

Course Outline

1. COURSE INFORMATION

Session Offered	Fall 2017	
Course Name	Capstone Design II	
Course Code	AUTO TECH 4TR3	
Date(s) and Time(s) of lectures	Tuesdays 1:30am-5:30pm (C03) Sept 5, 2017 – Dec 6, 2017	
Program Name	Automotive and Vehicle Technology	
Calendar Description	This course is a continuation of Technical Report I and it requires the students to conduct further research, modify/refine the project design, develop and implement the independent project proposal submitted as a part of the Technical Report I course. The project will be documented as a technical report and presented in a seminar.	
Instructor(s)	Dr. Timber Yuen Dr. Moein Mehrtash Dr. Lucian Balan	E-Mail: as indicated by instructor Office: MARC 270 Office: MARC 273 Office: MARC 271

2. COURSE SPECIFICS

Course Description			
Instruction Type	Code	Type	Hours per term
	C	Classroom instruction	39
	L	Laboratory, workshop or fieldwork	13
	T	Tutorial	
	DE	Distance education	
	Total Hours		52
Resources	ISBN	Textbook Title & Edition	Author & Publisher
	ISBN:	Fundamentals of engineering design	Hyman, Barry I Prentice Hall
	Other Supplies	Source	
Prerequisite(s)	AUTOTECH 3MP3, 4AE3, 4EC3, 4MS3, 4TR1, ENGTECH 4EE0, and registration in level IV of the Automotive and Vehicle Engineering Technology program		
Corequisite(s)	N/A		
Antirequisite(s)	N/A		
Course Specific Policies	<p>Communication:</p> <ul style="list-style-type: none"> E-mail communication for this course is exclusively through Avenue Mail (from student's Avenue account to instructor's Avenue account). <p>Weekly Project Meeting:</p> <ul style="list-style-type: none"> Weekly project meetings are mandatory (weight 5% for ten meetings) Each group selects one 20 min time slot in the first two-hour of the class Instructor meets each group member individually during the selected time slot <p>Logbook Submission:</p>		

- Each student will keep a logbook of work performed each week outside and inside the lab/classroom. Generally, the logbook will document the project progress, accomplished task, learned outcomes, recommendations and actions to be taken.
- It is expected that each student will also work on their project outside the assigned class room/lab time. These activities will be recorded in the logbook. The logbook will be reviewed by the instructor at each project meeting, the due date is at the beginning each lab session.
- Weekly Logbook submissions are mandatory (weight 5% for ten report)
- Logbook type of submission is only electronic! A word template is provided for the logbook, all weekly reports must be submitted based on the template (template posted on Avenue)
- Weekly logbook must be uploaded to the specified Dropbox.
- Logbook must be submitted at the end of the semester along with your final report.

Mid-term Report:

- The midterm report is a group submission report.
- Midterm report is mandatory (weight 20% for one submission)
- The evaluation rubrics and template for the midterm report will be communicated to the students at the beginning of the term

Final Report:

- The final report is individual submission with showing each student's contribution to the project (weight 50% for one submission).
- The evaluation rubrics and template for the final report will be communicated to the students at the beginning of the term.
- The final report should be submitted as a bound hardcopy. Students are responsible for covering the cost. The final report should also be submitted as an electronic copy.
- Submitted reports become the property of the department and they will not be returned to the students.

Final Project Demonstration:

- Each student will present their final project to the class at the end of the term, at a date that will be communicated by the instructor (weight 10% for one presentation)
- Students are required to make a poster that summarizes their project achievements and results.

