

# Power Systems Engineering Technology (PSET)

## Power Systems Engineering Technology (PSET)

Power systems engineers monitor and maintain the quality, availability, reliability, transferability, and safety of the power systems we rely on daily, including smart grid technologies for distributed power generation and smart transmission line system technology. Power Systems Engineering Technology graduates have the skills and competencies needed to begin careers and advance professionally through technical and management positions with major employers in the power engineering community. Graduates also are prepared to continue their studies in a bachelor's degree program.

The Power Systems Engineering Technology program is accredited by Engineering Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, phone (410) 347-7700.

## Power Systems Engineering Technology (PSET)

All degree-seeking students must complete a First Year Experience (FYE) course as part of the first 12 credit hours taken at Cincinnati State.

		Lec	Lab	Credits
<b>Semester 1</b>				
ENG 101	English Composition 1			3
PSET 110	Power Systems CAD			3
EET 131	Circuit Analysis 1			4
EMET 140	Electro-Mechanical Engineering Technology Foundations			2
MAT XXX Mathematics Elective 1				4
<b>Semester 2</b>				
PSET 120	Advanced CAD with GIS			3
PSET 130	National Electric Code and National Electric Safety Code			2
EET 132	Circuit Analysis 2			4
PSET 140	Power Systems Foundations			3
MAT XXX Mathematics Elective 2				4
<b>Semester 3</b>				
ENG 10X English Composition Elective				3
PSET 291	Full-Time Cooperative Education 1: Power Systems Engineering Technology			2
<b>Semester 4</b>				
ECO 1XX Economics Elective				3
PSET 225	Industrial and Commercial Power Design			4
EMET 240	Programmable Logic Controllers, Motors, Motor Controls, and Kinematics			3
PSET 250	Power Transmission and Distribution Design			3
PHY XXX Physics Elective				4
<b>Semester 5</b>				
COMM 110	Public Speaking			3
CULT 110	Social Issues in Technology			3
PSET 260	Stationary Engineering with Instrumentation and Controls			4

PSET 275	Protective Relays and Controls			3
PSET 290	Power Systems Capstone			2
<b>Semester 6</b>				
PSET 292	Full-Time Cooperative Education 2: Power Systems Engineering Technology			2
Total Credits:		0	0	71

## Electives

### Mathematics Electives

Select one of the following: 8-10

MAT 125 & MAT 126 Algebra and Trigonometry and Functions and Calculus

MAT 251 & MAT 252 Calculus 1 and Calculus 2

### English Composition Elective

ENG 102 English Composition 2: Contemporary Issues 3

ENG 103 English Composition 2: Topics in Literature 3

ENG 104 English Composition 2: Technical Communication 3

ENG 105 English Composition 2: Business Communication 3

### Economics Elective

ECO 105 Principles of Microeconomics 3

ECO 110 Principles of Macroeconomics 3

### Physics Elective

PHY 151 Physics 1: Algebra and Trigonometry-Based 4

PHY 201 Physics 1: Calculus-Based 5

## EET Courses

### EET 100 Introduction to Electrical Engineering Technology

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

An introduction to concepts and measuring skills for the electronics field. Topics include: current, voltage, power, Ohm's law, series circuits, meter reading, software simulation use, and circuit construction.

Prerequisites: AFM 090 or appropriate placement test score

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=100subject\\_code=EET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=100subject_code=EET))

### EET 101 Electronic Fundamentals 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on electrical fundamentals for non-electrical majors. Topics include: DC and AC circuit theory, electrical motors and controls, electromagnetic devices, and transformers.

Prerequisites: AFM 095 or MAT 120, and AFL 085, or appropriate placement test scores

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=101subject\\_code=EET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=101subject_code=EET))

### EET 102 Electronic Fundamentals 2

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of EET 101. Topics include: number systems, codes, Boolean algebra, and combinational and sequential logic systems; digital circuits including comparators, decoders, and counters; diodes, bipolar junction transistors, and operational amplifiers; circuit construction; and troubleshooting.

Prerequisites: EET 101

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=102subject\\_code=EET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=102subject_code=EET))

### EET 121 Digital Systems 1

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on analyzing, designing, and troubleshooting digital logic circuits. Topics include: basic gates and PLDs, number systems and codes, Boolean algebra, circuit simplification, functions of logic circuits, latches, flip-flops, counters, timers, and memory.

