** The Tutoring Center's primary function is providing tutoring options to the college students. Drop-in tutoring is the most used service, followed by private tutoring. Online tutoring is an ancillary function that allows students to access help when they aren't on campus, but should not be used as a replacement or substitute for other in-person services. In-class tutoring has been available for the Heating and Air Conditioning and Physical Therapist Assistant programs where students need additional support using specialized equipment. **<u>Utilization</u>** The Tutoring Center's overall utilization has fluctuated over the last five years. The Center's overall yearly visits have declined with the college's enrollment, but since 2015 have

held relatively steady with a slight increase despite fewer students as shown in graph 1 below.

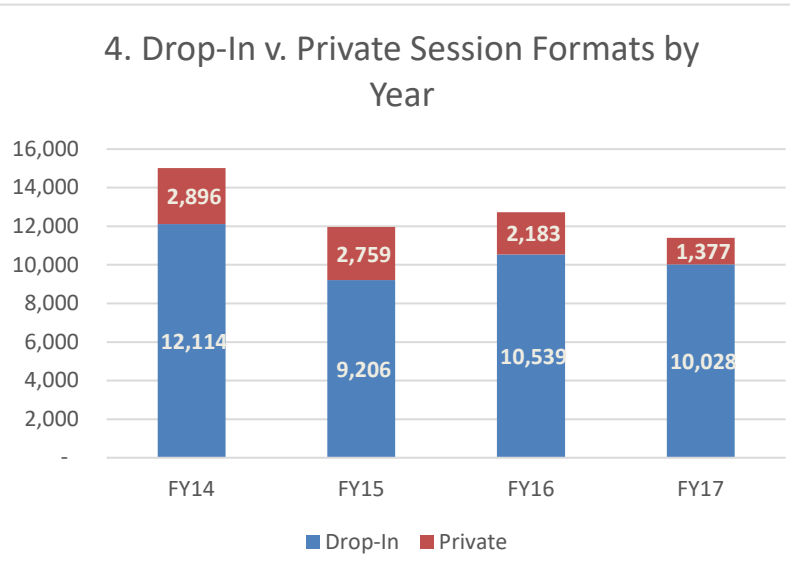


The volume of visits also tends to vary by term. Fall would typically be busier than Spring, but that pattern may be shifting as seen in graphs 2 and 3 below, a trend which will be monitored.

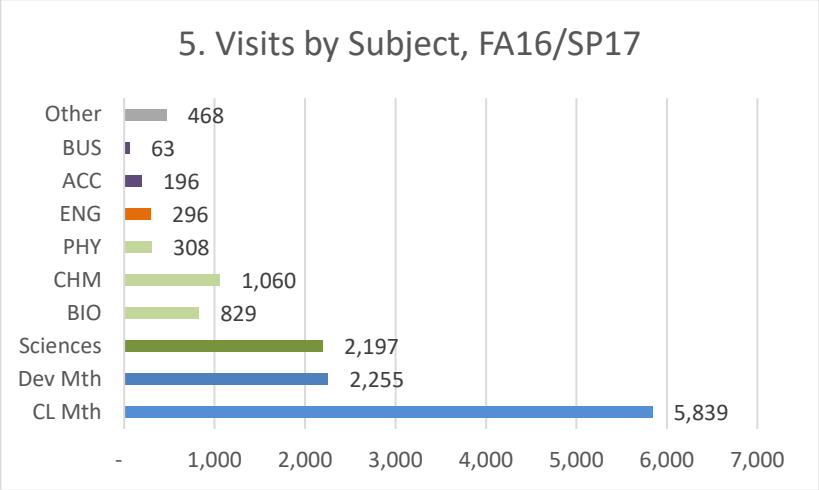




Looking at the different types of tutoring offered, there has been a decrease in private tutoring over the last few years as drop-in availability has expanded for a variety of subjects. As well, the cost associated with scheduling private sessions after students used their five free sessions for the semester has probably contributed to students not scheduling as many sessions as in years past.



The rank of visits by subject are shown below in graph 5. Math by far is the largest volume, with the majority of that being for college-level coursework. The sciences are next with most from Chemistry and Biology.



Into 2018 there has been a decrease in the number of students coming in for math tutoring (both drop-in and private) particularly for college-level; however, there is not a clear explanation for the drop. The Math department operates a Math Lab near their classrooms which serves as a similar resource for students. The Tutoring Director has scheduled a meeting with math faculty to discuss potential reasons for the drop and to brainstorm ways to ensure adequate resources are available to math students without unnecessary duplication.

