MINNESOTA STATE UNIVERSITY MANKATO

Undergraduate Degree Map for Completion in Four Years

College:	College of Science, Engineering & Technology
Department:	Auto & Manufacturing Engineering Tech
Name of Program:	AUTOMOTIVE ENGINEERING TECHNOLOGY
Degree Designation:	BS
Emphasis/Concentration:	
Option:	
Version:	
Version Explanation:	
Type of Program:	Standard Major
Minor Required:	Yes
Specific Minor (if required):	MANUFACTURING ENGINEERING TECHNOLOGY

Program Description:

Vehicle design enthusiasts have been pursuing a Bachelor of Science degree in Automotive Engineering Technology at MSU since 1988. AET students also receive a minor in Manufacturing Engineering Technology. Graduates of the program achieve positions such as Design Engineer, Field Test Engineer, Project Manager, or Technical Director for organizations such as the US Environmental Protection Agency, General Motors, Deere, AGCO, Toro, Polaris, Ford, OTC, S&S Cycle, and many others, both vehicle design and manufacturing related.
MSU provides state-of-the-art lab facilities and equipment for testing chassis handling and dynamics, horsepower, fuel efficiency, and emissions. Students work in cooperation with government agencies and private industry and apply research and new technologies to senior design projects. Past projects include research on chassis design and testing, engine development, and alternative fuel research.

Admission Requirements:

At the beginning of their AET studies, students will declare the AET major. Admission to Major is granted by the department. Students must meet admission requirements prior to taking 300- and 400-level courses. Minimum admission requirements for the College of Science, Engineering and Technology are:

- a minimum of 32 earned semester credit hours
- a minimum cumulative GPA of 2.00 (C)
- completion of ENG 101 and MATH 112 or a higher level math

In addition, completion of the following courses with a "C" or better is required:

- AET 102
- AET 160
- AET 261
- AET 262
- CMST 100 OR 102
- EET 113
- MATH 121
- MET 142
- MET 144
- MET 177
- PHYS 211

Advising:

You are expected to meet with your advisor on a regular basis to ensure courses are taken in an order that will lead to successful completion of the degree.

At a minimum, academic advising and graduation planning will take place in AET 104 and AET 387.

A complete listing of program faculty, policies, and course descriptions is available in the undergraduate bulletin.

TERM 1 - FALL				
Designator:	***Course:***	***Course Name:***	***Credits:***	***Milestones:*** Overall GPA ≥ 2.0 Course Completion Rate ≥ 67% Completion of ≥ 15 credit hours
AET	102	Intro to Auto Eng Tech	1	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major Meet with Academic Adviser/Complete Graduation Plan
AET	160	Auto Technology & Systems	4	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major
MATH	115	Pre-Calculus	4	Must receive grade of "C" (2.0 credits) or higher
ENG	101	English Composition	4	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major
MET	144	Product Development & Design	3	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major

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Term 1 Notes:

Overall GPA ≥ 2.0
Course Completion Rate ≥ 67%
Completion of ≥ 15 credit hours

TERM 2 - SPRING				
Designator:	***Course:***	***Course Name:***	***Credits:***	***Milestones:*** Overall GPA ≥ 2.0 Course Completion Rate ≥ 67% Completion of ≥ 30 credit hours Advance to Sophomore status
AET	261	Auto Drivability & Diagnosis	4	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major
MET	142	Intro to Parametric Modeling	3	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major
MATH	121	Calculus I	4	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major

Designator:	Course:	Course Name:	Credits:	Milestones:
				Overall GPA ≥ 2.0 Course Completion Rate ≥ 67% Completion of ≥ 30 credit hours Advance to Sophomore status
EET	113	DC Circuits	3	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major
CMST	100	Fund. Comm. ** OR CMST 102 **	3	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major

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Term 2 Notes:

Overall GPA ≥ 2.0
Course Completion Rate ≥ 67%
Completion of ≥ 30 credit hours
Advance to Sophomore status

TERM 3 - FALL

Designator:	Course:	Course Name:	Credits:	Milestones:
				Overall GPA ≥ 2.0 Course Completion Rate ≥ 67%
MET	177	Mat'l Process & Metallurgy	4	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major
PHYS	211	Principles of Physics I	4	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major
MATH	122	Calculus II	4	Must receive grade of "C" (2.0 credits) or higher
AET	262	Auto Computers & Electronics	4	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major
		General Ed	2	Meet with adviser to verify completion of required goal areas and categories

Insert item

Term 3 Notes:

Overall GPA ≥ 2.0
Course Completion Rate ≥ 67%

TERM 4 - SPRING

Designator:	Course:	Course Name:	Credits:	Milestones:
				Overall GPA ≥ 2.0 Course Completion Rate ≥ 67% Completion of ≥ 60 credit hours Advance to Junior status
STAT	154	Elementary Statistics	3	Must receive grade of "C" (2.0 credits) or higher
CHEM	104	Intro to Chemistry	3	Must receive grade of "C" (2.0 credits) or higher
PHYS	212	Principles of Physics II	4	Must receive grade of "C" (2.0 credits) or higher