Prerequisites: MAT 120 or appropriate placement test score

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=121subject\\_code=EET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=121subject_code=EET))

**EET 122 Digital Systems 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of EET 121. Topics include: counter design and cascading, shift registers, PLD applications, microprocessor registers, I/O, busses, DMA, memory expansion, and assembly language programming.

Prerequisites: EET 121

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=122subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=122subject_code=EET))

**EET 131 Circuit Analysis 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on DC electric circuits. Topics include: current, voltage, resistance, and power; laws applied to series, parallel, and series-parallel circuits; Thevenin's, Superposition, and Norton's theorems; steady state and transient behavior of capacitive and inductive devices; and magnetic properties.

Prerequisites: Take either MAT 121, MAT 122, MAT 123, MAT 125, MAT 126 or appropriate placement test score

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=131subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=131subject_code=EET))

**EET 132 Circuit Analysis 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of EET 131. Topics include: sinusoidal wave characteristics; complex numbers; phasors; transformers; RC, RL, and RLC networks; filter networks; three-phase and poly-phase systems; and power factor analysis.

Prerequisites: EET 131, MAT 125

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=132subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=132subject_code=EET))

**EET 191 Part-Time Cooperative Education 1: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=191subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=191subject_code=EET))

**EET 192 Part-Time Cooperative Education 2: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 191

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=192subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=192subject_code=EET))

**EET 193 Part-Time Cooperative Education 3: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 192

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=193subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=193subject_code=EET))

**EET 194 Part-Time Cooperative Education 4: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 193

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=194subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=194subject_code=EET))

**EET 195 Part-Time Cooperative Education 5: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 194

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=195subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=195subject_code=EET))

**EET 196 Part-Time Cooperative Education 6: Electronics Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 195

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=196subject\\_code=EET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=196subject_code=EET))

**EET 198 First Year Special Topics in Electronics Engineering Technology**

**1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Electronics Engineering Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Instructor Approval

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=198subject\\_code=EET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=198subject_code=EET))

**EET 199 First Year Independent Project in Electronics Engineering Technology**

**1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Electronics Engineering Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Electronics Engineering Technology faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Instructor Approval

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=199subject\\_code=EET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=199subject_code=EET))

**EET 220 Microprocessor Systems**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on designing, programming, and troubleshooting microprocessor systems and applications. Topics include: assembly language programming, interrupt and polled I/O, interrupt service routines, parallel ports, timer functions, serial interfaces, A/D converters, and external hardware interfaces.

Prerequisites: EET 122

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=220subject\\_code=EET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=220subject_code=EET))

**EET 251 Electronics**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on semiconductor and amplifier theory and application. Topics include: diode circuits and basic power supplies; bipolar transistor, FET, thyristor, and operational amplifier theory; inverters; circuit construction; and troubleshooting.

Prerequisites: EET 132

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=251subject\\_code=EET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=251subject_code=EET))

**EET 290 Electronics Engineering Technology Capstone Project**

**4 Credits. 2 Lecture Hours. 4 Lab Hours.**

Students design a system using analog and digital electronics concepts, and prepare and deliver a professional presentation of their completed project. Topics include: design theory, feasibility study, engineering economics, and presentation skills.

Prerequisites: EET 122, EET 251

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=290subject\\_code=EET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=290subject_code=EET))

**EET 291 Full-Time Cooperative Education 1: Electronics Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=291subject\\_code=EET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=291subject_code=EET))

**EET 292 Full-Time Cooperative Education 2: Electronics Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 291

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=292subject\\_code=EET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=292subject_code=EET))

**EET 293 Full-Time Cooperative Education 3: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 292

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=293subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=293subject_code=EET))

**EET 294 Internship 1: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 131 and CIT 190

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=294subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=294subject_code=EET))

**EET 295 Internship 2: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 294

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=295subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=295subject_code=EET))

**EET 298 Second Year Special Topics in Electronics Engineering Technology****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Electronics Engineering Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Instructor Approval

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=298subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=298subject_code=EET))

**EET 299 Second Year Independent Project in Electronics Engineering Technology****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Electronics Engineering Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Electronics Engineering Technology faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Instructor Approval

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=299subject\\_code=EET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=299subject_code=EET))

**ENG Courses****ENG 100 English Principles: Grammar and Structure****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A comprehensive review of writing principles for business and professional communication. Topics include: grammar, punctuation, word usage, and techniques for reviewing and revising various business-related documents.

