

AUTO501
Integrated Vehicle Systems Design

SAMPLE SYLLABUS

Instructor:

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Course Description:

The objective of this course is to examine the major systems and concepts related to the development of a vehicle in a global marketplace. The course focuses on the layout of the major space-defining vehicle subsystems in the context of interactions between the subsystems and overall vehicle demands. The process followed will be based on systems engineering and will frame the design process in the context of the vehicle needs. Performance prediction, engineering metrics and design requirements will be presented and discussed for selected subsystems. Topics to be covered include:

The Vehicle Design Process Safety
Vehicle Interior and Occupant Packaging Powertrain
Ride and Handling Body Structure
Electric Drive Trains and Batteries Electrical and Electronics
Energy, Fuel Diversity and the Environment Thermal Issues
Future Outlook

The lectures will be delivered by invited industry and research experts on these topics.

Text:

No textbook is required. Supplemental reading materials will be provided in class and will be made available at the AUTO 501 web site on CTools throughout the semester.

Assignments:

Approximately six exercises will be assigned during the course.
A midterm exam and a final exam will be given.

Grading:

50% - Homework Assignments
25% - Midterm Exam
25% - Final Exam