Assessment in the Major Workspace 2017-18

Electrical Construction and Maintenance Program

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General Information (Assessment in the Major Workspace 2017-18)

Section A: Vision and Mission (Vision and Mission Statements, Goals, and Objectives)

Vision and Mission Narrative

The Electrical Construction and Maintenance curriculum exists to serve prospective employees, employers, and consumers of service in the electrical trade. The program provides two main paths for the student. A one year certificate provides the ability to seek employment as an entry level technician in the field. Approximately one half of the students choose to combine the ECM certificate with another one year certificate and pursue an AAS degree in Individual Studies-Engineering. The occasional student decides to take ECM in order to gain hands-on skills prior to entering a two-year, Engineering Technology program.

The intent of this program assessment is to encompass the aforementioned disparate goals and objectives of the ECM curriculum, describing how these goals are to be achieved, how to tell when they are not being achieved and what actions are to be taken if goals and objectives are not being met. As an overall goal, 70% of students taking the ECM curriculum should earn their certificate within one school year and the same percentage of those who continue their education at SUNY Canton should be successful. As a general note, the 70% anticipated success rate will be used as a measuring benchmark for all the listed goals and objectives.

The enrollment goals for the ECM curriculum will be 30 students per school year, with a retention rate of 80%. Method of measurement will be accomplished by reviewing student files for retention rates at the end of the Fall and Spring semesters. Please note that there are issues with the statistics produced by institutional research. Many students must be placed in the 2 year AAS (688) curriculum in their 1st year for financial aid purposes if they intend to take a 2nd certificate. This invalidates some of the automatic data. Remediation will include working with the admissions office for better recruitment and providing extra study labs.

Additionally, the relationship between the ECM objectives and the goals of SUNY Canton will be evaluated.

Michael Spearance

Electrical Construction and Maintenance

Program Coordinator

A.1. Program Mission Statement

The mission of the Electrical Construction and Maintenance (ECM) program of SUNY Canton is to:

- Support the mission of the University and the Canino School of Engineering Technology
- Provide programs and services responsive to the educational needs of students based on industry and agency standards
- Provide the knowledge and skills through a sequence of course work for employment in the electrical field
- Provide students with the necessary prerequisite course work to successfully earn the EMC Certificate

A.2 Institutional Mission Statement

SUNY Canton is dedicated to providing a progression of accessible, affordable, high-quality applied programs that enables students in the North Country, New York State, and beyond to achieve their highest potential both personally and professionally.

Institution Goals

- Promoting Academic Excellence

- Improving Operational Effectiveness
- Optimizing Enrollment
- Driving Decisions with Relevant Information
- Focusing on Sustainability
- Creating a Robust, Active and Enriching Campus Life
- Building Greater Awareness of SUNY Canton

Vision and Mission Narrative

Relationship to Institutional, School and Program Mission

The institutional mission and ECM mission share a common goal of providing high-quality, career-driven, education for students. ECM students vary in skill set, age, experience, career interest, and educational pursuits. It is the ECM program intent to offer opportunities to students so they may explore various occupations in the electrical field.

A.3 School Mission Statement

The Canino School of Engineering Technology at SUNY Canton provides opportunities for students to acquire knowledge and practical skills necessary to begin a career in engineering technology. The School is dedicated to providing high quality academic opportunities in a nurturing and culturally diverse environment through a variety of instructional formats. Faculty members are encouraged to expand knowledge through research.

A.4 Program Goals

PROGRAM'S GOALS

- Contribute to a program of general education
- Assist students in obtaining employment upon graduation. Employment includes: full or part-time work in the electrical installation field
- Future academics

A.5 Program Learning Outcomes

Electrical Construction and Maintenance Program Student Learning Outcome Set

Install Wiring Systems for Residential and Commercial Buildings

Outcome	Mapping
Install wiring systems and	**ELEC 171 ELEC CONST & MAINTENANCE**

equipment in buildings	**I Outcome Set:** Calculate and measure watts, amperage, voltage for series- parallel circuits, Demonstrate their ability to work in a group setting, Determine the wire gauge and wire type to be used in a specific application, Identify electrical components (switches, receptacles, lighting fixtures, and etc.), Understand the theory of electrical ac generation with electrical service entrances, **ELEC 173 INTRO TO THE NATION ELEC CODE Outcome Set:** Analyze electrical blueprints to estimate electrical materials, Apply calculated loads of a residential dwelling for sizing service entrances, Apply key concepts of electrical circuit sizing appliances, Apply NEC references to installation practices, Apply skills for residential house electrical system design as per NEC specifications with material list and pricing, Demonstrate navigation of the NEC references, Demonstrate the ability to present a formal electrical bid, Identify electrical symbols with architectural scale applications for electrical blueprint reading, **Institutional Goals:** Increase overall academic and professional preparedness, Maintain and improve program quality, **Institutional Student Learning Outcomes:** Communication Skills - Demonstrates the ability to effectively present, organize, and articulate thoughts, ideas, and conclusions, Professional Competence - Demonstrate knowledge and ability to apply professional standards

Connect electrical devices in accordance with the NEC (National Electrical Code)

Outcome	Mapping
Connect electrical devices in accordance with the NEC (National Electrical Code)	**ELEC 171 ELEC CONST & MAINTENANCE I Outcome Set:** Calculate and measure watts, amperage, voltage for series- parallel circuits, Demonstrate their ability to work in a group setting, Determine the wire gauge and wire type to be used in a specific application, Identify electrical components (switches, receptacles, lighting fixtures, and etc.), **Institutional Student Learning Outcomes:** Communication Skills - Demonstrates the ability to effectively present, organize, and

	articulate thoughts, ideas, and conclusions, Professional Competence - Demonstrate knowledge and ability to apply professional standards

