ELECTRICAL ENGINEERING TECHNOLOGY, ELECTRONICS (B.S.)

Evening study available

Bachelor of Science Program
Program Code: BS-SP
Major Code: ETE

Engineering Technology Department
Technology Building 126
(716) 878-6017
engineeringtechnology.buffalostate.edu (https://engineeringtechnology.buffalostate.edu/)

The Electrical Engineering Technology, Electronics program is accredited by the Engineering Technology Accreditation Commission of ABET, **http://www.abet.org** under the commission's General Criteria and Program Criteria for Electrical/Electronic(s) Engineering Technology and Similarly Named Programs.

About the Program

The Electrical Engineering Technology, Electronics program prepares students to design, test, and fabricate solid-state circuits and systems (both digital and analog), microwave systems, and control systems.

Electrical Engineering Technology, Electronics graduates work in electronic and digital circuit design, testing, and manufacturing; microwave wireless communications and telecommunications; and control systems and robotics.

Program Requirements

Code	Title	Credit Hours
General Education 23 Requirements **(**http://ecatalog.buffalostate.edu/undergraduate/collegewide-degree-requirements-baccalaureate-degrees/#IF_Courses**)**		
33 credit hours [*]		33
Electrical Engineering Technology, Electronics Major Requirements (57 credit hours)		
ENT 104	ESSENTIALS OF ELECTRICAL ENGINEERING TECHNOLOGY	3
ENT 300	MATHEMATICS APPLICATIONS IN ENGINEERING TECHNOLOGY	3
ENT 301	MECHANICS I	3
ENT 330	ELECTRICAL CIRCUITS ANALYSIS I	3
ENT 332	ELECTRICAL CIRCUITS ANALYSIS II	3
ENT 341	ELECTRONICS	3
ENT 342	ADVANCED CIRCUIT ANALYSIS	3
ENT 345	DIGITAL SYSTEMS	3
ENT 346	MICROCONTROLLERS	3
ENT 351	ANALOG CIRCUITS ANALYSIS	3
ENT 371	ELECTRIC MACHINES	3
ENT 441	COMMUNICATION TRANSMISSION TECHNOLOGY	3
ENT 446	DIGITAL SYSTEMS DESIGN AND ANALYSIS	3
ENT 442	RF AND MICROWAVE COMMUNICATIONS	3
ENT 452	ANALOG SYSTEMS DESIGN AND ANALYSIS	3
ENT 461	CONTROL SYSTEMS I	3
ENT 462	CONTROL SYSTEMS II	3
ENT 465	ELECTRICAL DESIGN I	3
ENT 466	ELECTRICAL DESIGN II	3
Requirements Outside of Major		
25-30 credit hours		25-30
CHE 111 & CHE 113	FUNDAMENTALS OF CHEMISTRY I and LABORATORY FOR FUNDAMENTALS OF CHEMISTRY I	
CIS 151	COMPUTER PROGRAMMING I	
PHY 107 or PHY 111	GENERAL PHYSICS I UNIVERSITY PHYSICS I	
PHY 108 or PHY 11	GENERAL PHYSICS II UNIVERSITY PHYSICS II	
Math Option 1		
MAT 126	APPLIED CALCULUS I	
MAT 127	APPLIED CALCULUS II	
MAT 202	INTRODUCTION TO LINEAR ALGEBRA [**]	
Math Option 2		
MAT 161 & MAT 163	CALCULUS I and USING TECHNOLOGY TO EXPLORE CALCULUS I (MAT 163 should be taken concurrently with MAT 161 if taken at Buffalo State University)	

MAT 162 & MAT 164	CALCULUS II and USING TECHNOLOGY TO EXPLORE CALCULUS II (MAT 164 should be taken concurrently with MAT 162 if taken at Buffalo State University)	
MAT 315	DIFFERENTIAL EQUATIONS **	
Electives		**6-10**
Total Credit Hours		**120**

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GE 23 number of credits is 33. However, required courses outside of major, such as MAT 126 or MAT 161 satisfy Mathematics and Quantitative Reasoning in GE 23; CHE 111 or PHY 107/111 satisfy Natural Science and Scientific Reasoning in GE 23. Therefore, the number of remaining credits in GE 23 required by the program is (33 – 6) = 27 cr. [In GE 23 courses for each category are counted as 3 credits each. Therefore, the total number deducted is 6 credits].

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MAT 202 for Track 1 and MAT 315 for Track 2 are preferred courses. Other mathematics courses such as Calculus III (MAT 263) , or Discrete Mathematics (MAT 270) may be suggested by program advisement to better meet student's career choices.

Students will acquire:

1. An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline.
2. An ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline.
3. An ability to apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
4. An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes.
5. An ability to function effectively as a member or leader on a technical team.