Department Policies:

- The departmental Safety Policy will be followed by the students while working in the lab.
- Student is required to book the devices in machine-shop in the first week of the semester. Access to machine-shop out of the lab time is not allowed (require the approval from Safety Committee of department)
- Students may be required to purchase components on their own, and they will be reimbursed at the end of the term, providing that the

	<p>components are returned in working order and the original receipts are submitted.</p> <ul style="list-style-type: none"> The final prototype (if applicable) belongs to the department unless the students decide to pay for the entire cost of the project themselves. 	
Departmental Policies	<p>Students must maintain a GPA of 3.5/12 to continue in the program.</p> <p>In order to achieve the required learning objectives, on average, B.Tech. students can expect to do at least 3 hours of “out-of-class” work for every scheduled hour in class. “Out-of-class” work includes reading, research, assignments and preparation for tests and examinations.</p> <p>Where group work is indicated in the course outline, such collaborative work is mandatory.</p> <p>The use of cell phones, iPods, laptops and other personal electronic devices are prohibited from the classroom during the class time, unless the instructor makes an explicit exception.</p> <p>Announcements made in class or placed on Avenue are considered to have been communicated to all students including those individuals that are not in class.</p> <p>Instructor has the right to submit work to software to identify plagiarism.</p>	
3. SUB TOPIC(S)		
Week 1	Project Work & Consultation	Sept 4 – Sept 10
Week 2	Project Work & Consultation	Sept 11 – Sept 17
Week 3	Project Work & Consultation	Sept 18 - Sept 24
Week 4	Project Work & Consultation	Sept 25 – Oct 1
Week 5	Project Work & Consultation	Oct 2 – Oct 8
Mid-term Recess: Monday, October 9 to Sunday, October 15, 2017		
Week 6	Project Work & Consultation, Midterm report due	Oct 16 – Oct 22
Week 7	Project Work & Consultation	Oct 23 – Oct 29
Week 8	Project Work & Consultation	Oct 30 – Nov 5
Week 9	Project Work & Consultation	Nov 6 –Nov 12
Week 10	Project Work & Consultation	Nov 13 – Nov 19
Week 11	Project Work & Consultation, Poster submission	Nov 20 – Nov 26
Week 12	Final report submission (last day before test ban week: Nov 29th)	Nov 27 – Dec 3
Week 13	Final report presentation	Dec 4 –Dec 6
<p>Classes end: Wednesday, December 6, 2017</p> <p>Final examination period: Friday, December 8 to Thursday, December 21, 2017</p> <p>All examinations MUST be written during the scheduled examination period.</p>		
<p>Note that this structure represents a plan and is subject to adjustment term by term.</p> <p>The instructor and the University reserve the right to modify elements of the course during the term. The University may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes.</p>		
4. ASSESSMENT OF LEARNING *including dates*		Weight
Midterm Report (group)		20%
Logbook Records and Meeting Participation (individual)		10%
Poster (group)		10%
Final Project Presentation (group)		10%
Final Project Report (individual)		50%

TOTAL	100%
Percentage grades will be converted to letter grades and grade points per the University calendar.	
5. LEARNING OUTCOMES	
1. Design experimental projects in automotive engineering, or a related field.	
2. Use state-of-the-art modelling, CAD, CAM and CAE software packages to design, analyse and manufacture components and assemblies	
3. Apply various engineering tools for analytical, finite element, numerical and dynamic analysis of the designed components and assemblies	
4. Build and test physical automotive-related assemblies that use mechanical and electronic components	
5. Perform critical thinking and problem solving approaches for technical problems	
6. Write a technical report and present analytical and experimental results in a professional form	
6. POLICIES	
Anti-Discrimination	
<p>The Faculty of Engineering is concerned with ensuring an environment that is free of all discrimination. If there is a problem, individuals are reminded that they should contact the Department Chair, the Sexual Harassment Officer or the Human Rights Consultant, as soon as possible.</p> <p>http://www.mcmaster.ca/policy/General/HR/Discrimination_Harassment_Sexual_Harassment-Prevention&Response.pdf</p>	
Academic Integrity	
<p>You are required to exhibit honestly and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.</p> <p>Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.</p> <p>It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, located at: http://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicIntegrity.pdf.</p> <p>The following illustrates only three forms of academic dishonesty:</p> <ol style="list-style-type: none"> 1. Plagiarism. E.g. the submission of work that is not own or for which other credit has been obtained 2. Improper collaboration in group work 3. Copying or using unauthorized aids in tests and examinations. 	
Requests for Relief for Missed Academic Term Work (Assignments, Mid-Terms, etc.)	
<p>The McMaster Student Absence Form is a self-reporting tool for Undergraduate Students to report absences DUE TO MINOR MEDICAL SITUATIONS that last up to 3 days and provides the ability to request accommodation for any missed academic work. Please note, this tool <u>cannot</u> be used during any final examination period.</p> <p>You may submit a maximum of 1 Academic Work Missed requests per term. It is YOUR responsibility to follow up with your Instructor immediately (NORMALLY WITHIN TWO WORKING DAYS) regarding the nature of the accommodation.</p> <p>If you are absent for reasons other than medical reasons, for more than 3 days or exceed 1 request per term you MUST visit your Associate Dean's Office (Faculty Office). You may be required to provide supporting documentation.</p> <p>This form should be filled out immediately when you are about to return to class after your absence. http://www.mcmaster.ca/msaf/</p>	
E-Learning Policy	
<p>Consistent with the Bachelor of Technology's policy to utilize e-learning as a complement to traditional classroom instruction, students are expected to obtain appropriate passwords and accounts to access Avenue To Learn for this course. Materials will be posted by class for student download. It is expected</p>	