Perform routine maintenance on motors and transformers

Outcome	Mapping
Perform routine maintenance on motors and transformers	**ELEC 172 ELECTRICL CONSTRUCT & MAIN II Outcome Set:** Design and analyze motor circuit sizing, **Institutional Student Learning Outcomes:** Communication Skills - Demonstrates the ability to effectively present, organize, and articulate thoughts, ideas, and conclusions, Critical Thinking - Demonstrate the ability to interpret/analyze to provide a conclusion or recommendation, Professional Competence - Demonstrate knowledge and ability to apply professional standards

Install motor control circuits

Outcome	Mapping
Install motor control circuits	**Institutional Student Learning Outcomes:** Communication Skills - Demonstrates the ability to effectively present, organize, and articulate thoughts, ideas, and conclusions, Critical Thinking - Demonstrate the ability to interpret/analyze to provide a conclusion or recommendation, Professional Competence - Demonstrate knowledge and ability to apply professional standards

Section B: Program Description

Program Description Narrative

The Electrical Construction & Maintenance (ECM) program prepares students to work in building trades with the installation and testing of electrical power distribution and an emphasis placed on residential construction applications. Students are also introduced to commercial applications and building codes. At the successful completion of this one-year program, students will earn the ECM certificate.

B.1. Degree Requirements Specified

B.2 Congruence Between Course Goals

1. Describe the congruence between course and program goals and national standards and expectations in the discipline or profession, as appropriate.

We provide a broadly-based certificate program using the basic tenets of the National Fire Protection Association. Offered is a balance of general education courses with both required and elective courses in ECM and in related fields. Unrestrictive electives are available when possible.

The program begins with introductory classes in residential installations. These courses help prepare the students for the second semester devoted to commercial applications.

Math and science courses help students to hone their analytical thinking skills.

B.3. Congruence Curricular Goals

Describe the congruence between course and curricular goals, courses, and prerequisite patterns.

We provide a broadly-based certificate program using the basic tenets of the National Fire Protection Association. Offered is a balance of general education courses with both required and elective courses in ECM and in related fields. Unrestrictive electives are available when possible.

The program begins with introductory classes in residential installations. These courses help prepare the students for the second semester devoted to commercial applications.

Math and science courses help students to hone their analytical thinking skills.

B.4. Balance Between Breadth/Depth

The scope of this program ensures that the graduate will possess the skills necessary to enter into the employment market as an entry level electrician or transfer into an appropriate AAS program.

Students with our 1 year certificate are given more points towards acceptance as an apprentice in the IBEW. The math and science courses are an additional help in preparing them to pass the National Joint Apprenticeship and Training Committee (NJATC) exam. Non-union employers give SUNY EMC students one year towards five year apprenticeship.

B.5. Methods Used Multiple Sections

No multiple sections.

B.6. Scheduling efforts

One day before advising week each student is given a chance to sign up for an appointment to schedule their classes for the next semester.

B.7. Internship opportunities

The ECM Program doesn't currently offer internship opportunities.

B.8. Research Opportunities

The ECM Program doesn't currently offer research opportunities.

B.9. Departmental procedures

Faculty input is required for the development of new courses and review of all existing program coursework. After discussion with the dean and department chair, the following process occurs:

A faculty member creates or revises a master course outline for the intended course.

Each member of the department is given a copy of the proposal for review and approval.

Upon departmental approval, the department chair signs the course change or proposal and it is forwarded to the dean for signature.

Each course is then reviewed by the campus curriculum committee. The composition of this committee includes faculty from various disciplines, the Deans and Provost.

Each addition or revision is then put on the agenda as an item that requires the vote of the faculty assembly for final approval.

At the end of each semester students fill out Course Evaluation Surveys. *See the Appendix for an example and the results of the survey.*

B.10. Advisement Procedures

Students meet with their advisor to develop and approve a course schedule for the upcoming semester.

Absentee notices are furnished to each advisor, on a continual basis, by the college faculty. Additionally, students on academic probation are monitored closely and given a set of criteria to follow in order to encourage progress and ensure success.

Although, there is no formal method of departmental assessment of advisement effectiveness, the University has initiated a

Retention Committee and the School of Business and Public Service has initiated a College Success Committee. The Committee has developed a survey instrument which queries advisement.

Section C: Program Outcomes

C.1. Program Effective., Discipline

Assessment is completed on a course-by-course basis, using methods that are appropriate for student performance evaluation. These evaluations include quizzes, exams, projects/presentations, oral examinations, research projects/papers and labs.

There is no overall capstone course in the Certificate used to assess achievement of the discipline's goals and objectives. Overall accomplishment of the goals and objectives is vested in the completion of required courses of the discipline with grade point average of 1.75 or better.

C.2. Program Effective., Gen. Ed.

Assessment in general education courses is completed on a course-by-course basis, using methods that are appropriate for a student's performance evaluation. These evaluations include quizzes, exams, project/presentation evaluation, oral examinations, research projects/papers and labs.

Of the approximately 9 courses required for this certificate, two courses are vested in liberal arts studies/general education studies.

C.3. Program effect., Intellectual

Instructors utilize a variety of tools to measure student achievement. Individual intellectual growth is measured through the use of quizzes, exams, project/presentation evaluations, oral examinations research project/papers and labs.