The category of "other" generally refers to subjects that are not assigned to specific tutors, but students are still able to use the drop-in format to ask questions. Examples include art, economics, education, and physical science. These typically occur with just a handful of students each semester. Any subject for which a faculty member desires accommodation with, the center is generally able to do so. In Fall 2018 there could be possible expansion to nursing and computer science.

Demographics

The demographic data for students who use tutoring has remained remarkably consistent from 2015 (the first year demographic data was available to the department) until now. From the summer of 2015 through the current 2018 summer term:

- Average age: 25 years old
- 60% female, 40% male
- 35% Latino, 34% white, 10% Asian, 7% African-American, 1% Native American, 1% Non-Resident Alien, and 12% Unknown
- 41% First Generation college students

- 64% plan to transfer, 23% are in Career Tech, 2% are ABEC, and 10% are Unknown.

Additional demographic notes:

- In FY17, Latino and white students each made up 42% of the college's students, while they each made up about 35% of Tutoring Center visitors. On the other side, Asian students only made up 7% of the student population but roughly 10% of Tutoring Center visitors.
- 60% of Tutoring Center visitors were female, while 40% were male, while the overall the college's population is closer to 55% female and 45% male.
- Knowing that white, Latino, and male students are not seeking out tutoring as often as their peers is information which can be used to engage in more targeted outreach efforts. Taking these points together, it would seem that white males are the demographic that is least likely to seek out tutoring help.
- In 2015, only 39% of Tutoring Center visitors were First Generation college students, while that number is up to 44% in Spring 2018. This is a population that has received a lot of attention from the school in terms of outreach, and it seems that has contributed to the increase in Tutoring Center usage from this population.

Staffing

The Tutoring Center wants to be as responsive as possible to the needs of students and faculty. Staffing decisions to hire and/or schedule more tutors in a certain subject or expand the range of subjects are based on requests from these stakeholders. Faculty themselves are often an excellent recruitment source and recommend qualified applicants to be hired as tutors. Recent new rules regarding SURS beneficiaries being ineligible to work as tutors left many positions to be replaced.

DISCUSSION OF COST

Budgeting

The Tutoring Center's budget has decreased over the last few years related to cuts made in response to the State's budget crisis as well as declining enrollment. Expenses were reduced by eliminating the in-class tutoring program, and eliminating a part-time Coordinator position.

	The biggest challenge of the Tutoring Center's budget is managing the schedules of 50+ tutors in order to maximize the amount of time students are able to spend working with them. The budget for instructional supplies is not large, so creative solutions are often found. For example, if new textbooks are needed, free copies can often be obtained from the publisher or donated from the relevant department. A small portion of the Center's budget had come from the fee-for-service model whereby students were charged $15/session for private tutoring after using their five free sessions for the semester. Students were also charged for no-shows and same-day cancellations. This model does not have much support in the profession. While there are schools which charge a nominal fee for tutoring services, none in the area were found that offer free tutoring up front and then charge for usage after a certain number of visits. Regardless of how often a student comes to tutoring, they should be encouraged to seek help rather than deterred. As a consequence of this policy, very few students would enroll in private tutoring beyond the five free sessions. While some would then take advantage of the free drop-in tutoring, others would stop seeking support altogether. It was recommended that the charge for private tutoring sessions be removed, and the new model will be in place beginning Summer 2018. This is not expected to impact revenue on a large scale, though it could lead to an increase on the tutor salary budget line if more private sessions are scheduled. At the same time, simplifying the private tutoring procedures by eliminating fees will allow the Center to fully utilize the college's SARS scheduling software which was not able to accommodate complicated scheduling quirks. The budget for presenter-led workshops was eliminated due to poor attendance and the better solution to offer those services as one-on-one tutoring sessions. Students can then schedule as their time allows, and the tutors are paid the standard rate rather than at a higher workshop rate. **Efficiencies** Efficiencies and cost-savings can be realized with an increase in usage. Despite a reduced budget again in FY17, the Tutoring Center had a net increase in student visits for the year. Recently, a significant shift took place for Biology and Chemistry with the addition of satellite locations, but also as a result of a change in the format of the sessions. By deciding to expand the availability of drop-in sessions, students did

not have to rely on private tutoring for those subjects anymore. Tutors were getting paid the same amount, but they were meeting with many more students per hour by working drop-in as opposed to the one student per hour rate of private tutoring.