that students will avail themselves of these materials prior to class. Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail account, and program affiliation may become apparent to all other students in the course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about this disclosure please discuss this with the course instructor. Avenue can be accessed via <http://avenue.mcmaster.ca>.

Communications

It is the student's responsibility to:

- Maintain current contact information with the University, including address, phone numbers, and emergency contact information.
- Use the University provided e-mail address or maintain a valid forwarding e-mail address.
- Regularly check the official University communications channels. Official University communications are considered received if sent by postal mail, by fax, or by e-mail to the student's designated primary e-mail account via their @mcmaster.ca alias.
- Accept that forwarded e-mails may be lost and that e-mail is considered received if sent via the student's @mcmaster.ca alias.
- Check the McMaster/Avenue email and course websites on a regular basis during the term.

Turnitin (Optional)

This course will be using a web-based service (Turnitin.com) to reveal plagiarism. Students submit their assignment/work electronically to Turnitin.com where it is checked against the internet, published works and Turnitin's database for similar or identical work. If Turnitin finds similar or identical work that has not been properly cited, a report is sent to the instructor showing the student's work and the original source. The instructor reviews what Turnitin has found and then determines if he/she thinks there is a problem with the work. Students who do not wish to submit their work to Turnitin.com must still submit a copy to the instructor. No penalty will be assigned to a student who does not submit work to Turnitin.com. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, etc.). To see the Turnitin.com Policy, please go to <http://www.mcmaster.ca/academicintegrity/turnitin/students/>

Protection of Privacy Act (FIPPA)

The Freedom of Information and Protection of Privacy Act (FIPPA) applies to universities. Instructors should take care to protect student names, student numbers, grades and all other personal information at all times. For example, the submission and return of assignments and posting of grades must be done in a manner that ensures confidentiality. <http://www.mcmaster.ca/univsec/fipppa/fipppa.cfm>

Academic Accommodation of Students with Disabilities Policy

Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or e-mail sas@mcmaster.ca. For further information consult McMaster's policy for Academic Accommodation of Students with Disabilities <http://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicAccommodation-StudentsWithDisabilities.pdf>

Students must forward a copy of the SAS accommodation to the instructor of each course and to the Program Administrator of the B.Tech. Program immediately upon receipt. If a student with a disability chooses NOT to take advantage of a SAS accommodation and chooses to sit for a regular exam, a petition for relief may not be filed after the examination is complete. <http://sas.mcmaster.ca>

Student Code of Conduct

The Student Code of Conduct (SCC) exists to promote the safety and security of all the students in the McMaster community and to encourage respect for others, their property and the laws of the land. McMaster University is a community which values mutual respect for the rights, responsibilities, dignity and well-being of others. The purpose of the Student Code of Conduct is to outline accepted standards of behavior that are harmonious with the goals and the well-being of the University community, and to define the procedures to be followed when students fail to meet the accepted standards of behavior. All students have the responsibility to familiarize themselves with the University regulations and the conduct expected of them while studying at McMaster University.

<http://judicialaffairs.mcmaster.ca/pdf/SCC.pdf> and <http://www.mcmaster.ca/policy/Students-AcademicStudies/StudentCode.pdf>