When a student achieves the goals and objectives of the program, as evidenced by successful course completion, this would imply that a graduate of this discipline has gained knowledge and therefore, obtained intellectual growth.

C.4. Student Activities

C.5. Community Needs

The following illustrates some of the activity generated from the faculty and or students of this discipline:

- Complete house electrical installation for Habitat for Humanity
  - Most importantly, the ECM program provides a pool of qualified students to enter the employment market of local, regional, state, and national electrical construction employers.

Section D: Description of Faculty

D.1. Faculty Summary

Faculty Summary	Full-time	Part-time
(1) Number of faculty assigned to the program		
Men	1	1
Women	0	0
Minorities	0	0
(2) Credentials		
AAS Degree	1	1
Bachelor's Degree	0	0
Master's Degree	0	1
(3) Experience in Teaching		
0-3 Years	0	1
4-7 Years	1	0
25+ Years	0	0
(4) Experience in Electrical Field		
0-3 Years	0	1
4-7 Years	0	0
25+ Years	1	0

D.2. Hiring Procedures

ECM Program faculty are involved in the hiring procedures. Note that there has not been a need to hire faculty for this program since 2010.

- *Formulation of Job Description*

When enrollment or a need exists for a faculty hire within the ECM program, the Chair meets with the Dean to discuss such a request.

A formal written request is submitted to the Dean noting the need and justification for such a hire, the qualifications, requirements, and duties of the position, and supporting documentation as warranted, including a draft advertisement.

- *Advertisement Publication*

Once approved by the VP of Academic Affairs, the Department Chair submits the draft advertisement and job description to HR for input. The Dean and Chair communicate with the HR department regarding advertisement publication(s).

- *Search Committee*

The original justification includes form C-3. The C-3 lists who will serve a Search Chair for the hiring committee. The Search Committee Chair, in consultation with the Dean, forms a committee. The committee must include an Affirmative Action Officer and 3-4 additional members. The HR department has a comprehensive packet of information for all committee members, as well as the committee chair to follow – with supplemental information to assist with a successful search. Additionally, applicant submissions are posted online utilizing Angel. Search committee members are enrolled in this shell for applicant review. This eliminates the need for hard copy materials and increases confidentiality.

The search committee creates a rating instrument. Once all applications have been reviewed by committee members, a meeting is held and telephone interviews are scheduled. On campus interviews follow, typically including up to 3 candidates. Candidates may be asked to present to faculty and students as part of the on campus interview process.

The Search committee convenes and the Search Committee Chair formulates a recommendation. This recommendation, along with supporting documentation is forwarded to the Dean. The Provost and President have final approval of all hires.

D.3. Training of Faculty

- Mike Spearance runs a part-time electrical construction business.
- NABCEP PV Training
- OSHA Training
- National Electrical Code Training

D.4. Teaching Loads

Daniel Lallier	Part-time	2 lab at 16 hours / week
Michael Spearance	Full-time	2 labs at 16 hours / week 3 lectures at 3 hours/ week

D.5. Faculty Innovation in Teaching

The faculty of the ECM program are always willing to try new techniques and methods of teaching, both in the classroom and lab.

Innovations in teaching:

- PowerPoint presentation or other media support are used in ECM classes
- SUNY Learning Network (Blackboard) support is used
- Team-teaching activities are used to optimize teaching resources
- Guest lecturers from the IBEW and Code Enforcement present current industry standards to students
- Individual hands-on test-out used in the lab setting

D.6. Evaluating Teaching Effective.

Each academic year all faculty, with the exception of tenured or adjunct faculty members, are required to complete and submit an Academic Faculty Information Form. This document describes the individual's achievements over the past academic year, and future short-term and long-term goals. Areas covered in this document are Teaching Effectiveness, Mastery of Subject Matter, University Service, Continuing Professional Growth, and Future Goals and Plans. This informational document provides the Department Chair, Dean of the School, and Provost a complete synopsis of the activities of each faculty member during the past academic year, and what their plans are for the future. This report is also utilized to assess annual contributions of faculty members to assess their ability to meet both their professional and academic responsibilities.

D.7. Scholarly Ability

NABCEP Certification

Mike Spearance traveled with Art Garno, and Matt Bullwinkle (Associate Professor, Engineering Technology) to Florida for National American Board of Certified Energy Practitioners (NABCEP) training and certification. Mike is now an entry level installer of PV systems. He will take more training to receive level II certification. This will allow him to not only install PV systems but also to teach PV Systems Installation.

Student Development

A Student survey is given during the first class to assess incoming students' skill sets and to determine their long-term and short-term goals. *See Attachment "Fall 2017 student evaluations".*
Network with other teachers

D.8. Faculty Service

Committee Work:

Lecturer Reappointment Committee for: Stan Skowroneck, Cullen Haskins, Andrew Reiter

St. Lawrence Lewis BOCES Advisory Committee

Administrative Work:

Curriculum Coordinator

Program Director

Program Assessment Committee

Student Advisor

Designed Electrical Trades two year Assoicates of Occupantional Sciences (starts 2019)

Public Service:

Open House

Student Recruitment

Admitted Student Days

Habitat for Humanity

Potsdam Children's Museum

Canton Silas Wright Museum

D.9. Relation of Prog. to Community

The program serves the community by doing electrical design and analysis for Potsdam Children's Muesum and Silas Wright Musuem. The program designed electrical drawings and installed all equipment to meet National Electrical Code guidelines for Habitat for Humanity.