Designator:	Course:	Course Name:	Credits:	Milestones:
				Overall GPA ≥ 2.0 Course Completion Rate ≥ 67% Completion of ≥ 60 credit hours Advance to Junior status
CS	271	Graphical Programming ** OR EET 315 **	3	Must receive grade of "C" (2.0 credits) or higher
		General Ed	4	Meet with adviser to verify completion of required goal areas and categories

Insert item

Term 4 Notes:

Overall GPA ≥ 2.0
Course Completion Rate ≥ 67%
Completion of ≥ 60 credit hours
Advance to Junior status

TERM 5 - FALL

Designator:	Course:	Course Name:	Credits:	Milestones:
				Overall GPA ≥ 2.0 Course Completion Rate ≥ 67% Apply for Graduation
AET	366	Auto Thermo Dynamics	3	Must receive grade of "C" (2.0 credits) or higher
MET	323	Statics	3	Must receive grade of "C" (2.0 credits) or higher
ENG	271W	Technical Communication	4	Must receive grade of "C" (2.0 credits) or higher
MET	341	Advanced Parametric Modeling	3	Must receive grade of "C" (2.0 credits) or higher
AET	364	Chassis Design & Perf Testing	4	Must receive grade of "C" (2.0 credits) or higher

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Term 5 Notes:

Overall GPA ≥ 2.0
Course Completion Rate ≥ 67%

TERM 6 - SPRING

Designator:	Course:	Course Name:	Credits:	Milestones:
				Overall GPA ≥ 2.0 Course Completion Rate ≥ 67% Completion of ≥ 90 credit hours Advance to Senior status
AET	468	Auto Research Methods & DOE	4	Must receive grade of "C" (2.0 credits) or higher
AET	387	Junior Design Project	1	Must receive grade of "C" (2.0 credits) or higher Required for admission to MET major Meet with Academic Adviser/Submit Graduation Plan
MET	324	Strength of Mat'ls & Dynamics	4	

Designator:	Course:	Course Name:	Credits:	Milestones: Overall GPA ≥ 2.0 Course Completion Rate ≥ 67% Completion of ≥ 90 credit hours Advance to Senior status
				Must receive grade of "C" (2.0 credits) or higher
AET	465	Automotive Lab	3	Must receive grade of "C" (2.0 credits) or higher
		General Ed	4	Meet with adviser to verify completion of required goal areas and categories

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Term 6 Notes:

Overall GPA ≥ 2.0
Course Completion Rate ≥ 67%
Completion of ≥ 90 credit hours
Advance to Senior status

TERM 7 - FALL

Designator:	Course:	Course Name:	Credits:	Milestones: Overall GPA ≥ 2.0 Course Completion Rate ≥ 67%
AET	378	Composite Materials	3	Must receive grade of "C" (2.0 credits) or higher
AET	488	Senior Design I	3	Must receive grade of "C" (2.0 credits) or higher
AET	334	Fluid Power	3	Must receive grade of "C" (2.0 credits) or higher
AMET	100/400	Elective	3	Must receive grade of "C" (2.0 credits) or higher
		General Education	2	Meet with adviser to verify completion of required goal areas and categories

Insert item

Term 7 Notes:

Overall GPA ≥ 2.0
Course Completion Rate ≥ 67%

TERM 8 - SPRING

Designator:	Course:	Course Name:	Credits:	Milestones: Overall GPA ≥ 2.0 Course Completion Rate ≥ 67%
AET	489	Senior Design II	3	Must receive grade of "C" (2.0 credits) or higher
MET	424	Industrial Safety	2	Must receive grade of "C" (2.0 credits) or higher
AMET	300/400	AET/MET Elective	2	Must receive grade of "C" (2.0 credits) or higher
AMET	100/400	Elective	4	Must receive grade of "C" (2.0 credits) or higher

Designator:	*Course:*	*Course Name:*	*Credits:*	*Milestones:* Overall GPA ≥ 2.0 Course Completion Rate ≥ 67%
		General Ed	3	Meet with adviser to verify completion of required goal areas and categories

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Term 8 Notes:

Overall GPA ≥ 2.0
Course Completion Rate ≥ 67%
Graduate with BSAET

PROGRAM NOTES

DEGREE MAP CHECKLIST: GRADUATION REQUIREMENTS

☑	1. Minimum of 15 credits per semester
☑	2. General Education = 44 credits
☑	3. Diverse Cultures = 2 course (6 credits minimum) from two disciplines
☑	4. Writing Intensive = 2 courses (6 credits minimum)
☑	5. Major = 61 credits
☑	6. Upper-Division Requirements = 40 credits minimum
☐	7. Professional Education (if required) = 30 credits
☐	8. Language Requirements (if BA) = 8 credits minimum
☑	9. Minor = 16 credits
☑	10. Total credits required for degree 128

DEGREE MAP COMPLETE

☑	Map is complete and ready for review 1. Faculty please send an email to your Department Chair when map is ready to review. 2. Department Chair please send an email to your Dean when map is ready to review. 3. Dean please send an email to the Assistant Vice President for Undergraduate Studies when map is ready to review.

DEAN APPROVAL

☑	Map reviewed and approved by Dean

Save and Close