Moving forward, one proposed cost-saving measure is to eliminate drop-in English tutoring hours in favor of directing students to The Write Place, run by the English department and located by their classrooms. Similar to the situation with the Math Lab, it is important to collaborate with faculty on the most efficient means to provide students the assistance they need while avoiding unnecessary duplication of services. This would free up budget to pay for expanded free private tutoring and expand tutoring to other disciplines.

Resources

In FY18, the Tutoring Center has almost used its entire tutor salary budget line. If the Center wants to continue to grow services, both in terms of students served and subjects offered, there will likely be the need to increase the tutor salary budget, at least restoring it back to where it was prior to the state budget crisis. Without additional budget for tutors' salaries, it is not possible to expand the services we offer or add more tutors to the staff.

It is also possible in the near future that more physical space will be needed on campus to accommodate student demand, which would likely require additional funding. One of the Center's biggest challenges is being able to accommodate all of the student requests for tutoring assistance. The current physical spaces on campus are often at or near the capacity which can make it difficult for students to meet with tutors.

Online tutoring currently, runs through D2L which is managed from a different budget within the division. While it is no additional cost to the Tutoring Center, in order to upgrade online tutoring offerings to be more than a discussion board, there would be the need to purchase new software, potentially new hardware, and to train tutors on how to use the system.

DISCUSSION OF QUALITY

Assessment

This is an area that can be improved. Currently, students are encouraged to fill out comment cards regarding their experiences with the Tutoring Center, but they are not used frequently. More robust and frequent surveys would help

determine which students are/are not coming to tutoring and why, as well as what can be done to improve the services for those who do attend. Feedback is also solicited and received from the tutors themselves regarding suggestions for improvement. Those comments have led to increased focus on student outreach, topics for staff meetings, discussions of streamlining paperwork and internal processes, and to requests for additional resources.

The Director is working with Institutional Research to better understand how students' participation in Tutoring positively impacts their grades, retention and completion. One element that makes such study more difficult is the current record-keeping methods in the Center. Standard tracking software is not ideally suited to the college's methods of drop-in sessions without any limits on now often students can come or how long they can stay. The Center continues to rely on paper sign-in sheets for drop-in tutoring which is then entered into an Excel spreadsheet. This task is time-consuming and can lead to inaccurate data. The director advocates for the whole college to adopt card-readers so that students could swipe their student IDs any time they enter any of the college's departments, not just the Tutoring Center. Many colleges use card-readers to track their students this way, and it would greatly improve the Tutoring Center's efficiency as well as create a uniform method of tracking students from department to department. Better data would allow more robust analysis tying student behavior and actions to student success.

Availability

Construction and remodeling of campus facilities have changed where tutoring can be delivered. The main center is in the Library. Based on student requests, satellite drop-in tutoring space has been established closer to the biology classrooms in Building A and chemistry in Building M, which has greatly increased student traffic for those subjects. To serve students in the Anatomy and Physiology sequence, the collection of anatomical models grew and service expanded to six days a week with a wider range of daily hours. In partnership with the faculty who encouraged their students to make use of the resource, the new drop-in tutoring area increased from 373 visits in Fall 2016 to 1,244 visits in Fall 2017, an increase of 234%. Student success as reflected in final grades also showed improvement between these two time periods for the sequence as shown in the table below.

		Fall 2017	Fall 2018
	Visits	**373**	**1,244**
BIO-245	**Successful (A-C)**	73%	79%
	Unsuccessful	24%	18%
BIO-246	**Successful (A-C)**	86%	90%
	Unsuccessful	12%	9%

Similarly, Chemistry tutoring was moved from Building K to Building M in order to be closer to the classrooms used by the chemistry department. The schedule was expanded to offer more consistent drop-in hours six days a week in that location. There were 280 drop-in visits for chemistry in Fall 2016, and 744 drop-in visits in Fall 2017, an increase of 166%. The success data as above has not yet been analyzed.

The college's tutors provide online support to students in nearly 50 courses through the discussion boards and the drop-box function of D2L. While these resources are good to have for students that can't make it to campus in person, the center hopes to explore other online tutoring options that allow synchronous communications between students and tutors.

Partnerships

Since the Director's arrival to the college in January of 2016, he has worked to build relationships with individuals and departments across campus. He routinely communicates with faculty in the math, biology, chemistry, HVAC, and PTA departments to coordinate how the Tutoring Center can best meet the needs of their students.