D.10. Faculty Current in Field

The faculty within the ECM program believes that furthering their knowledge is a very important aspect of being a successful educator. All members of the faculty attend regular conferences and training sessions on at least a yearly basis. Please see list below:

Conferences and Training:

NABCEP PV Training

OSHA Training

National Electrical Code Training

D.11. Activities Improve Teaching

ECM instructors have completed online National Electrical Code modules to stay current with code.

D.12. Evaluation and Promotion

Relation of Five Criteria for Evaluation and Promotion, in accordance with the Policies of the Board of Trustees

Each fall semester, all faculty, tenure and non-tenured must complete a Faculty Information Form highlighting the accomplishments and details specific to each of the criteria for evaluation as listed below:

- Mastery of Subject Matter
- Effectiveness in Teaching
- Scholarly Ability
- Effectiveness of University Service

- Continuing Growth

Faculty must also include this information, with supporting documentation into a Professional Portfolio. The portfolio is submitted to a Peer Review Committee, Dean, provost, and President at the time of reappointment or request for promotion.

Currently, Lecturers must also maintain a portfolio for use in periodic reappointment. Lecturers are not required to document Scholarly Work.

Section E: Description of Students

E.1. Number of Students

File Attachments:

1. **Electrical_Construction_Maintenance18.pdf** (See appendix)

A Program "Report Card" created by the Office of Institutional Research provides data regarding student enrollment, retention, graduation, admissions data, and student demographics. It only captures first-time freshmen based on reporting. See attached.

E.2. Credit Hours Taught

PROGRAM REQUIREMENTS (Curriculum 0955)

Semester I Credits

ELEC 171	Elec. Constr. & Maintenance I	7
ELEC 173	Intro. to Nat. Electrical Code	3
MATH 101	Applied College Mathematics	3
SOET 101	Introduction to Computer Usage for Technicians	1
	TOTAL CREDITS	14

Semester II Credits

ELEC 172	Elec. Constr. & Maintenance II	7
	English (Writing)	3
	Sci/Tech Elective	3
	General Elective	3
	TOTAL CREDITS	16

E.3. Diversity of Students

See attached Report Card.

File Attachments:

1. **Electrical_Construction_Maintenance18.pdf** (See appendix)

E.4. Retention Rates

See attached Report Card.

File Attachments:

1. **Electrical_Construction_Maintenance18.pdf** (See appendix)

E.5. Other Student Characteristics

See attached Report Card.

File Attachments:

1. **Electrical_Construction_Maintenance18.pdf** (See appendix)

E.6. Annual Graduates

See attached Report Card.

File Attachments:

1. **Electrical_Construction_Maintenance18.pdf** (See appendix)

E.7. Program Completion Rates

See attached Report Card.

File Attachments:

1. **Electrical_Construction_Maintenance18.pdf** (See appendix)

E.8. Graduate Characteristics

See attached Report Card.

File Attachments:

1. **Electrical_Construction_Maintenance18.pdf** (See appendix)

E.9. Recruitment Strategies

Students are recruited through college fairs and high school visits as well as inviting students to campus events such as group visits and open houses. Faculty from the ECM program also meet with prospective students referred by the admissions office on an as needed basis. Potential students have expressed a desire for a curriculum of this nature due to placement in a Career and Technical environment in the local Board of Cooperative Education Services (BOCES). Many have a family member in the electrical field.

Students are personally contacted by an admissions counselor several times per year when they inquire, apply and pay their deposit. Also, faculty members from the ECM Program assist the College Admissions Office with its recruiting effort by contacting prospective students during the summer by telephone.

The Canino School of Engineering Technology creates a listing of students admitted to the ECM program. These students are then sent a fall welcome letter which includes: a tool-list, a book-list and faculty contact information. Many students respond via email or by telephone.

E.10. Program Minimum Requirements

Admission as Freshman:

Candidates for admission to the College must meet the following minimum requirements:

- Be a graduate of a secondary school accredited by its State Education Department, hold a high school equivalency diploma (GED) with a minimum score of 245/2450, or meet a certain home-school criteria.
  IEP diplomas are not considered. Students with an IEP diploma must past the GED with a score of 245-2450.
- Have completed, with a satisfactory level of achievement, the minimum course prerequisites for the ECM Certificate.
- Demonstrate academic preparation necessary for success in the curriculum selected.
- The most important criterion is the secondary school record (grade point average, rank-in-class, pattern of course work).

For candidates not applying directly from high school, additional criteria, such as an essay, may be required.

E.11. Acceptance Ratio

Does not apply.

E.12. Enrollment Patterns

See attached Report Card.

File Attachments:

1. **Electrical_Construction_Maintenance18.pdf** (See appendix)

E.13. Student Needs

1. Student Needs

a) Describe the goals of the students entering the program.

The majority of students have goals of obtaining employment in the electrical construction field.

c) Describe the academic needs of beginning and transfer students.

The majority of students in the program are the products of the New York State Education system. New York State now requires students to complete a battery of six Regents examination in order to graduate with a Regents Diploma. Out of state students seem to have the same level of competency as their New York State counterparts.

Freshman students enter the program with the same academic concerns as any other new student. The first obstacle to overcome is to erase the high school manner of thinking and instilling in the new student that college is a different environment where they are responsible for their action or inaction. New students present challenges to faculty in the program in the arena of mathematics, familiarization with as acceptable format for preparing documents in accordance with the discipline, adjustment of studying habits, time management skills, being able to meet deadlines for assignments, and most importantly, realizing that they control their future.

