

CURRICULUM GUIDE

Engineering Technology Management, B.S. (Manufacturing) + Technology Management (Engineering Operations), M.S.

2022-2023

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The schedule below is an **EXAMPLE** of how you can arrange your class schedule. Please consult your advisor for specific changes that may need to be made.

	Fall Semester	Spring Semester	
Freshman Year	SCO 100	1	AEM 301 (spring only) 3
	AEM 201 (fall only)	3	AEM 390 (spring only) 3
	AEM 195	3	EET 251 3
	⁶ CHE 101/101L or 111/111L (fulfills Gen. Ed 4)	4	⁶ MAT 120 (or higher) (fulfills Gen. Ed. 2) 3
	TEC 161	3	Gen. Ed. 1B (ENG 102) 3
	Gen. Ed. 1A (ENG 101)	3	Gen. Ed. 1C (Oral Comm.) 3
	TOTAL	17	TOTAL 18
Sophomore Year	AEM 310W	3	AEM 202 3
	AEM 352 (fall only)	3	MAT 211 (or higher) 3
	AEM 371 (fall only)	3	AEM Elective (upper division) 3
	AEM Elective	3	AEM Elective (upper division) 3
	STA 215 or 270	3-4	Gen. Ed. 3B (Humanities) 3
	⁶ ECO 120 or ⁶ ECO 230 (fulfills Gen. Ed. 5B) or ACC 200	3	Free Elective or Gen. Ed. 5B (if ACC 200 taken) 3
	TOTAL	18-19	TOTAL 18
Junior Year	AEM 308 (fall only)	3	AEM 332 (spring only) 3
	AEM 330 (fall only)	3	AEM 408 3
	AEM 349	1	AEM 467 0
	AEM 706 (fall only) (also fulfills MS requirement)	3	AEM 499 (ACCT) (spring only) 3
	AEM 804 (also fulfills MS requirement)	3	AEM 801 (also fulfills MS requirement) 3
	⁶ PHY 131 (fulfills Gen. Ed. 4)	5	Gen. Ed. 6 (Diversity) 3
	TOTAL	18	TOTAL 15
Senior Year	Gen. Ed. 3A (Arts)	3	AEM 802 3
	Gen. Ed. 5A (History)	3	TEC 860 or AEM 821 3
	Gen. Ed. 6 (Diversity)	3	AEM Supporting Course Elective (graduate) 3
	Free Elective	3	
	Free Elective	3-4	
<u>(Undergraduate Complete = 120 hrs)</u>			
TOTAL	15-16	TOTAL 9	
Graduate SUMMER SEMESTER			
	TEC 830	3	
	AEM Supporting Course Elective (graduate)	3	
	TOTAL	6	
Graduate Fall	AEM 805	3	
	AEM 821 or AEM 839	3	
	GRD 867C or GRD 868b	0	
	TOTAL	6	
TOTAL HOURS TO DEGREE COMPLETION			144

* **PREREQUISITES:** Consult with your advisor and/or the University catalog regarding prerequisites for upper division AEM, EET, NET, and TEC courses. A preparatory course in mathematics may be required before admittance into MAT 120. Prerequisites are marked for supporting courses only.

Upper division courses: All students are required to have a minimum of 42 hrs. upper division (300 level or above) courses distributed throughout Major/Supporting/Gen Ed/Free Electives categories.

Refer to the University Catalog at <http://www.catalogs.eku.edu/> regarding University and General Education Requirements. All baccalaureate degree seeking students who enter the University are required to successfully complete one writing intensive course following completion of the ENG 102, ENG 105, or HON 102/103. Writing intensive courses are designated with the suffix "W" following the course prefix and number (e.g. HUM 300W).

Applied Critical & Creative Thinking (ACCT) Requirement: Engineering Technology Management majors will fulfill ACCT with: AEM 499 (Credit hours are incorporated into program requirements.)