All staff of the Tutoring Center prides themselves on being responsive to the needs of each individual student. While there are set parameters regarding student interactions, everyone always does whatever is in their power to accommodate students' needs. One way to ensure responsiveness to special populations is by interacting with as many student groups and campus entities that serve special populations as possible. This includes the Coordinator of ADA and Student Disabilities Services, the Spartan Alert team, the Athletics department, and the Distance Learning department, for example.

The director attends events like the African-American Student Connection held each semester, orientations for new dual-enrollment students, and membership meetings of Aspire 1G, a student club for first-generation college students

which promotes academic and personal success. Interacting with special populations as often as possible, and in environments where they feel comfortable, allows the director to listen to and better understand their needs.

The Coordinator of ADA and Student Disabilities Services has presented to the staff about strategies for working with students who have disabilities and she has provided materials for the Tutoring Center to use in training new tutors. We offer study skills sessions that are useful for all students, but these sessions can be particularly useful for students who are struggling with college readiness (students who are defined as at-risk or are returning to school after a long absence often sign up for these sessions). All office staff are encouraged to complete the college's mandatory training regarding Cultural Competence and Diversity in Hiring, and the Center strives to have a diverse staff so students of all backgrounds feel comfortable coming in for help.

Personnel

The Director is a member of the International Writing Centers Association. He monitors and contributes to message boards dedicated to tutoring professionals around the world. He has presented at conferences, reviewed conference proposals, and peer reviewed articles for publication. He also serves as the Chair Emeritus of the Executive Board for the Midwest Writing Centers Association which hosts conferences, distributes grant money for research, and connects tutoring professionals in ten Midwest states to a larger community. He completed his three-year term as a board member (serving as Chair for the final year) in March 2018).

Any given time during the semester, the Tutoring Center may employ 50 or more professional tutors, who have a minimum of a Bachelor's degree in their field with possible additional teaching experience. It is the tutor's role to reinforce classroom instruction, encourage academic progress, and maintain an atmosphere conducive to learning. A critical difference between tutoring and instruction is that tutors do not provide students with the answers – through probing questions and other methods, they assist the students to develop the skills to find answers on their own.

A primary point covered in tutor training is that not all students learn the same way, so it is important to be able to present information in a variety of ways to ensure students' understanding of the material. In this way, each interaction a

	tutor has with a student is an opportunity for creativity and innovation as what works in one session may not work in the next. Tutors discuss their strategies with one another and with the director both informally in conversations and formally during staff meetings. Eventually, it would be useful to have another full-time employee with tutoring experience and a degree in education to help with hiring, training, and ongoing professional development of tutors.
Intended Action Steps Please detail action steps to be completed in the future based on this review with a timeline and/or anticipated dates.	**FY2019:** • Design and implement methods to solicit more feedback from students regarding their experiences with the Tutoring Center • Continue the transition from a paper-based scheduling system to a computer-based system • Revamp study skills sessions and promote them to targeted student populations; monitor usage • Work closely with the Math department to implement a plan encouraging students in developmental courses to attend tutoring earlier in the semester; monitor usage • Build stronger relationships with Dual Enrollment, Adult Basic Education, and ESL programs • Continue to find ways to aid tutors in their professional development **NEXT FIVE YEARS:** • Examine the benefits of hiring student tutors alongside professional tutors (FY19 or FY20) • Potentially upgrade our online tutoring capabilities (FY20 or beyond) • Continue to look for ways to modernize our record-keeping systems (FY19, FY20, and beyond) • Hire an Assistant Director for the Tutoring Center — a full-time employee with a background in tutoring to assist in hiring, training, and observing a staff of 50+ professionals that is constantly changing (FY20 or beyond) **REQUIRED RESOURCES:** Any expansion of tutoring services would necessitate an increase in the budget line for tutors' salaries. To upgrade services for online tutoring, there would likely be the need to purchase software, hardware, and hire and train staff. A card

	reader system would be an expense, but could assist many other areas in the college with tracking students for similar purposes. As usage increases (even despite a decline in overall enrollment), space will soon become a problem. The current area is often near capacity, hampering the quality of the services offered. For the Tutoring Center to be even more productive, a second full-time employee with tutoring experience and a degree in education or a related field is requested. In addition to the supervisory and development duties, this would help the Center create and implement new policies based on best practices in the field and continue to develop relationships across the college to best understand the changing needs of students and faculty.