Transfer students, are few in number, and normally do not present additional educational needs beyond their peer group. Thus, they have proven that they have become accustomed to the rigors of college life and its demands. A good number of transfer students enter the ECM program with the intent to transfer into the AAS Program. Many of these students have displayed the tools to succeed in either program.

d) Describe the special needs of groups of students, such as nontraditional, international, disabled, and unprepared students.

(1) **Non-traditional students**. The program does have a population of nontraditional students enrolled. A number of nontraditional students are adults that are preparing for a second career, some are exiting the military and pursing their education to enter a new career, or some are single parents that were not afforded the opportunity to pursue their educational goals. A special need presented by some members of this population group is acclamation into a learning environment and reestablishing studying skills. Study groups and learning laboratories normally address these needs along with faculty member patience, tutoring, and mentoring.

(2) **International students**. The program has a smaller number of international students, primarily Canadian citizens, due to the closeness of the border. The unique set of needs presented by this population group is one of financial aid, paying non-resident fees, and meeting the requirements for employment.

(3) **Disabled students**. The College is in full compliance with the American with Disabilities Act of 1990 and current revisions and Section 504 of the Rehabilitation Act of 1973 and the Program follows

these guidelines. Accommodative tutoring services are provided to this group as needed in accordance with the specific disability and all faculty members strive for total inclusion in all classroom settings. All students are treated in a fair and equitable manner.

(4) **Unprepared students**. Unfortunately there are students that arrive at college and are admitted into the program that are unprepared. The college offers tutoring services to all students. The college has initiated a "Moving Towards Success" (formerly Early Warning System) which allows faculty members to identify students that may be having academic difficulty and/or attendance problems. The system requires involvement, interaction and intervention by the student's academic advisor.

E.14. Special Student Services

TRIO STUDENT SUPPORT SERVICES

What is TRiO?

TRiO Student Support Services (SSS) is a federally-funded TRiO grant program which provides enhanced academic and counseling assistance to eligible students. The aim of the program is to retain its participants and to have many continue toward a baccalaureate degree.

Who is Eligible?

Each year, approximately 200 new and returning students, who meet federal guidelines based on first-generation college student status, income and/or documented disability, are eligible.

How do they Help?

TRiO SSS provides a variety of support services, including academic advising and tutorial assistance in math, chemistry, biology and physics. Information on financial aid is provided, as well as assistance completing financial aid forms.
Freshman are required to enroll in a TRiO section of FYEP.

Scholarship

TRiO SSS students who achieve certain academic levels, may be eligible to receive a TRiO scholarship.

Where do I Sign-Up?

Complete and submit an application and you will be notified by an Academic Counselor of your eligibility.

E.15. Academic Placement Procedures

An explanation of academic placement procedures.

The ACCUPLACER test measures reading, writing, and math skills. It aids placement into the appropriate level English and math classes. ACCUPLACER is offered on campus throughout the school year and during the summer. Students required to take the test are notified after acceptance into the college and are provided with the testing dates by the Office of Academic Support Services. ACCUPLACER placement test can be found at *www.canton.edu/placementtesting*

Students may also be placed into the appropriate reading, writing and math course based on their high school regents test scores. In Mathematics, students scoring lower than a 75% on the NYS Mathematics Algebra Regents will need to take Math 099 (Foundations of Applied Mathematics) or Math 100 (Beginning Algebra). Students scoring at least 75% are eligible to take Math 101 (Applied College Math) or Math 106 (Intermediate Algebra). In English, students scoring lower than a 75% on the NYS English Regents will need to take English 097 (Academic Reading and Writing). Students scoring at least 75% are eligible to take English 101 (Expository Writing) or English 102 (Oral and Written Expression).

E.16. Advisement Policies

Academic advising is predominantly handled by faculty advisors within the student's discipline. Students are required to meet with their advisor at least once per semester to discuss course placement and degree progress for the following semester. Faculty review student files at the end of each semester to verify that they are making Satisfactory Academic Progress. The Advising and First Year Programs office offers a supplement to the faculty advising model by providing students with information on general education and major requirements, campus processes (i.e. how to withdraw from a class), and assistance for students in transition (changing major or school). This office is also charged with providing resources and training opportunities for faculty advisors.

Near the end of the Fall Semester students are scheduled during office hours for an appointment to plan their course work for the Spring Semester.

E.17. Diverse Learning Styles

Students enter the program with different learning styles and faculty members are aware of this issue. Therefore, faculty members present materials in a variety of ways in order to engage learners to insure academic success. Class sessions are conducted utilizing a variety of teaching tools including: PowerPoint presentation, the use of audio visual materials, the blending of lecture and hands-on presentation, scenarios, and group assignments.

E.18. Orientation Activities

The College recognizes the social and academic adjustments which must occur for entering college students to be successful. To enable new students to move with ease and confidence from the home/high school environment, SUNY Canton provides an orientation program as a total campus endeavor.

Student orientation activities are presented throughout the academic year and during the summer months. Additionally, students that are admitted early in the year have the opportunity to "shadow" current students in the classroom environment.

Open house activities normally consist of a PowerPoint presentation which outlines the faculty and their credentials, the curriculum, a tour of the program facilities, and a questions/answer period. Parents are encouraged to attend and partake in all orientation activities.

E.19. Attrition Patterns

See the attached Report Card.

