

Millersville University  
 Dept. of Applied Engineering, Safety &  
 Technology

120 credits minimum (Effective FA18, rev FA21-AENG)

**Bachelor of Science (B.S.)**  
**Manufacturing Engineering Technology (MFET)**

**CORE REQUIREMENTS**

(54 credits) **ADVISOR NOTES**

Grade	Course No.	Title	Cr
	AENG 130	Production Materials & Processes	3
	AENG 241	Drafting Communications	3
	AENG 261	Electronic Systems	3
	AENG 262	Semiconductor Electronics ( <i>prereq: AENG 261</i> )	3
	AENG 271	Processing Nonmetallic Materials ( <i>prereq: AENG 130</i> )	3
	AENG 281	Metallic Materials & Production Methods ( <i>prereq: AENG 130</i> )	3
	AENG 325	Power Conversion & Control ( <i>prereq: AENG 120 or 261</i> )	3
	AENG 326	Fluid Power ( <i>prereq: AENG 120 or 325</i> )	3
	AENG 342	Computer-Aided Engineering Drawing ( <i>prereq: AENG 241</i> )	3
	AENG 344	Product Design ( <i>prereq: AENG 241</i> )	3
	AENG 345	Statics & Strength of Materials ( <i>prereq: AENG 241; and MATH 151, 160 or 161</i> )	3
	AENG 375	Polymer & Ceramic Technology ( <i>prereq: AENG 271</i> )	3
	AENG 382	Automated Manufacturing ( <i>prereq: AENG 130 &amp; 241; and AENG 271 or 281 or 342</i> )	3
	AENG 425	Industrial Robotic Systems ( <i>prereq: AENG 325</i> )	3
	AENG 427	Programmable Logic Controllers ( <i>prereq: AENG 425; and MATH 151 or 161</i> )	3
	AENG 448	Machine Tool Design ( <i>prereq: AENG 342</i> )	3
	AENG 492	Technical Entrepreneurship ( <i>prereq: AENG 130 or 241; and BUAD 251</i> )	3
	AENG 494	Total Quality Management ( <i>prereq: MATH 130 and senior status</i> )	3

**DIRECTED ELECTIVES**

(3 credits)

	<b>Select one:</b>		
	AENG 300	Internship	3
	AENG 376	Wood Technology ( <i>prereq: AENG 271</i> )	3
	AENG 392	Industrial Training ( <i>prereq: ENGL 110</i> )	3
	AENG 400	Internship	3
	AENG 446	Computer-Aided Drafting & Design ( <i>prereq: AENG 342</i> )	3
	AENG 467	Mobile Robotic Systems ( <i>prereq: AENG 262</i> )	3

**REQUIRED RELATED SCIENCE & MATH COURSES**

(19 credits)

**NOTE: These courses also fulfill the G2 Science & Math requirements**

Grade	Course No.	Title	Cr
	MATH 161	Calculus I ( <i>prereq: C- or higher in MATH 160 or sufficient Math Placement Test score</i> )	4

Prereqs are subject to change; consult the MU Web Schedule before registering to verify prereq requirements

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	MATH 130	Survey of Statistics ( <i>prereq: any 100-level math course or sufficient MPT score</i> )	3
	PHYS 131	Physics I with Algebra ( <i>prereq: MATH 101 or sufficient MPT score</i> )	4
	PHYS 132	Physics II with Algebra ( <i>prereq: PHYS 131 or 231</i> )	4
	CHEM 111	Introductory Chemistry I ( <i>prereq: CPT of CHEM 111 or CHEM 110 with a grade of C- or higher; and MPT of MATH 160 or higher or MATH 101 with a grade of C- or higher</i> )	4

**GENERAL EDUCATION REQUIREMENTS** (48 credits)**G1 – HUMANITIES & FINE ARTS** [ART, COMM/THEATRE, ENGL, FOREIGN LANG/HUMN, MUSI, PHIL] (9 credits)

Grade	Course No.	Title	Cr
			3
			3
			3

Maximum of two courses from the same dept; all three courses could be from

G2 – SCIENCE & MATH — The 9 credits required for G2 are fulfilled by Required Related Math & Science

**G3 – SOCIAL SCIENCES** [AFAM, ANTH, BUAD, GEOG, GOVT, HIST, INTL, PSYC, SOCY, SOWK/GERT, WSTU] (9 credits)

Grade	Course No.	Title	Cr
			3
			3
			3

Maximum of two courses from the same dept; all three courses could be from

## Additional General Education Requirements

Grade	Course No.	Title	Cr
	COMM 100	Fundamentals of Speech ( <i>minimum of "C-" required</i> )	3
	ENGL 110	English Composition ( <i>minimum of "C-" required</i> )	3
<b>x</b>	<b>x</b>	Math course ( <i>fulfilled by Required Related Math</i> )	x
	WELL 175	Wellness	3
		<b>Perspectives [P]</b> ( <i>NOTE: AENG 301, 302, or 303 [D] recommended</i> )	3
		<b>UNIV 103 or Open Elective</b> ( <i>Open Elective cannot be a course from major dept</i> )	3

## Advanced Writing (AW) Course

Grade	Course No.	Title	Cr
	ENGL ____	<b>Select ONE from:</b> <ul style="list-style-type: none"> <li style="width: 50%;">• ENGL 312 Technical Writing</li> <li style="width: 50%;">• ENGL 318 Web Writing</li> <li style="width: 50%;">• ENGL 316 Business Writing</li> <li style="width: 50%;">• ENGL 319 Science Writing</li> </ul>	3

## GENERAL EDUCATION REQUIREMENTS CHECKLIST:

Three G1, G2, or G3 courses at **200-LEVEL OR HIGHER**:

Three **WRITING** [W] courses (*does not include ENGL 312/316/318/319*):

(1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_

\_\_\_\_\_

One **CULTURAL DIVERSITY** [D] course: *NOTE: AENG 303 is a [D]* (1) \_\_\_\_\_

**FREE ELECTIVES [8 credits needed to complete 120 credits required for degree]**

\_\_\_\_\_ cr

\_\_\_\_\_ cr

\_\_\_\_\_ cr