

**Engineering Technology – Operations**

CERTIFICATE OF ACHIEVEMENT (CoA)

REQUIRED CREDITS: 30

DEGREE CODE: ETOPER-CT

**DESCRIPTION**

The Certificate of Achievement in Engineering Technology, Operations Emphasis is an 18-month program that provides students with class room and laboratory experiences in electricity, mechanical power, pneumatics, hydraulics and ferrous and non-ferrous material. The Operations emphasis focuses on those skills used in operational settings. Courses include Industrial Electricity, Mechanical Power Transmission and Fluid Power.

**STUDENT LEARNING OUTCOMES**

- Demonstrate the knowledge and ability to follow guidelines for safe operation and maintenance of various mechanical, electrical, and fluid power systems.
- Show the skills to design and operate basic electrical, mechanical, and fluid power systems and to use computer-based programmable logic controller devices to monitor their operation and performance.
- Employ the skills and knowledge to apply various troubleshooting techniques for identification and correction of faults in electrical circuits and mechanical and high pressure fluid power systems.
- Prepare technical reports and communicate the results through effective oral communications.

**PLEASE NOTE** - The courses listed below may require a prerequisite or corequisite. Read course descriptions before registering for classes. All MATH and ENG courses numbered 01-99 must be completed before reaching 30 total college-level credits. No course under 100-level counts toward degree completion.

**GENERAL EDUCATION REQUIREMENTS (3 CREDITS)**

**COMMUNICATIONS (3 credits)**

Recommended: COM 115 Applied Communication

**SPECIAL PROGRAM REQUIREMENTS (27 CREDITS)**

**CORE REQUIREMENTS (24 credits)**

AC 103B	Introduction to HVAC Mechanical Theory and Application	5
CONS 120B	Construction Plans and Specifications	3
MT 102B	Fundamentals of Electricity	4
MT 104B	Industrial Electricity	4
MT 106B	Mechanical Power Transmission	4
MT 108B	Fluid Power (Pneumatics, Hydraulics, Instrumentation)	4

**ELECTIVES (choose 3 credits)**

Any course with EGG, ET, MT prefix

Computation included in MT 102B

Human Relations included in MT 102B

**FULL-TIME STUDENT DEGREE PLAN**

*Plan can be modified to fit the needs of part-time students by adding more semesters.*

<b>FIRST SEMESTER</b>	<b>Credits</b>
COM 115 Applied Communication	3
MT 102B Fundamentals of Electricity	4
MT 106B Mechanical Power Transmission	4
<b>TOTAL CREDITS</b> .....	<b>11</b>
<b>SECOND SEMESTER</b>	<b>Credits</b>
AC 103B Introduction to HVAC Mechanical Theory and Application	5
CONS 120 Printreading and Specifications	3
MT 108B Fluid Power (Pneumatics, Hydraulics, Instrumentation)	4
<b>TOTAL CREDITS</b> .....	<b>12</b>
<b>THIRD SEMESTER</b>	<b>Credits</b>
MT 104B Industrial Electricity	4
Complete Electives (see courses this page)	3
<b>TOTAL CREDITS</b> .....	<b>7</b>
<b>DEGREE PLAN TOTAL CREDITS</b> .....	<b>30</b>

- NOTE**
- Course numbers with the “B” suffix may be non-transferable for a NSHE baccalaureate degree.
  - Course numbers with the “H” suffix are designated Honors-level courses and can be used to fulfill equivalent general education requirements. For more information visit [www.csn.edu/honors](http://www.csn.edu/honors).
  - In no case, may one course be used to meet more than one requirement except for the Values and Diversity general education requirement (only AA, AS, and AB degrees) which may be used to fulfill the corresponding general education or emphasis requirement.
  - Students may elect to graduate using the degree requirements in effect at the time of matriculation, or when they declared or changed major or the current catalog. If a program is official after a student has matriculated, the student may choose the degree requirements of the new program. In no case may a student use a catalog which is more than six years old at the time of graduation.