File Attachments:

1. **Electrical_Construction_Maintenance18.pdf** (See appendix)

E.20. Support Services

Learning Labs for math, science and writing are available to all students free of charge on a walk-in basis. Curriculum specific labs also exist for various programs including accounting/business, computer science, and veterinarian science. All of the labs offer face-to-face professional and peer tutor assistance. Repeatedly, students have rated SUNY Canton tutoring services with the highest satisfaction ranking among all SUNY Technology Sector campuses. Students taking classes online have access to tutoring help via email and phone.

One-to-One Tutoring is provided in limited exceptions where the Learning Labs are unable to cover the topic requested. The Director of Tutoring Services assesses students requesting tutoring and establishes the appropriate level of academic intervention and support.

Friday ECM Tutoring Sessions are offered by Mike Spearance.

E.21. General Student Life

- **Southworth Library Learning Commons** supports a student population that is ever-increasing and diverse. The facility provides space for collaborative group work, quiet study and intensive tutoring – including Math & Science, Business & Accounting, Writing, and, Computer learning labs. The Computer Lab provides space for one-on-one tutoring as well as Information Literacy instruction for classes, and is equipped with a new, state-of-the-art SMART Board. The library's collection includes approximately 50,000 print books, over 80,000 electronic books, extensive electronic databases, and a variety of digital media. The 24/7 availability of electronic books and various databases is particularly supportive of non-resident students and online courses. For resident students, the building is equipped with Wi-Fi in support of mobile computing, hundreds of desktop computer stations; and dozens of laptops are available for loan as well. Ongoing innovative technology initiatives support both the learning styles and the needs of the 21st-century learner.

  The Library Learning Commons also offers a highly successful, in-demand reserve collection, including a large collection of current textbooks, many circulating iPads, headphones, calculators, microscopes, DVDs, projection and wireless keyboards and more; in addition to significant collection of anatomical models that support hands-on learning for health sciences students.

The learning commons building is now open extended hours during the academic term, Monday through Thursday from 7:30 a.m. until 2:00 a.m.; Fridays from 7:30 a.m. to 8:00 p.m.; Saturdays from 8:00 a.m. to midnight; and Sundays from 8:00 a.m. to 2:00 a.m. Professional librarians are available during most library hours to assist students with a full range of library services, and web-based synchronous and asynchronous chat reference services provide access to professional research assistance at any time, 24 hours a day, 7 days a week.

- **Information Technology Services** are available to every student attending the College. Several modern PC facilities, located around campus, provide all students with the opportunity for virtually unlimited use of computers seven days a week, including evenings and weekends in the library. The **Help Desk** is available 8:00 to 6:00 p.m. , Monday-Thursday; 8:00 to 4:30 p.m. Friday. Each student receives an email account and has full access to the internet. The residence halls have high-speed internet access provided by a local cable company. **UCanWeb** accounts are established for each student allowing access to grades, academic status, financial aid, pre-scheduling and other individual data.
- **The Davis Health Center** is an acute care center that is nationally accredited through the Accreditation Association for Ambulatory Health Care. It is staffed by a physician, nurse practitioners, and support staff and provides medical care. The Center also seeks to promote overall wellness and healthy lifestyle choices. A health educator/wellness is available to promote campus wellness initiatives on the campus working primarily with the Health and Counseling Centers. The Health Center has implemented electronic medical records and adopts HIPAA guidelines for record keeping and patient confidentiality, as well as following NYS Public Health Guidelines.
- **The Personal Counseling Service** provides professional counseling services for students with personal, social, and emotional concerns. Academics and Student Life both may refer students for assessments and further referrals. The fully licensed staff provides workshops, educational programs and activities contributing to overall student development. Themes include decision making, communication skills, conflict resolution, grief counseling, developing leadership skills, life-style differences, maintaining relationships, sexuality, alcohol and substance abuse, and stress management.
- **The Career Services Office** assists students in exploring various career opportunities, preparing high quality resumes and planning individualized job searches. The Career Services Office is instrumental in helping students find internship opportunities to meet program requirements. The Career Services web site includes the online program, Jobs4Roos, listing jobs and career opportunities for all students.

This very active office coordinates job fairs bringing on campus many employers who are interested in graduates from SUNY Canton programs.

- **Academic advising** is predominantly handled by faculty advisors within the student's discipline. Students are required to meet with their advisor at least once per semester to discuss course placement and degree progress for the following semester. Faculty review student files at the end of each semester to verify that they are making Satisfactory Academic Progress. The Advising and First Year Programs office offers a supplement to the faculty advising model by providing students with information on general education and major requirements, campus processes (i.e. how to withdraw from a class), and assistance for students in transition (changing major or school). This office is also charged with providing resources and training opportunities for faculty advisors.

E.22. Satisfaction with Services

I am very satisfied with the level of the support services available to my program and the students.

E.23. General Campus Environment

SUNY Canton is a small college in a rural setting. The campus has a safe environment and its population is about 70%

traditional/30% non-traditional and 35% residential/65% non-residential. Additionally, 28% of students are from urban NYS counties, 60% are from rural NYS counties, 3%are from other US states and 9% are international students. Minority students make up approximately 18% of the student body. Every attempt is made to accommodate these diverse populations as previously described including an Office of Diversity with a full time director. The College is dedicated to attracting faculty to represent all populations. In the fall of 2011, 12% of full-time faculty members represent minority groups. The student mix provides many challenges, but also many opportunities for experiencing diversity and personal growth.