Prerequisites: AFL 085 or appropriate placement test score

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=100subject\\_code=ENG](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=100subject_code=ENG))

**ENG 101 English Composition 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to college writing focusing on understanding the writing process. Topics include: identifying audiences; developing a strong thesis; providing sufficient evidence for claims; and writing essays with grammatical, mechanical, and stylistic correctness.

Prerequisites: AFL 085 or appropriate placement test score

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=101subject\\_code=ENG](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=101subject_code=ENG))

**ENG 102 English Composition 2: Contemporary Issues****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ENG 101. Topics include: critical reasoning; argumentation; the research process and the research paper; and reading, synthesizing, and responding critically to policy-driven research.

Prerequisites: ENG 101

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=102subject\\_code=ENG](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=102subject_code=ENG))

**ENG 103 English Composition 2: Topics in Literature**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ENG 101. Topics include: critical reading, argumentation, the research process and the research paper; and reading, synthesizing, and responding critically to literature.

Prerequisites: ENG 101

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=103subject\\_code=ENG](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=103subject_code=ENG))

**ENG 104 English Composition 2: Technical Communication**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ENG 101. Topics include: audience analysis; planning, preparing, and revising technical and professional documents used for reference, persuasion, or instruction; using and reporting on research; and integrating visuals with text.

Prerequisites: ENG 101, and 8 credit hours in technical courses

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=104subject\\_code=ENG](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=104subject_code=ENG))

**ENG 105 English Composition 2: Business Communication**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ENG 101. Topics include: planning, preparing, and revising business documents such as formal and informal business letters, emails, proposals, and reports; and using and reporting on research.

Prerequisites: ENG 101

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=105subject\\_code=ENG](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=105subject_code=ENG))

**ENG 131 Creative Writing: Poetry**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A workshop-oriented poetry writing course. Topics include: the invention process, revision, poetic form, and critical response to works of literature and student work.

Prerequisites: 6 Credit Hours of English Composition

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=131subject\\_code=ENG](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=131subject_code=ENG))

**ENG 132 Creative Writing: Fiction**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A workshop-oriented fiction writing course. Topics include: the invention process, revision, form of fiction, and critical response to works of literature and student work.

Prerequisites: 6 credit hours of English Composition

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=132subject\\_code=ENG](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=132subject_code=ENG))

**ENG 134 Creative Writing: Writing for Children**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A workshop-oriented course on writing picture books, chapter books, and middle grade novels. Topics include: the invention process, revision, form of children's literature, and critical response to works of literature and student work.

Prerequisites: 6 credit hours of English Composition

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=134subject\\_code=ENG](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=134subject_code=ENG))

**ENG 198 First Year Special Topics in English**

**1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to English, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=198subject\\_code=ENG](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=198subject_code=ENG))

**ENG 199 First Year Independent Project in English**

**1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to English that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by English faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=199subject\\_code=ENG](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=199subject_code=ENG))

**ENG 205 Scriptwriting: Short****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing scripts for short form electronic media messages such as commercials and public service announcements. Topics include: analyzing audiences and products; applying basic concepts of marketing; conducting research; preparing copy platforms, scripts, and storyboards; and persuasively presenting concepts.

Prerequisites: 6 credits of English Composition (minimum grade C)

View Sections ([http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course\\_number=205subject\\_code=ENG](http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course_number=205subject_code=ENG))

**ENG 210 Scriptwriting: Long****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing scripts for long form electronic media messages such as instructional and promotional video and documentaries. Topics include: analyzing audiences and products; conducting research; preparing documentation, scripts, and storyboards; and persuasively presenting concepts.

Prerequisites: 6 credits of English Composition (minimum grade C)

View Sections ([http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course\\_number=210subject\\_code=ENG](http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course_number=210subject_code=ENG))

**ENG 215 Copywriting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing promotional messages for print and online distribution. Topics include: analyzing audiences and products, conducting research, developing concepts, preparing copy platforms, selecting writing styles and formats, and designing materials.