MEETING MINIMUM COMPETENCY REQUIREMENTS

Elgin Community College is committed to making sure you meet your educational goals. As a result, we have identified basic skills students must have to be successful in college-level courses. These skills are in the areas of writing, reading, and math.

Minimum competencies can be demonstrated through any one of the following ways:

1. **Test scores**—ECC accepts ACT®, SAT®, PARCC®, and high school equivalency scores to satisfy minimum competency requirements. You may be exempt from taking ECC's placement tests if you obtain the following scores:

	ACT	SAT (Prior to March 2016)	New SAT3 (Effective March 2016)	GED-High School Equivalency	HISET-High School Equivalency
Reading	18 Reading	450 Reading	530 Reading & Writing	165	15
Writing	20 English	490 Verbal	530 Reading & Writing	165	15
Math	23 Math	540 Math	570 Math	165	15

Students submitting PARCC scores with a minimum of 4 will be assessed on a test-by-test basis.

2. **Prior College Coursework**—IIf you have taken college-level courses at another college/university, you may have satisfied minimum competency requirements. Please submit college transcripts to the ECC Admissions Office for review.

3. **Early College Credit**—Advanced Placement scores must be a minimum of three (3). Visit elgin.edu/testing for course credit awarded for AP, CLEP, and International Baccalaureate (IB) exams.

4. **ECC Placement Tests**—If you have not taken the ACT, SAT, PARCC, or high school equivalency tests, or if you do not have the above scores, you must take ECC's placement tests in reading, writing, and/or math. There is no cost to take the tests. Tests are not timed. To test, you must submit the application for admission to the ECC Admissions Office. You do not need a testing appointment; just a photo ID and your ECC ID number.

In order to determine what the minimum competency requirements are for your program of study, refer to elgin.edu/mincomps.

Save yourself time and money

Prepare for your placement tests

The scores you receive on each placement test will determine which courses you may take at ECC. For example, consider:

- John Q. Student scored 33 on his ECC writing placement test.
- John must now complete two developmental English courses (ENG 097 and ENG 098), which are 16-week classes and add to his total tuition cost.
- After completing these classes, he must take the college-level English course (ENG 101) required for his program of study. Research shows students who brush-up on their skills prior to taking placement tests do far better than those who do not prepare. This is especially important for math skills, which quickly deteriorate when not frequently used.

Test Results

The math and reading test placement results will be given to you at the conclusion of your test. The essay is read by ECC English faculty. Essay results may take as long as 5 business days. All testing results are available online (go to accessECC and follow the student login instructions). For an explanation of your scores, go to elgin.edu/testsummary.

Retesting

You can retest in reading and English one time only. You can retake the math placement test up to 5 times in one year. Before retesting, we strongly encourage you to prepare for the test through a workshop, or the free ALEKS® math trial, or online resources available in the testing center. Math test scores are valid for two years. If after two years, you have not enrolled in an ECC math class, you will have to take the math test again. The English and reading test scores expire after five years. If after five years, you have not enrolled in an ECC English or reading course, you must retake the English or reading placement test. Once you are enrolled in your sequence of developmental courses, you cannot retest.

ECC 5-Year Program Review Schedule

KEY: Modified, prior arrangement | Moved to match ICCB schedule | Not required by ICCB

ECC Division	Program	Category	CIP Category	FY17	FY18	FY19	FY20	FY21
Adult Education	ABE/ASE	Cross-Disciplinary					X	
	ESL	Cross-Disciplinary					X	
CABS	Anthropology/Human Geog.	Academic	Social/Beh. Sciences					X
	Communication Studies	Academic	Communications	X				
	Developmental ENG/RDG	Cross-Disciplinary				X		
	Early Childhood Education	Career-Tech	Teacher Ed					X
	Education	Academic	Social/Beh. Sciences					X
	English	Academic	Communications	X				
	Journalism	Academic	Communications	X				
	Literature	Academic	(Fine Art)	X				
	Psychology	Academic	Social/Beh. Sciences					X
	Reading	Academic	Communications	X				
	Sociology	Academic	Social/Beh. Sciences					X
CTDE	Developmental ENG/RDG/LTC	Cross-Disciplinary				X		
	Developmental Math	Cross-Disciplinary			X			
HP/MSE - HP	Basic Nursing Assistant	Career-Tech	Nursing				X	
	Clinical Lab	Career-Tech	Medical Lab			X		
	Dental Assisting	Career-Tech	Dental		X			
	Health/Wellness	Career-Tech	Fitness Studies			X		
	Histotechnology	Career-Tech	Medical Lab			X		
	Massage Therapy	Career-Tech	Massage Therapy	X				
	Medical Imaging - Advanced	Career-Tech	Diagnositc		X			
	Medical Imaging - Radiography	Career-Tech	Diagnositc		X			
	Nursing	Career-Tech	Nursing				X	
	Physical Education	Academic	Physical/Life Science			X		X
	Physical Therapist Assistant	Career-Tech	Health Asst.					X
	Surgical Technology	Career-Tech	Clinical Science		X			