As of the fall of 2011, the student to faculty ratio is 21:1. The average lecture class size is below thirty and the average lab size is below fifteen. This allows for a personal approach and easy faculty access. Also impacting on student performance are the many office hours offered by every faculty member, the free professional tutoring and the Administrators' frequent reminders to faculty/staff to be warm, friendly and helpful to students. The average length for full time faculty members is 10 years.

E.24. Student Affairs

Student affairs and academic affairs coordinate efforts to contribute to student success.

- Each department of Student Affairs has goals and objectives related to student learning outcomes and retention; these goals and objectives are mapped to the College's institutional goals and objectives on student academic success.
- The Orientation Program, run by Student Affairs, includes Academic Support Services, Academic Expectations and Curriculum Advisement.
- The First Year Experience program is a collaboration of Academic Affairs and Student Life, both divisions designing and executing the program.
- Residence Life, in partnership with Facilities and University Police, strives to provide a safe and clean living environment that is conducive to studying and student success.
- The Athletic Department and Academic Support Services cooperate on tutoring reports affecting retention efforts.
- Student Affairs representatives are members of many governance and scholarly committees, allowing them to contribute to academic-oriented efforts across campus.
- Student Affairs collaborates with academic departments to bring cultural presentations to the campus; thereby providing the academic community with a framework for integrating diversity into the classroom.

Section F: Data from Assessment

F.1. Description Learning Outcomes

Program Student Learning Outcomes include:

Install wiring systems and equipment in buildings

Connect electrical devices in accordance with the NEC (National Electrical Code)

Perform routine maintenance on motors and transformers

Install motor control circuits

F.2. Programmatic Assessment

PSLO 1 - Install wiring systems and equipment in buildings

Key assessments:

ELEC 171 - Installation Lab Single Pole Switch and Light (last assessed Fall 2017)

Students complete a lab in which they install a single pole switch and light. A drawing is projected in class and students are required to transfer that information to their own lab sheet to scale. They then draw a line diagram and cable diagram showing the circuit and current flow. After the drawing has been approved by an instructor, the student uses a lab module to install using their drawing. Once the install is complete, the student is graded based on the success of their install and their write-up of the lab.

ELEC 172 - Small Building Design (last assessed Spring 2017)

Students are given a machine lab with lathes, miling machines, and sanding machines. Students are given the horsepower for each piece of equipment and need to deisgn the feeder circuits, conduit sizing, breakers, and control equipment. it assesses the student's ability to go out and install equipment with the parameters given.

PSLO 2 - Connect electrical devices in accordance with the NEC (national Electrical Code)

Key assignments:

ELEC 173 - Residential Home Electrical Design (last assessed Fall 2017)

Students need to follow the code procedures to calculate recepticles and lighting circuits and appliances for a whole home. Students take the quanitites, price the entire project, have a bid opening to demonstrate which student had the lowest bid for a competitive market. This givens them the entreprenuerial skills to understand how to create a project for an entire home and estimate the costs associated with it. This is a very real-life application for students.

PSLO 3 - Perform routine maintenance on motors and transformers

Key assignments:

ELEC 172 - Lab 16, Transformer Testing (last assessed Spring 2018)

Students learn to make connections for three-phase wiring systems that are Delta or Wye connected. This would be a small or large commercial application for designing electrical connections in commerical buildings.

ELEC 172 - Lab 26 - 3 Phase Motor Connections (last assessed Spring 2018)

Each student performs a test out to identify and connect motor leads. Students use multi-meter to identify the components of the motor and proceed to wire accordingly and test it. Instructors supervise the lab performance portion for safety and students are corrected as they go if done incorrectly. Students then write up a comprehensive lab with drawings demonstrating the connection and write out conclusion with how it works. This is a major component of maintenance and repair for electrical applications in the real world.

PSLO 4 - Install motor control circuits

Key assignments:

ELEC 172 - Lab 25, 3 Phase Motor Starters (last assessed Spring 2017)

Students learn how to apply 2 wire and 3 wire control for pump lift stations, air conditioning units, and fan units for commercial applications.

F.3. Student Satisfaction Data

SUNY Canton participates in the National Survey of Student Engagement (NSSE) and the Student Opinion Survey (SOS) every 3 years. The NSSE is not relevant to the ECMR program, as it only surveys bachelor's degree-seeking students. The results of the most recent Student Opinion Survey (SOS) are shared on campus and are posted online as well. The 2015 SOS did not reveal any major satisfaction issues on campus.

http://www.canton.edu/faminutes/sos/

The attached student evaluations show overall satifiscation of the program.

File Attachments:

1. **Fall 2017 student evaluations.docx** (See appendix)

F.4. Graduate Survey Results

File Attachments:

1. **Electrical Construction and Maintenance 2017 Summary.pdf** (See appendix)
   Graduate survey results from class 2017

Graduate survey results show no students responding. One way I rectified this problem, I created a Facebook page for the EMC students to stay in touch and update me on their job status. In the last update 11 students are employed at DEMCO electrical and 4 students are top of the list for International Brotherhood of Electrical Workers. For the class of 2018, which had 24 students' 13 took jobs in the electrical field, 4 are returning to SUNY Canton for 2 year degrees and the rest are seeking employment.

F.5. Alumni and Employer Surveys

File Attachments:

1. **Employer Letters 2015.pdf** (See appendix)

This program only employs graduates in two companies - Demco and International brotherhood of Electrical Workers. 100% of graduates who want to work in the electrical field are employed at the time of graduation with one of these two companies. Feedback regarding satisfaction with graduates is collected twice a year to ensure that these companies are satisfied and will continue to employ our graduates. See attached email for more information.