Prerequisites: 6 credits of English Composition (minimum grade C)

View Sections ([http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course\\_number=215subject\\_code=ENG](http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course_number=215subject_code=ENG))

**ENG 230 Writing Online Content****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing content for websites and web-supported publishing such as blogs and e-newsletters. Topics include: analyzing audiences and goals, choosing writing styles, creating and revising content, and applying best practices for online and digital document design.

Prerequisites: 6 credits of English Composition (minimum grade C)

View Sections ([http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course\\_number=230subject\\_code=ENG](http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course_number=230subject_code=ENG))

**ENG 298 Second Year Special Topics in English****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to English, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course\\_number=298subject\\_code=ENG](http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course_number=298subject_code=ENG))

**ENG 299 Second Year Independent Project in English****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to English that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by English faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course\\_number=299subject\\_code=ENG](http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course_number=299subject_code=ENG))

**PSET Courses****PSET 110 Power Systems CAD****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on computer aided drafting and design for power systems. Topics include: CAD fundamentals; and designing, modifying, and editing documents that apply to the power systems industry.

Prerequisites: AFL 085, and AFM 095 or MAT 120, or appropriate placement test scores

View Sections ([http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course\\_number=110subject\\_code=PSET](http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course_number=110subject_code=PSET))

**PSET 120 Advanced CAD with GIS****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on advanced skills for computer-aided drafting and electronic mapping as applied to the power grid system. Topics include: geographic information systems (GIS), power grid mapping, map databases, spatial positioning, analysis, modeling, and visualization.

Prerequisites: PSET 110

View Sections ([http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course\\_number=120subject\\_code=PSET](http://webapps.cincinnati.edu/wwwTools/MCL/default.aspx?course_number=120subject_code=PSET))



**PSET 130 National Electric Code and National Electric Safety Code**

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the purpose, intent, use, and enforcement of the National Electric Code (NEC) and the National Electric Safety Code (NESC) in electrical design and in specifications of equipment used in power systems.

Prerequisites: EET 131

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=130subject\\_code=PSET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=130subject_code=PSET))

**PSET 140 Power Systems Foundations**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to electrical power systems from generation to utilization. Topics include: purpose, composition, operating characteristics, and design considerations of power system components; power quality and safety; fundamentals of AC waveforms including single and three phase connections, voltage and current calculations; per-unit representation; and power factor.

Prerequisites: EET 131

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=140subject\\_code=PSET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=140subject_code=PSET))

**PSET 150 Electrical Power Technology Studies: Adv**

**30 Credits. 30 Lecture Hours. 0 Lab Hour.**

Students complete apprenticeship education, post-secondary education, or work experience related to skills used in the electrical power industry.

Prerequisites: Program Chair consent

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=150subject\\_code=PSET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=150subject_code=PSET))

**PSET 191 Part-Time Cooperative Education 1: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=191subject\\_code=PSET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=191subject_code=PSET))

**PSET 192 Part-Time Cooperative Education 2: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 191

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=192subject\\_code=PSET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=192subject_code=PSET))

**PSET 193 Part-Time Cooperative Education 3: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 192

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=193subject\\_code=PSET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=193subject_code=PSET))

**PSET 194 Part-Time Cooperative Education 4: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 193

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=194subject\\_code=PSET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=194subject_code=PSET))

**PSET 195 Part-Time Cooperative Education 5: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 194

View Sections ([http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course\\_number=195subject\\_code=PSET](http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=195subject_code=PSET))



**PSET 196 Part-Time Cooperative Education 6: Power Systems Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 195

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=196subject\\_code=PSET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=196subject_code=PSET))

**PSET 198 First Year Special Topics in Power Systems Engineering Technology****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Power Systems Engineering Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Instructor Approval

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=198subject\\_code=PSET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=198subject_code=PSET))

**PSET 199 First Year Independent Project in Power Systems Engineering Technology****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Power Systems Engineering Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Power Systems Engineering Technology faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Instructor Approval

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=199subject\\_code=PSET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=199subject_code=PSET))

**PSET 225 Industrial and Commercial Power Design****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on design of industrial and commercial building electrical distribution systems. Topics include: load calculations, wiring devices, overcurrent protection, conductors, conduit and raceway systems, panelboards and switchboards, voltage drop calculations, grounding and bonding, branch circuit and feeder design, and motor circuits.

