

Millersville University
Dept. of Applied Engineering, Safety & Technology

120 credits minimum – Updated Spring 2020
(rev FA21_AENG)

**Bachelor of Science (B.S.)
Applied Engineering & Technology Management (AETM)
Concentration: Computer-Aided Drafting & Design**

DEPARTMENTAL REQUIREMENTS (60 credits)

Technical Option (36 credits)

Grade	Course No.	Title	Cr
	AENG 110	Communication & Information Systems	3
	AENG 120	Energy & Power Systems	3
	AENG 130	Production Materials & Processes	3
	AENG 241	Drafting Communications	3
	AENG 243	Technical Sketching, Design & Rendering	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 Matls (<i>prereq AENG 241; and MATH 151, 160 or 161</i>)	3
	AENG 346	Architectural Drawing & Design (<i>prereq AENG 241</i>)	3
	AENG 347	Engineering Visualization (<i>prereq AENG 241</i>)	3
	AENG 446	Computer-Aided Drafting & Design (<i>prereq AENG 342</i>)	3
	AENG 448	Machine Tool Design (<i>prereq AENG 342</i>)	3

Technology Management Core (15 credits)

Grade	Course No.	Title	Cr
	OSEH 120	Safety, Health & Environmental Issues	3
	AENG 492	Technical Entrepreneurship (<i>prereq AENG 130 or AENG 241; and BUAD 251; and junior or senior class status</i>)	3
	AENG 494	Total Quality Management (<i>prereq MATH 130; and senior class status</i>)	3
	BUAD 251	Principles of Management [W] (<i>prereq C- or higher in ECON 101 & ECON 102; and ENGL 110</i>); must earn a C- or higher as a prereq for MGMT 452	3
	MGMT 452	Prod & Oper Mgmt (<i>prereq: C- or higher in BUAD 251; and MATH 130; and MATH 151, 160 or 161</i>)	3

Electives Courses in Technology Management (9 credits)

Grade	Course No.	Title	Cr
		<i>Select THREE courses from the following list.</i>	
		• AENG 300 Internship (maximum of 6 credits internship may be counted for the degree)	3
		• AENG 400 Internship (may be counted for the degree)	3
___	1. _____	• AENG 392 Intro to Industrial Training [W] (<i>prereq ENGL 110</i>)	3
		• OSEH 221 Industrial Fire Prevention	3
___	2. _____	• OSEH 320 Safety Engineering Principles (<i>prereq OSEH 120</i>)	3
		• OSEH 323 Human Factors in OSEH (<i>prereq OSEH 120</i>)	3
___	3. _____	• OSEH 333 Intro to System Safety (<i>prereq OSEH 320 and MATH 130</i>)	3
		• BUAD 161 Intro to Financial Accounting (<i>prereq MATH 101 or 151</i>)	3
		• BUAD 352 Human Resource Mgmt (<i>prereq C- or higher in BUAD 251</i>)	3
		• MGMT 353 Labor-Mgmt Relations (<i>prereq C- or higher in BUAD 251</i>)	3
		• MGMT 357 International Mgmt (<i>prereq C- or higher in BUAD 251</i>)	3

		• PSYC 329 Industrial/Org Psyc (prereq ENGL 110, PSYC 100) [W]	3
		• SOCY 318 Sociology of Complex Organizations	3

REQUIRED RELATED COURSES (19-21 credits)

Required Related – Math (Fulfills the Gen Ed Math Requirement plus one course in G2)

Grade	Course No.	Title	Cr
	MATH 130	Elements of Statistics (prereq: See Web Schedule or Undergrad Catalog)	3
	MATH ____	Select ONE from: • MATH 151 Calc for Mgmt, Life (prereq C- or higher in MATH 101 or MPT 151) • MATH 160 Precalculus (prereq C- or higher in MATH 101 or MPT 160) • MATH 161 Calculus I (prereq C- or higher in MATH 160 or MPT 161)	4 4 4

Required Related – Science (Fulfills two G2 courses)

Grade	Course No.	Title	Cr
		Select TWO from: • CHEM 101 Chem! Better Things • CHEM 103 General, Organic, Biochem I • CHEM 104 General, Organic, Biochem II • PHYS 103 Elements of Physics } Can receive credit for <u>either</u> • PHYS 104 Applied Physics } <u>PHYS 103 or 104, but not for both</u> • PHYS 131 Physics I • PHYS 132 Physics II	3 3 3 4 4 4 4

Must complete one science course with a lab component

Required Related – Economics (Fulfills two G3 courses)

Grade	Course No.	Title	Cr
	ECON 101	Macroeconomics	3
	ECON 102	Microeconomics	3

GENERAL EDUCATION REQUIREMENTS (48 credits)

Note: 18 credits of Gen Ed are fulfilled by Required Related Courses

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 — These credits are fulfilled by Required Related Math & Science (9 credits)

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

Grade	Course No.	Title	Cr
x	x	fulfilled by ECON 101	3
x	x	fulfilled by ECON 102	3
x	x	fulfilled by BUAD 251	3

Additional General Education Requirements (18 credits)

Grade	Course No.	Title	Cr
	COMM 100	Fundamentals of Speech (minimum of "C-" required)	3
	ENGL 110	English Composition (minimum of "C-" required)	3
x	x	Math course (fulfilled by Required Related Math)	3
	WELL 175	Wellness	3
		Perspectives [P] (NOTE: AENG 301, 302, or 303 [D] recommended)	3

