AUTOMOTIVE ENGINEERING TECHNOLOGY

College of Science, Engineering & Technology
Department of Automotive and Manufacturing Engineering Technology
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Chair and Graduate Coordinator: Dr. Harry Petersen, Ph.D., P.E.

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Although there is no graduate degree program in Automotive Engineering Technology, graduate work is possible. By combining courses in AET with courses in other programs, a student may create a graduate program leading to a Master of Science degree in Multidisciplinary Studies. Also, 10 credits of AET course work can be used to meet the requirements of the Master of Science: Manufacturing Engineering Technology degree. For further information, contact the department chairperson at 507-389-6383.

COURSE DESCRIPTIONS

AET 535 (1-4) Automotive Design & Construction
Involves designing and building of prototype vehicles. Topics include: vehicle design decisions, rules, budgets, chassis design, body and aerodynamics, drive train choices, construction techniques, and test procedures. An actual experimental car will be built in this class. May be repeated.

AET 568 (4) Automotive Research Methods & Design of Experiments
Automotive research techniques and equipment form the basis for this course. Environmental measurement, air flow testing, engine dynamometer testing, and vehicle performance measurement are covered. Emphasis is placed on research procedures, data acquisition and interpretation, and technical report writing. Current research projects from the automotive industry are also examined.
Prerequisite: AET 366, STAT 154

AET 592 (1-4) Seminar: Automotive
Selected automotive topics.

AET 637 (1-3) Automotive Emission Design and Measurement
An in-depth laboratory experience involving the evaluation of existing automotive emission control systems and the design or modification of those systems. Emission testing using chemical analysis and chassis dynamometer as required in state and federal test procedures is also included.

AET 638 (1-3) High Performance Engineering
This course is intended for individuals wishing to be employed in professional automotive racing as a product development engineer, technical representative for a race product supplier, or race engineer. An in-depth study of vehicle dynamics and engine design utilizing on-board data acquisition, air flow measurement, and the engine dynamometer.

AET 647 (1-3) Advanced Automotive Emissions and Measurement
A continuation of AET 637.

AET 648 (1-3) Advanced High Performance Engineering
A continuation of AET 638.

AET 677 (1-4) Individual Study

AET 694 (1-2) Alternate Plan Paper
A minimum of 2 credits is required.

AET 697 (1-4) Internship: Automotive
Automotive work experience in an area pertinent to the student's objective. Registration required prior to beginning employment.

AET 699 (2-4) Thesis