Prerequisites: PSET 120, PSET 140

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=225subject\\_code=PSET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=225subject_code=PSET))

**PSET 230 Conductors and Electrical Safe Work Practices****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on wires, cables, and connectors used in power systems. Topics include: selecting, sizing, insulation, testing, maintaining conductors, and review of OSHA requirements governing electrical safe work practices.

Prerequisites: PSET 130, EET 132

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=230subject\\_code=PSET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=230subject_code=PSET))

**PSET 245 Electronic Mapping****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on electronic mapping as it applies to the power smart grid. Topics include: electrical grid mapping, navigation electronic mapping, electronic map databases, and spatial position geographical coordinates combined with spatial positioning systems for location-based services.

Prerequisites: PSET 140, EET 132

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=245subject\\_code=PSET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=245subject_code=PSET))

**PSET 250 Power Transmission and Distribution Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on overhead and underground transmission and distribution systems. Topics include: operation, maintenance, and monitoring of transmission and distribution equipment; transmission line parameters; power flow; design of conductor support structures; overview of system protection; smart grid concepts; and data collection mechanisms.

Prerequisites: PSET 120, PSET 140

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=250subject\\_code=PSET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=250subject_code=PSET))

**PSET 255 Smart Devices****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on smart grid communication. Topics include: standards and protocols from electricity generation to end user, technologies electric utilities use to monitor and manage infrastructure, and devices and control systems for commercial and residential customers to optimize energy usage.

Prerequisites: PSET 140, EET 132

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=255subject\\_code=PSET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=255subject_code=PSET))

**PSET 260 Stationary Engineering with Instrumentation and Controls**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on steam plant operation and associated instrumentation and controls. Topics include: basic components; maintenance requirements for utility boilers; combined cycle and cogeneration systems; nuclear steam generation; standard pressure and horsepower calculations; and control of major steam boiler processes.

Prerequisites: EMET 140, EMET 240

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=260subject\\_code=PSET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=260subject_code=PSET))

**PSET 265 Smart Grid System Design**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students complete a project to design a smart grid system by integrating intelligence of electronic mapping and smart grid devices for electric utilities, consumers, and commercial businesses.

Prerequisites: PSET 245, PSET 255

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=265subject\\_code=PSET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=265subject_code=PSET))

**PSET 275 Protective Relays and Controls**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on protective relays and their application to electric transmission and distribution systems. Topics include: power regulation and communication requirements; electro-mechanical relays and breakers, microprocessor relays and synchrophasors; transformers; transmission and distribution lines; capacitor banks; and regulator protection.

Prerequisites: PSET 225

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=275subject\\_code=PSET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=275subject_code=PSET))

**PSET 290 Power Systems Capstone**

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

Students work in teams to complete a design project. Topics include: design concepts, modeling, detail and assembly drawings, bill of materials, vendors, costs, and manufacture of prototype.

Prerequisites: PSET 220

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=290subject\\_code=PSET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=290subject_code=PSET))

**PSET 291 Full-Time Cooperative Education 1: Power Systems Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=291subject\\_code=PSET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=291subject_code=PSET))

**PSET 292 Full-Time Cooperative Education 2: Power Systems Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 291

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=292subject\\_code=PSET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=292subject_code=PSET))

**PSET 293 Full-Time Cooperative Education 3: Power Systems Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 292

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=293subject\\_code=PSET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=293subject_code=PSET))

**PSET 294 Internship 1: Power Systems Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 140

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=294subject\\_code=PSET](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=294subject_code=PSET))

**PSET 295 Internship 2: Power Systems Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 294

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=295subject\\_code=PSET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=295subject_code=PSET))

**PSET 298 Second Year Special Topics in Power Systems Engineering Technology****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Power Systems Engineering Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Instructor Approval

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=298subject\\_code=PSET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=298subject_code=PSET))

**PSET 299 Second Year Independent Project in Power Systems Engineering Technology****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Power Systems Engineering Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Power Systems Engineering Technology faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Instructor Approval

View Sections ([http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course\\_number=299subject\\_code=PSET](http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=299subject_code=PSET))