Course Number	Course Name
GENERAL EDUCATION & UNIVERSITY REQUIREMENTS (37)	
SCO 100	Student Success Seminar (1)
CORE COURSE REQUIREMENTS (37-38)	
AEM 195	Computer Aided Drafting (3)
AEM 202	Introduction to Quality (3)
AEM 308	Methods of Lean Operations (3) (fall only)
AEM 310W	Technical Communication (3)
AEM 332	Process Control and Auditing (3)
AEM 349	Applied Learning I Industrial Technology (1)
AEM 408	Human Resource Development (3)
AEM 499	Senior Capstone Project (3) (spring only)
AEM 706	Six Sigma Quality (3)
AEM 801	Economics for Lean Operations (3)
AEM 804	Project Management (3)
STA 215 or STA 270	Introduction to Statistical Reasoning (3)
TEC 161	Applied Statistics (4)
	Computer Applications in Technology (3)
MANUFACTURING CONCENTRATION REQUIREMENTS (50)	
AEM 201	Metallic Material Processes (3) (fall only)
AEM 301	Non-Metallic Material Processes (3) (spring only)
AEM 330	Materials Testing and Metrology (3) (fall only)
AEM 352	Robotics and Automated Systems (3) (fall only)
AEM 371	Hydraulics and Pneumatics (3) (fall only)
AEM 390	3-D Parametric Solid Modeling (3) (spring only)
EET 251	Electricity and Electronics (3)
PLUS NINE (9) HOURS selected from the following technical elective: (AEM Elective) (SIX (6) hours MUST be upper division courses.)	
AEM 336	Reliability and Sampling (3)
AEM 382	Advanced Material Processing (3)
AEM 383	CAD/CAM Integration (3)
AEM 392	Computer Aided Machine Drawing (3) (fall only)
AEM 395	Special Topics in AEM: _____
AEM 397	Advanced Machine Drawing (3)
AEM 530 or STA 585	Design of Experiments (3)
CON 303	Experimental Design (3)
EET 252	Statics and Strength of Materials (3)
EET 257	Digital Electronics (3)
EET 351	Electronic Devices and Circuits (3)
NET 303	Programmable Logic Controllers (3)
NET 440	LANs & PC Communications (3)
	Wired/Wireless Communications (3)
MANUFACTURING SUPPORTING COURSE REQUIREMENTS (6-9)	
⁶ CHE 101 AND ⁶ CHE 101L or ⁶ CHE 111 AND ⁶ CHE 111L	Introductory Chemistry (3) Introductory Chemistry Lab I (1) General Chemistry I (3) General Chemistry Lab I (1)
⁶ ECO 120 or ⁶ ECO 230 or [*] ACC 200	Economic Reasoning and Issues (3) Fundamentals of Microeconomics (3) Survey of Accounting (3)
⁶ MAT 120 AND [*] MATH 211 or 6 hours of higher	Trigonometry (3) Applied Calculus (3)
⁶ PHY 131	College Physics I (5)
<i>Bracketed items must be taken concurrently</i>	
FREE ELECTIVES (6-10)	
EXIT EXAM REQUIREMENT (0 – Credit Only)	
AEM 467	Comprehensive Exam for BS in ETM (credit only)
M.S. TECHNOLOGY MANAGEMENT REQUIREMENTS	
CORE COURSE REQUIREMENTS (15) (30 total; Nine (9) credits from AEM 706, AEM 801, and AEM 804 are counted in the undergraduate program)	
AEM 801	Economics for Lean Operations (3)
AEM 804	Project Management (3)
TEC 830	Creative Problem Solving (3)
PLUS SIX (6) HOURS Selected from (Synthesis Experience):	
TEC 860 or AEM 821 AND AEM 821 or AEM 839	Research in Technology (3) Industrial Technology Project (3) Industrial Technology Project (3) Applied Learning in Tech Management (3)
ENGINEERING OPERATIONS CONCENTRATION REQUIREMENTS (9)	
AEM 706	Six Sigma Quality (3)
AEM 802	Productivity Assessment and Analysis (3)
AEM 805	Industrial Operations Research (3)
SUPPORTING COURSE REQUIREMENTS	
SIX (6) HOURS of additional course work to fulfill requirements.	
EXIT REQUIREMENT	
GRD 867C or GRD 868B	MS Applied Engineering and Technology Management Written Comprehensive Exam MS Applied Engineering and Technology Management Oral Comprehensive Exam

⁶ Denotes that 3 credit hours from this course are/can be applied to fulfill a Gen. Ed. requirement.

* Denotes that a prerequisite is required to be admitted into the course.