



# Pittsburg State University

## College of Technology Program Guide

Degree: Bachelor of Science in Engineering Technology

Major: Mechanical Engineering Technology

Emphasis/Option: Design, Manufacturing, Electromechanical, Automotive or Biomedical

Accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>.

As of Fall 2018

### Major Requirements

#### Technical Sciences (43 hours)

MFGET 263 Manufacturing Methods I (satisfied by general education) (2 hours)	
MECET 121: Engineering Graphics I	3
MECET 220: Statics	3
or PHYS 220: Engineering Mechanics I-Statics	3
MECET 226: Computer Aided Design	3
MFGET 268: Manufacturing Methods I Laboratory	1
ETECH 296: Materials in Industry	3
MECET 323: Advanced Engineering Graphics	3
EET 340: Introduction to Industrial Automation	3
MECET 420: Kinematics	2
MECET 423: Mechanics of Materials	3
MECET 424: Mechanics of Materials Laboratory	1
MECET 428: Thermodynamics	3
or PHYS 514: Applied Thermodynamics	3
ETECH 502: Engineering Economy	3
MECET 523: Mechanical Design I	3
MECET 524: Fluid Mechanics	3
MECET 525: Fluid Mechanics Laboratory	1
MFGET 666: Manufacturing and Design Project I	2
MFGET 669: Manufacturing and Design Project II	3

MECET 220 Statics and MECET 428 Thermodynamics is preferred.

#### Technical Specialties (Choose an emphasis)\*

##### Emphasis I- Design (12 hours)

MECET 522: Dynamics	3
or PHYS 522: Engineering Mechanics II--Dynamics	3
MECET 528: Computer Aided Modeling	3
MECET 623: Mechanical Design II	3
MECET 682: Heat Transfer	3

MECET 522 Dynamics is preferred.

##### Emphasis II- Manufacturing (13 hours)

MFGET 363: Principles of Tool Design	3
MFGET 367: Manufacturing Methods II	4
MFGET 567: Principles of Metalcasting	3
MFGET 661: Computer Aided Manufacturing	3

##### Emphasis III- Electromechanical (12 hours)

EET 141: Introductory Electronics	3
EET 244: Logic Circuits	3
EET 448: Network Systems	3
EET 649: Advanced Programmable Logic Controllers	3

##### Emphasis IV- Automotive (12 hours)\*\*

###### Choose 12 hours from the following:

AT 301: Fundamentals of Collision Technology	3
AT 314: Manual Transmission and Drivelines	3
AT 340: Diesel Engine Fundamentals	3

AT 414: Automatic Transmissions	3
AT 418: Failure Analysis	3
AT 515: Engine Performance	3

#### Emphasis V- Biomedical (12 hours)^+

MECET 522: Dynamics	3
MECET 528: Computer Aided Modeling	3
MECET 627: Introduction to Biomedical Engineering Technology	3
MECET 682: Heat Transfer	3

\*Student must declare either design, manufacturing, electromechanical, automotive or biomedical emphasis and follow emphasis sequence.

\*\*It is recommended Approved Technical Electives be completed from the Automotive area for this emphasis.

In order to meet the requirements of the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>, partial waivers for the Pittsburg State University general education requirements have been allowed.

^Biomedical emphasis requires that students take BIOL 111 General Biology and BIOL 112 General Biology Laboratory instead of BIOL 113 Environmental Life Science for general education.

#### Support Courses (25-26 hours)

PHYS 101: College Physics II	4
or PHYS 105: Engineering Physics II	4
PHYS 131: Elementary Physics Laboratory II	1
CHEM 215: General Chemistry I	3
CHEM 216: General Chemistry I Laboratory	2
MATH 150: Calculus I	5
MATH 155: Calculus II	5
or MATH 154: Engineering Calculus II	4
ENGL 301: Technical/Professional Writing	3
CIS 230: Introduction to Programming	3
or CIS 240: Intermediate Programming	3

PHYS 105 Engineering Physics II and MATH 154 Engineering Calculus II are preferred.

#### Approved Technical Electives (requires advisor's approval) (10 hours)+

##### Biomedical Technical Electives:

BIOL 257: Anatomy and Physiology	3
BIOL 258: Anatomy and Physiology Laboratory	2
BIOL 410: Biological and Medical Terminology	2
ETECH 670: Professional Certification Seminar	1
MATH 212: Matrix Algebra	2

+Students in the biomedical emphasis have all of their technical elective hours accounted for by the program.

Total Hours for Bachelor of Science in Engineering Technology-Mechanical Engineering Technology (127-132 hours)

## GENERAL EDUCATION REQUIREMENTS

(37-40 hrs.)