Section G: Use of Assessment

G.1. Dissemination of Results

The Dean of the School of Engineering Technology and the Department Chair for Civil and Construction Engineering will both review the results of this assessment. The results will be shard with the School of Engineering Technology at the Spring 2019 Deans' Assessment Symposium.

G.2. Planning Process

Every semester, course assessment informs changes that need to be made to weighting of assignements and needed resources. The Curriculum Coordinator also keeps close tabs on new deposited and applied students, reaches out to them personally to keep the program enrollmnt stable. In addition, the Curriculum Coordinator visits numerous BOCES sites every year to recruit students for the program. Changes are made based on findings from the assessment and recruitment process.

G.3. Most Recent Evaluation

Reviewer from the 2013 assessment cycle recommended strengthening student math skills. Since that review, formed a close partnership with the math department to prepare students for the International Brotherhood of Electrical Workers test. The pass rate on the exam has increased since that time.

Reviewer from the 2013 assessment cycle recommended adding a trade review advisory board. The program has not done this yet.

Reviewer from the 2013 assessment cycle recommended that the program outcomes/goals be broadened to represent non union representation/guidelines within the contracting field. The program brought in DEMCO, a non-union electrical company, and it greatly enhanced the program and the graduate outcomes.

Section H: Conclusions

H.1. Reviewers' Comments

Form: Assessment in the Major External Reviewer Recommendations (See appendix)

Reviewer: Allen Smith : Electrical Apprenticeship Trainer International Brotherhood Of Electrical Workers Watertown,N.Y.

(1.1) What are major strengths of the program?

This program has proven to us that it gives the student a basic understanding of electrical skills, which helps them excel in our program.

(1.2) What are the major weaknessesof the program.

From our standpoint it lacks math skills , which are required to pass our aptitude test (I know Mr. Spearance has been working on this and we have seen better results.)

Reviewer: Jason Ashlaw DEMCO Electrical Contractors Syracuse, NY

(1.1) What are major strengths of the program?

Broad based training with adquate hands on labs.

(1.2) What are the major weaknessesof the program.

The program needs to increase metal clad cabeling for commerical applications.

H.2. Discussion of Conclusions

- One of the reviewers for the program noted that graduates did not have sufficient math skills for their apprenticeship testing. Need to talk with the math department to come up with a plan for improving the math skills of students for the testing.
- For the one-year student, they need better notetaking skills. Suggested that additional note-taking skills be taught in SOET 101 (a program requirement).
- Program funding has been too small in recent years to allow for the addition of important industry-requested labs in metal clad cable installations. Increasing the budget by $1,000 would allow for these adjustments to be made.
- Although not included in this study, fall to spring retention rates for the program fell for Spring 2019 due to lack of student effort and positive attitude. More students failed after the fall 2018 semester than in previous semesters due to not doing assigned homework and not taking notes. This is a problem I don't yet know how to solve.
- Enrollment has been decreasing in the program, and there are concerns that it might continue given competition from a potential program at Clinton Community College. Additional time at high schools with guidance counselors to help identify students interested in the trades early could help this, especially with sophomore-level students.

H.3. Decisions Made

- The math deficiencies of graduates are very important to address immediately to maintain good relationships with employers. As the test is taken in the spring, work with math department in the fall to come up with a plan.
- Meet with Dean to discuss note-taking and study skill needs for the program over the summer.
- Continue to watch for the program announcement from Clinton Community College and submit concerns to SUNY regarding our program enrollment.

- New teachers at BOCES have contributed to lack of numbers, and new instructors haven't been responsive to emails. Curriculum Coordinator to make in-person visits to BOCES teachers in June (Norwood, Ogdensburg, Fowler) to restabilish relationships.
- As current Curriculum Coordinator is retiring in 2020, the search for a replacement should begin immediately to assist in the transition.

H.4. Evaluation of Evaluating

The rubric used for Program Review is not well suited for one-year programs. The evaluators, which are employers for this program, are not familiar with this type of process and the terminology for evaluation is foreign to them. The feedback from evaluators is critically important for the success of the program, but the tool required does not make any sense for a one-year curriculum. A new evaluation tool needs to be developed to better serve our program.

Appendix

A. **Electrical_Construction_Maintenance18.pdf** (Adobe Acrobat Document)
B. **Electrical_Construction_Maintenance18.pdf** (Adobe Acrobat Document)
C. **Electrical_Construction_Maintenance18.pdf** (Adobe Acrobat Document)
D. **Electrical_Construction_Maintenance18.pdf** (Adobe Acrobat Document)
E. **Electrical_Construction_Maintenance18.pdf** (Adobe Acrobat Document)
F. **Electrical_Construction_Maintenance18.pdf** (Adobe Acrobat Document)
G. **Electrical_Construction_Maintenance18.pdf** (Adobe Acrobat Document)
H. **Electrical_Construction_Maintenance18.pdf** (Adobe Acrobat Document)
I. **Electrical_Construction_Maintenance18.pdf** (Adobe Acrobat Document)
J. **Fall 2017 student evaluations.docx** (Word Document (Open XML))
K. **Electrical Construction and Maintenance 2017 Summary.pdf** (Adobe Acrobat Document)
L. **Employer Letters 2015.pdf** (Adobe Acrobat Document)
M. **Assessment in the Major External Reviewer Recommendations** (Form)