APPLIED ENGINEERING & TECHNOLOGIES

MISSION CRITICAL OPERATIONS

Mission Critical Operations Degree – A40430

The Mission Critical Operations curriculum is designed to prepare students through the study and application of principles from mathematics, natural sciences, and technology and applied processes based on these subjects.

Course work includes mathematics, natural sciences, engineering sciences and technology.

Graduates should qualify to obtain occupations such as technical service providers, materials and technologies testing services, process improvement technicians, engineering technicians, industrial and technology managers, or research technicians.

The Mission Critical Operations curriculum prepares graduates for employment in a wide range of positions in specific mission critical environments, operations technology, and maintenance. Course work includes the development of a student's ability to maintain technically sophisticated systems for business continuity and near continuous uptime using engineering, information technology, and industrial management and maintenance skills. The course work emphasizes analytical and problem-solving skills required to sustain high availability national security interests and includes instruction in electromechanical systems, networking, automation, cybersecurity, emergency management and systems integration. Graduates should qualify for employment as entry-level technicians with businesses, industries, educational systems, and governmental agencies in national critical infrastructure areas including, but not limited to, communications, emergency services, energy, financial services, healthcare, information technology, and transportation.

Introduction to MCO Certificate – C40430A

Critical Electrical Systems Certificate – C40430B

Critical Control Systems Certificate – C40430C

Mission Critical Operations Certificate – C40430D

Program Sequence

First Semester

BAT	117	Principles of Heat and Fluids	3
ISC	112	Industrial Safety	2
MCO	110	Intro to MCO	3
MNT	110	Intro to Maintenance Procedures	2
ENG	111	Writing and Inquiry	3
MAT	121	Algebra/Trigonometry I	3

Second Semester

ELC	127	Software for Technicians	2
ELC	131	Circuit Analysis I	4
MCO	115	MCO Infrastructures	3
MNT	222	Industrial Sys Schematics	2
HUM	110	Technology and Society	3

Complete Introduction to MCO Certificate (C40430A): BAT 117, ISC 112, MCO 110, MCO 115, MNT 110

Third Semester

PSY	118	Interpersonal Psychology	3
WBL	112	Work-Based Learning I	2

Fourth Semester

ATR	112	Intro to Automation	3
BAT	111	Building Automation Systems	2
ELN	235	Data Communication Systems	4
ELC	250	Critical Power Systems	4
MCO	210	Critical Site Operations	3

Complete Critical Electrical Systems Certificate (C40430B): ELC 131, ELC 250, ELN 235

Fifth Semester

MCO	260	Critical Facility Infrastructures	4
MCO	265	Critical Facility Management	3
MCO	266	ICS Cyber Security	3
PCI	172	SCADA Systems	4
ENG	114	Prof Research & Reporting	3

Complete Critical Control Systems (C40430C): ATR 112, BAT 111, MCO 266, MNT 222, PCI 172

Complete Mission Critical Operations Certificate (C40430D): ELC 127, MCO 210, MCO 260, MCO 265

Graduation Requirements ..... 68 Credit Hours