

ENGINEERING (ENGR)

ENGR 100 INTRO ENGINEERING APPLICATIONS	3 Credit Hours
Introduction to basic problem solving of engineering applications using algebra and trigonometry. (3 lecture)	
Pre/Corequisite(s): MATH 126 and MATH 128	
ENGR 101 ENGINEERING PROBLEM SOLVING 1	2 Credit Hours
Engineering problem solving methodologies and analysis. Use of computers in problem solving, technical report writing, team based project work and presentations. (2 lecture)	
Pre/Corequisite(s): MATH 155	
ENGR 102 ENGINEERING PROBLEM SOLVING 2	3 Credit Hours
Continued development of engineering problem solving, teamwork, and communication skills, with focus on using the computer as a tool through algorithm development and the use of a high-level computing language, such as MAT LAB. (3 lecture)	
Prerequisite(s): MATH 155 and ENGR 101	
ENGR 120 ENGINEERING METHODS FOR TECH	3 Credit Hours
Roles and responsibilities of Engineering Technicians and Technologists, including the basic tools, problem-solving, computer and mathematical skills. (2 lecture, 2 lab)	
ENGR 124 INTRO TO PLC PROGRAMMING	3 Credit Hours
Provides an overview of computer hardware, programmable logic controllers, I/O modules and devices, file systems, communications, addressing, telemetry devices and networking of industrial devices. (2 lecture, 2 lab)	
Pre/Corequisite(s): ELEC 101 and ELEC 101L	
ENGR 197 SPECIAL TOPICS	1-6 Credit Hours
ENGR 199 ORIENTATION TO ENGINEERING	1 Credit Hour
This course provides a beginning engineering student with information and tools to prepare him/her for a successful college life. Freshman students can explore various engineering disciplines, prepare for an engineering career, and learn academic success strategies. (1 lecture)	
ENGR 220 FLUID&MECHANICAL POWER SYSTEMS	3 Credit Hours
Introduction to the elements of power transmission and the principles that guide the application of those elements in industry. (2 lecture, 2 lab)	
ENGR 228 EMBEDDED SYSTEMS PROGRAMMING	3 Credit Hours
Introduction to embedded system controls, including an introduction to various hardware and software platforms. Students will create, deploy and troubleshoot a java embedded control program. (2 lecture, 2 lab)	
Prerequisite(s): CS 121	
ENGR 230 CONTROL SYSTEMS	3 Credit Hours
A continuation of ENGR 142. Topics include intermediate programmable logic controller (PLC) programming and applications, variable speed motor drives and application programming. (2 lecture, 2 lab)	
Prerequisite(s): ELEC 101 and ELEC 101L and ENGR 124	
ENGR 234 ADVANCED CONTROL SYSTEMS	3 Credit Hours
A continuation of ENGR 230, topics include Advanced Programmable Logic Controller (PLC) programming applications, variable speed motor drives, robotics, discrete control systems, designing and programming embedded control systems. (2 lecture, 2 lab)	
Prerequisite(s): ENGR 230	
ENGR 240 HEATING & COOLING SYSTEMS 1	3 Credit Hours
Introduction to Heating, Ventilation, Air Conditioning and Refrigeration Systems. Topics include: heating and cooling load calculation, cooling, heating, air distribution systems, furnaces, boilers and air conditioning systems. (2 lecture, 2 lab)	
ENGR 280 SPECIALIZED TECHNOLOGIES	3 Credit Hours
Discussion of the theory of operation and application of various state-of-the-art technologies as they apply to modern technological fields. Communications, automation, controls, sustainability and current innovations are examined. (2 lecture, 2 lab)	
Prerequisite(s): ENGR 234 or ENGR 241	
Pre/Corequisite(s): CIT 105 and MATH 128 and DRAF 213	
ENGR 293 COOPERATIVE WORK EXPERIENCE	1-8 Credit Hours
ENGR 297 SPECIAL TOPICS	3 Credit Hours
(3 lecture)	