### Basic Skills 13 hours

COMM	207	Speech Communication.....	3
ENGL	101	English Composition.....	3
ENGL	190	Honors English Composition.....	3
or ENGL	299	Introduction to Research Writing.....	3
MATH	126	Pre-Calculus.....	4

### Sciences 9-10 hours

Natural Sciences^ ( <i>Select one</i> )			
BIOL	113	Environmental Life Science .....	4

Physical Sciences (*Select one*)

PHYS	100	College Physics I.....	4
or PHYS	104	Engineering Physics I.....	4
PHYS	130	Elementary Physics Laboratory I .....	1

### Social Studies 3 hours

SOC	100	Introduction to Sociology .....	3
WGS	200	Introduction to Women's Studies .....	3

### Health and Well Being 4-6 hours

Psychological			
PSYCH	155	General Psychology .....	3
Physical ( <i>Select one</i> )			
FCS	203	Nutrition and Health.....	3
FCS	301	Nutrition.....	3
HHP	150	Lifetime Fitness Concepts. ....	1
NURS	303	Introduction to Public Health.....	3

### Producing and Consuming 5 hours

Technology			
MFGT	263	Manufacturing Methods I. ....	2
Economy/Business ( <i>Select one</i> )			
ACCTG	201	Financial Accounting .....	3
MGT	101	Introduction to Business .....	3
MGT	105	Introduction to Entrepreneurship.....	3
ECON	191	Issues in Today's Economy .....	3
ECON	200	Principles of Microeconomics .....	3
or ECON	201	Principles of Macroeconomics .....	3

### Select one course from Political Studies, Fine Arts & Aesthetic Studies, Cultural Studies or Human Heritage

3 hours

#### Political Studies

POLS	101	U.S. Politics.....	3
POLS	103	Comparative Political Institutions .....	3

#### Fine Arts and Aesthetic Studies

ART	155	Printmaking and Paper Arts.....	3
ART	178	Introduction to the Visual Arts.....	3
ART	188	The Designed World.....	3
ART	217	Crafts I.....	3
ART	222	Jewelry Design I .....	3
ART	233	Drawing I .....	3
ART	244	Ceramics I .....	3
ART	266	Sculpture I .....	3

ART	277	Painting I.....	3
ART	288	Introduction to Art History I .....	3
ART	289	Introduction to Art History II .....	3
ART	311	Art Education.....	3
ART	351	Printmaking, Papermaking, Bookarts and the Letterpress.....	3
ART	430	Automotive: Art and Design.....	3
COMM	105	Performance Appreciation .....	3
COMM	205	Performance Studies.....	3
COMM	395	Theatre History.....	3
ENGL	250	Introduction to Creative Writing .....	3
HHP	151	Dance Appreciation.....	3
MUSIC	120	Music Appreciation .....	3
MUSIC	121	Introduction to Music Literature .....	2

### Cultural Studies

ANTH	101	Introduction to Cultural Anthropology.....	3
MLL	114	Chinese Language and Culture I .....	5
MLL	124	French Language and Culture I .....	5
MLL	154	Spanish Language and Culture I .....	3
MLL	184	Russian Language and Culture I .....	3
MLL	194	Korean Language and Culture I.....	3
GEOG	106	World Regional Geography .....	3
GEOG	300	Elements of Geography.....	3
GEOG	304	Human Geography .....	3
WGS	399	Global Women's Issues.....	3

### Human Heritage

History			
HIST	101	World History to 1500.....	3
HIST	102	World History from 1500.....	3
HIST	201	American History to 1865 .....	3
HIST	202	American History from 1865.....	3
Literature			
ENGL	113	General Literature. ....	3
ENGL	114	General Literature(Genre) .....	3
ENGL	116	General Literature(Theme). ....	3
ENGL	120	Literature and Film .....	3
ENGL	315	Mythology.....	3
ENGL	320	Literature and Film .....	3
Philosophy			
PHIL	103	Introduction to Philosophy. ....	3
PHIL	105	Ethics.....	3
PHIL	112	Biomedical Ethics.....	3
PHIL	113	Business Ethics.....	3
PHIL	114	Environmental Ethics.....	3
PHIL	207	Critical Thinking.....	3
PHIL	208	Logic .....	3
PHIL	231	World Religions. ....	3

Notes: ^Biomedical emphasis requires that students take BIOL 111 General Biology and BIOL 112 General Biology Laboratory instead of BIOL 113 Environmental Life Science for general education.

NOTE: The information contained herein is intended to be used for the planning of a student's academic program and does not constitute a contract. While this guide was prepared with the latest information, courses, graduation requirements, and curricula are subject to change.

When a student attains 85 semester hours of credit (including current enrollment) the student must apply for a degree check in the Office of the Registrar (Degree Checking Section), Room 102 Russ Hall.

**MINIMUM GENERAL REQUIREMENTS:** The minimum requirements for graduation include 124 semester hours of which 60 hours must be from a four year university. In addition, 45 semester hours must be upper division and 30 hours in residence at PSU (including 24 of the last 30). Minimum GPA for non-education degree is 2.0 overall [2.0 in major], secondary education degree is 2.5 overall [2.75 in major], and early/late childhood/unified degree is 2.80 overall [3.0 in major]. A minimum GPA of 2.0 in any minor and in residence coursework is required. General Education and all degree requirements are provided in the online catalog. Refer to individual departments for specific requirements.