

TOPIC:**THE AUTOMOTIVE ENGINEERING MASTERS PROGRAM OVERVIEW:****1- Automotive Engineering Master Degree Requirements**

Credit Hrs:	42 credit hours = 36 hrs course requirements + 6 hrs internship
Program Duration:	24 Months
Course Requirements:	12 Courses (36 credit hours)
Research Thesis:	Not required. Instead, a six-month (six-credit-hour) industrial internship including an industrial project is required.
Additional Requirements:	For students lacking foreign language proficiency and a foreign cultural experience: A three-month (zero-credit-hour) cultural immersion with foreign language training course is required. In addition, for these students the aforementioned industrial internship will have to be done in a foreign country.
Program Designation:	AuE

2- Automotive Engineering Master Degree Stems:

Two automotive master degree options are available: System and Function Stems

1. Function Stem Objective:	To meet primarily the needs of the automotive tier 1 and tier 2 suppliers for individuals with knowledge and skills to integrate two or more technical areas
2. System Stem Objective:	To meet primarily needs of automotive OEMs for individuals having knowledge & skills to manage & integrate people, technologies, and suppliers at different stages of the vehicle development/production process chain.
Please Note:	The course requirements are different for the students in two stems

3- Common Course Requirements

Required For the Two MS AuE Program Stems > 18 credit hours = 4 core courses (12 hrs) + 2 minors (6 hrs)

4 Core Courses (12 credit hours)	AuE 880 - Design/Manufacture Project Management AuE 881 - Automotive Systems- an integrated overview AuE 882 - Systems Integration Concepts and Methods AuE 883 - Applied Systems Integration
2 Dedicated Minor Courses (6 credit hours)	AuE 8XX – Leadership, management AuE 8XX – Business, finance, policies
Objectives of Core Courses	To provide the students with the foundations in automotive systems, project management, and systems integration methods, tools. And applications.
Objectives of Minor Courses	To provide the students with the foundations of business, economics, policies etc. as pertinent to the automotive industry.

4- Additional Course Requirements for MS AuE Systems Stem Students

(Two of the following five courses = 6 credit hours)

AuE 831 - New Vehicle Conception, Market and Technology Identification, Concept Validation (C6)
AuE 832 - Vehicle Development and Integration Processes, Methods and Tools (C1)
AuE 833 - Automotive Manufacturing Process Development, Methods and Tools (C2)
AuE 834 - Automotive Production Preparation, Management and Launch (C3)
AuE 835 - Vehicle Electronics Integration – A Process Chain Prospective (C4)
To provide the students with a more detailed knowledge and experiences as related to various stages in the vehicle development/production process chain.

Objectives of Systems-stem Courses

5- Remaining Course Requirements for the Two MS AuE Program Stems

(18 credit hours for MS AuE Functions Stem Students), (12 credit hours for MS AuE Systems Stem Students)

Function Stem	6 courses (18 credit ours) from below tracks listed below
System Stem Objective	4 courses (12 credit ours) from below tracks listed below To provide the students with depth in two-to-three technical areas
Constraints	<input type="checkbox"/> At least 3 courses must have the AuE designation <input type="checkbox"/> The courses must be taken from no less than 2 and no more than 3 tracks to ensure a depth/breadth balance. <input type="checkbox"/> At least two courses must come from one track and at least two courses must come from another track
Tracks - Technical Areas	T1 Vehicle Materials and Structures Mechanics T2 Vehicle Electronics, Mechatronics and Computer Systems T3 Vehicle Design and Integration, Methods and Tools T4 Vehicle Manufacturing and Production T5 Vehicle Performance (Vehicle Physics) T6 Vehicle Power Systems and Transmission