

AET is an instructional program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing, manufacturing and testing self-propelled ground vehicles and their systems. Includes instruction in vehicular systems technology, design and development testing, instrument calibration, test equipment operation and maintenance, and report preparation.

#### Communication Competency Requirements

FSU Course	FSU Course Title	FSU Cr. Hrs.	ACC Equiv.	ACC Course Title	ACC Cr. Hrs.
COMM 221	Small Group Decision Making	3	No Equivalent	No Equivalent	No Equivalent
ENGL 150	English 1	3	ENG 121	English Composition	3
ENGL 250 or ENGL 211	English 2 or	3	ENG 122 or ENG 131	English Composition 2 or Technical Writing 1	3
ENGL 311	Advanced Technical Writing	3	No Equivalent	No Equivalent	No Equivalent

#### Quantitative Literacy Requirements

FSU Course	FSU Course Title	FSU Cr. Hrs.	ACC Equiv.	ACC Course Title	ACC Cr. Hrs.
MATH 116	Intermediate Algebra	3	MAT 108	Technical Mathematics	3

#### Natural Sciences Competency Requirements – minimum 6 credits required – one course must have a lab

FSU Course	FSU Course Title	FSU Cr. Hrs.	ACC Equiv.	ACC Course Title	ACC Cr. Hrs.
CHEM 114	Introduction to General Chemistry	4	No Equivalent	No Equivalent	No Equivalent
PHYS 211	Introductory Physics 1	4	No Equivalent	No Equivalent	No Equivalent

Students may taken CHE 111 and 112 at Arapahoe Community College, which is equivalent to Ferris' CHEM 121 and 122 in place of CHEM 114.

#### Culture Competency Requirements – 9 credits required – courses must come from 2 different disciplines

FSU Course	FSU Course Title	FSU Cr. Hrs.	ACC Equiv.	ACC Course Title	ACC Cr. Hrs.
Varies	FSU General Education – Culture Electives	6	Varies	Varies	6
SURE 331	Ethics - Prof In Engineering Technology	3	No Equivalent	No Equivalent	No Equivalent

#### Self and Society Competency Requirements – 9 credits required; courses must come from 2 different disciplines; 1 at FSU 200 level or higher

FSU Course	FSU Course Title	FSU Cr. Hrs.	ACC Equiv.	ACC Course Title	ACC Cr. Hrs.
Varies	FSU General Education – Self & Society Electives	9	Varies	Varies	9

#### Additional General Education Requirements

FSU Course	FSU Course Title	FSU Cr. Hrs.	ACC Equiv.	ACC Course Title	ACC Cr. Hrs.
MATH 126 or MATH 130	Algebra & Analytical Trig or Advanced Algebra – Analytical Trig	4	No Equivalent or MAT 121 + MAT 122	No Equivalent or College Algebra + College Trigonometry	No Equivalent or 7
MATH 216	Applied Calculus	4	No Equivalent	No Equivalent	No Equivalent

**Ferris State University General Education Program** Students are encouraged to work with an advisor to select appropriate general education courses

#### Diversity Competency – 2 Courses Required

If not met by courses taken for Culture, Self and Society, or Michigan Transfer Agreement (MTA), a student must have one course with the Global Diversity attribute and one course with the U.S. Diversity attribute. Some courses include both Global Diversity and U.S. Diversity attributes. Courses with both attributes satisfies the entire Diversity competency.

#### Collaboration Competency – 2 Courses Required

If not met by courses taken in the bachelor degree program, a student must have two courses with the Collaboration attribute. Some courses include both Collaboration and Problem Solving attributes. Of the required courses in this specific program, these courses will meet the Collaboration requirement:

- AUTO 310 - Engine Air Flow Analysis
- AUTO 320 - Dynamometer Analysis

### Problem Solving Competency – 2 Courses Required

If not met by courses taken in the bachelor degree program, a student must have two courses with the Problem Solving attribute. Some courses include both Collaboration and Problem Solving attributes. Of the required courses in this specific program, these courses will meet the Problem Solving requirement:

- AUTO 310 - Engine Air Flow Analysis
- AUTO 320 - Dynamometer Analysis

### Major Requirements – 53 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	ACC Equiv.	ACC Course Title	ACC Cr. Hrs.
AUTO 111	Manual Transmission and Drive Lines	4	ASE 150 + ASE 151 + ASE 152 + ASE 153 + ASE 154	Manual Drive Train & Axle Maint + Auto Manual Transmission / Transaxles & Clutches 1 + Manual Transmission, Transaxles & Clutches 2 + Auto Drive Axle Overhaul + Manual Transmission / Transaxle Diagnosis & Repair	8
AUTO 112	Auto Brake Systems	4	ASE 110 + ASE 111 + ASE 210	Auto Brakes Service 1 + Auto Brake Service 2 + Auto Power & ABS Brake Systems	6
AUTO 113	Auto Electricity/Electronics	4	ASE 120 + ASE 123	Basic Auto Electricity + Starting & Charging Systems	4
AUTO 114	Auto Engines	4	ASE 160 + ASE 130 + ASE 161 + ASE 162	Auto Engine Repair + General Engine Diagnosis + Engine Repair & Rebuild + Auto Engine Service	8
AUTO 115	Suspension, Steering, Alignment Services	4	ASE 140 + ASE 141 + ASE 240	Suspension & Steering 1 + Suspension & Steering 2 + Suspension & Steering 3	6
AUTO 117	Electronic Fuel Management Systems	4	ASE 231 + ASE 134 + ASE 233 + ASE 235	Auto Computers & Ignition Systems + Auto Fuel & Emissions Systems 1 + Auto Fuel Injection & Emissions Systems 2 + Driveability & Diagnosis	10
AUTO 200	Service Area	6	No Equivalent	No Equivalent	No Equivalent
AUTO 213	Chassis Electrical/Electronics	4	ASE 122 + ASE 221	Auto Electrical Safety Systems + Auto & Diesel Body Electrical	5
AUTO 310	Engine Air Flow Analysis	3	No Equivalent	No Equivalent	No Equivalent
AUTO 320	Dynamometer Analysis	3	No Equivalent	No Equivalent	No Equivalent
AUTO 450	Auto Fuels and Lubes	3	No Equivalent	No Equivalent	No Equivalent
AUTO 460	Emission Systems	3	No Equivalent	No Equivalent	No Equivalent
AUTO 480	Alternate Fuel and Vehicle System	3	No Equivalent	No Equivalent	No Equivalent
AUTO 493	Internship	4	No Equivalent	No Equivalent	No Equivalent

### Additional Requirements – 28 Credits Required

FSU Course	FSU Course Title	FSU Cr. Hrs.	ACC Equiv.	ACC Course Title	ACC Cr. Hrs.
MATL 240	Intro to Material Science	4	No Equivalent	No Equivalent	No Equivalent
MATL 341	Material Science Metals	3	No Equivalent	No Equivalent	No Equivalent
MECH 212	Kinematics and Mechanisms	2	No Equivalent	No Equivalent	No Equivalent
MFGE 321	Metrology	3	No Equivalent	No Equivalent	No Equivalent
MFGE 341	Quality Science Statistics	3	No Equivalent	No Equivalent	No Equivalent
MFGE 342	Statistical Process	3	No Equivalent	No Equivalent	No Equivalent
MFGE 442	Design of Experiments 1	3	No Equivalent	No Equivalent	No Equivalent
PDET 322	Model and Prototype Development	2	No Equivalent	No Equivalent	No Equivalent
PDET 413	Fluids/Thermodynamics	3	No Equivalent	No Equivalent	No Equivalent
PDET 415	Advanced Solid Modeling CAD	2	No Equivalent	No Equivalent	No Equivalent

**Total Credits Required for Degree**

**131**

### Program Delivery Locations and Contact Information:

Main Campus, Big Rapids

College of Engineering Technology

(800) 433-7747 | (231) 591-2890 | auto@ferris.edu

[www.ferris.edu/transfer](http://www.ferris.edu/transfer)

Select courses may be delivered online and/or in a mixed delivery format (i.e. a mix of online and face-to-face instruction at the Ferris Main Campus or at an off-campus location)

Ferris State University and Community College – Automotive Engineering Technology - Transfer Guide

Effective Spring 2020

Ferris State University is an equal opportunity institution. For information on the University's Policy on Non-Discrimination, visit [ferris.edu/non-discrimination](http://ferris.edu/non-discrimination).

**General Admission Criteria****Transfer Students**

- 2.5 College GPA Overall
- MATH 116 Placement
- ENGL 150 placement

**Graduation Requirements**

In addition to meeting all the programmatic requirements, students must:

1. Meet University General Education requirements.
2. Earn a minimum of 120 credits.
3. Maintain a 2.00 or higher cumulative FSU GPA.
4. Earn 30 credits from FSU (Residency).
5. Earn 40 credits of 300 level or higher courses.

**Advising Notes**

It is recommended that potential applicants meet with an advisor to review the degree, course schedule, and have any questions answered prior to completing an application. Students who are completing the MTA may have different general education course requirements for the particular degree selected. Meeting with a Ferris advisor prior to the selection of general education or elective course work may reduce the chance of completing a course that will not apply toward the selected degree. Once admitted, students must continue to meet with an advisor as they work toward graduation.

**Transfer Student Orientation**

All new students to Ferris State University are required to complete an orientation.

**Disclaimer**

This is a guide for students who plan to transfer to Ferris State University. This guide is not intended to be a contract with Ferris. The information on this guide is subject to change. Students should contact their community college or Ferris to keep informed of changes. Final responsibility for verifying all transfer information lies with the student. Please refer to effective and/or revised date on the bottom of this guide.