KEY:	Modified, prior arrangement	Moved to match ICCB schedule	Not required by ICCB

ECC Division	Program	Category	CIP Category	FY17	FY18	FY19	FY20	FY21
HP/MSE -MSE	Astronomy	Academic	Physical/Life Science			X		
	Biology	Academic	Physical/Life Science			X		
	Chemistry	Academic	Physical/Life Science			X		
	Developmental Math	Cross-Disciplinary			X			
	Engineering	Academic	Physical/Life Science			X		
	Geology	Academic	Physical/Life Science			X		
	Mathematics	Academic	Mathematics		X			
	Physical Geography	Academic	Physical/Life Science			X		
	Physical Science	Academic	Physical/Life Science			X		
	Physics	Academic	Physical/Life Science			X		
LRIE	Distance Learning	Student/Aca. Support					X	
	International/Study Abroad	Student/Aca. Support						X
	Library	Student/Aca. Support					X	
	Tutoring	Student/Aca. Support			X			
LVPA	Art	Academic	Fine Art				X	
	Communication Design	Career-Tech	(Design Technology)				X	
	History	Academic	Humanities				X	
	Humanities	Academic	Humanities				X	
	International Studies	Academic	Humanities				X	
	Modern Languages	Academic	Humanities				X	
	Music	Academic	Fine Art				X	
	Music Production	Career-Tech	(Comm. Technology)				X	
	Political Science	Academic	(Social/Beh. Sciences)				X	
	Theater	Academic	Fine Art				X	

KEY:	Modified, prior arrangement	Moved to match ICCB schedule	Not required by ICCB

ECC Division	Program	Category	CIP Category	FY17	FY18	FY19	FY20	FY21
SBCT	Accounting	Career-Tech	Business, General			X		
	Automotive	Career-Tech	Vehicle Repair					X
	Business (replace MMT, MMR, ENT, MKT)	Career-Tech	Business			(1st Time, Summary)		
	CIM/IMT	Career-Tech	Engineering Tech	(FY16, next FY22)				
	Computer-Aided Design	Career-Tech	Engineering Tech		X			
	Criminal Justice	Career-Tech	Criminal Justice	X				
	Culinary, Hospitality, Pastry	Career-Tech	Culinary		X			
	Digital Technologies (CIS & OAT)	Career-Tech	Admin Support	X				
	Economics	Academic	Social/Beh. Sciences					X
	EMT-B	Career-Tech	Fire Protection		X			
	EMT-P	Career-Tech	Clinican Science		X			
	Energy Management	Career-Tech	(Environ. Control)			X		
	Fire Science & Safety	Career-Tech	Fire Protection		X			
	HVAC	Career-Tech	HVACR			X		
	IST/Maintenance	Career-Tech	Industrial Equipment					X
	Management	Career-Tech	Admin & Mgmt		X			
	Paralegal	Career-Tech	Legal Studies	X				
	Public Safety Communication	Career-Tech	Homeland Security		X			
	Truck Driving	Career-Tech	Ground transport					X
	Welding	Career-Tech	Precision Metal			X		
SSD	Admissions	Student/Aca. Support		X				
	Advising	Student/Aca. Support					X	
	Athletics	Student/Aca. Support						X
	Career Development Services	Student/Aca. Support			X			
	Disability Services	Student/Aca. Support					X	
	General Student Development	Academic	Social/Beh. Sciences					X
	Recruiting	Student/Aca. Support		X				
	Registration & Records	Student/Aca. Support		X				
	Student Life/FYE	Student/Aca. Support						X
	Wellness	Student/Aca. Support					(new)	

KEY:	Modified, prior arrangement	Moved to match ICCB schedule	Not required by ICCB

ECC Division	Program	Category	CIP Category	FY17	FY18	FY19	FY20	FY21
Finance	Business Services	Student/Aca. Support					(new)	
	Financial Aid	Student/Aca. Support				X		
Workforce Development	Vocational Skills	Cross-Disciplinary						X