

## Course Outline

### 1. COURSE INFORMATION

<b>Session Offered</b>	Fall 2017	
<b>Course Name</b>	Project Management	
<b>Course Code</b>	GenTech 3MT3	
<b>Date(s) and Time(s) of lectures</b>	C01: MO: 11:30am-1:20pm / MO: 1:30-2:20pm C02: MO: 2:30-4:20pm / TH: 12:30-1:20pm C03: WE: 10:30am-12:20pm / WE: 12:30-1:20pm C04: FR: 10:30-11:20am / FR: 12:30-2:20pm	
<b>Program Name</b>	One of the following B. Tech. Programs: Automotive and Vehicle Engineering Technology / Biotechnology / Automation Engineering Technology	
<b>Calendar Description</b>	Introduction to best practice in the management of technical projects including the use of planning, software and the management of people.	
<b>Instructor(s)</b>	Basel Dudin (C02, C03, C04)	E-Mail: dudinbk@mcmaster.ca Office: ETB/209 Office Hours: By advance appointment only
	Lucas Thung (C01)	E-Mail: thungl@mcmaster.ca Office: ETB/209 Office Hours: By advance appointment only
<b>Teaching Assistants</b>	TBA Supporting: C01 & C02	Email:
	TBA Supporting: C03 & C04	Email:

### 2. COURSE SPECIFICS

<b>Course Description</b>	<p>Projects play an important role in the development and introduction of new products and technology. Consequently, application of project management has become the dominant means by which organizations execute their business and competitive strategy. This course will provide students a comprehensive understanding to the theory and execution of projects and their management. It covers the generally accepted best practices which lead to enhanced project performance.</p> <p>Engineers and technologists will inevitably be involved in projects at various levels, either as a client, team member, project lead or project manager. The course provides a solid grounding in project management concepts, and the use of the various typical project management tools. Successful completion of this course will demonstrate your commitment to project management, improve your ability to manage larger projects and earn additional responsibility, and stand out to potential employers.</p> <p>In particular, upon completion, students will gain sufficient understanding of the fundamental knowledge, terminology and processes of project management to be able to pursue the Certified Associate in Project Management (CAPM) which is a valuable entry-level PMI certification for project practitioners.</p>
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<b>Instruction Type</b>	<b>Code</b>	<b>Type</b>	<b>Hours per term</b>
	C	Classroom instruction	29
	L	Laboratory, workshop or fieldwork	10
	T	Tutorial	
	DE	Distance education	
<b>Total Hours</b>			<b>39</b>
<b>Resources</b>	<b>ISBN</b>	<b>Textbook Title &amp; Edition</b>	<b>Author &amp; Publisher</b>
	ISBN: Depends on edition	Project Management: The Managerial Process (Appropriate Editions: eText, 5Ed or 6Ed)	Larson & Gray (McGraw-Hill /Irwin)
	<b>Software (Required)</b>	SimProject Online Simulation <a href="https://simulationpl.com">https://simulationpl.com</a> <b>Cost: \$45.00US shared between 2 students (online)</b>	
	<b>Other Supplies</b>	<b>Source</b>	
	Course Resources	<ul style="list-style-type: none"> <li>• PowerPoint slides and lab support material will be provided via electronic files on the course A2L site</li> <li>• MS Project 2016 Software (Free version can be downloaded from the Hub)</li> <li>• <b>Recommended: Registering for student membership at: PMI.org</b></li> </ul>	
<b>Prerequisite(s)</b>	GEN TECH 2MP3 and registration in Level 3 of Automotive and Vehicle Engineering Technology, Biotechnology or Automation Engineering Technology		
<b>Corequisite(s)</b>	None		
<b>Antirequisite(s)</b>	GenTech 3PM3, 4PM3		
<b>Departmental Policies</b>	<p>Students must maintain a GPA of 3.5/12 to continue in the program. 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. Instructor has the right to submit work to software to identify plagiarism.</p>		
<b>Course Specific Policies</b>	<p><b>Class Participation:</b></p> <p>Project management is not physics. It does not consist of independently true “facts” or theory that can be studied and understood independently. At best, it is an “applied science”, and more likely it is a framework for organizing experiences of how projects are best run, and some commonly accepted tools and vocabulary for implementing that framework. This means the more real world experience that can be used to illustrate the concepts involved the better. Some students may have been already involved with project work during their coop work placements, and can help illustrate course materials with examples of what did and did not work in various situations. Since different companies and industries focus on different aspects of project management, the broader the input, the more likely we are to get useful examples for the entire course. When reading your course materials, please contemplate how they apply to your previous coop workplace, and be</p>		

prepared to share this.

**Reading Material Before Class:**

It is expected that students read the material that is coming under discussion prior to class. Students are expected to attend and actively participate during class sessions offering insight, comment, reinforcement, contrary views, and underscoring examples.

**Switching Classes:**

You are required to attend the class days/times for the section in which you are registered. It is possible to attend another class day/time occasionally for specific conflicts that are both urgent and important in nature, such as a coop job interview – **however you must get prior approval from the instructor.**

**In-Class Active Learning Component:**

Throughout the term there will be a number of in-class activities. Each activity will address topics and outcomes listed within the course outline and will require work to be performed within the class setting. These may take the form of completing reflection reports, critical thinking questions, mini-cases and application exercises. The instructor will notify students as to the assessment criteria and format - i.e. individual or group at the time of the activity.

- You must be in the proper section for which you are registered and present during the entire class in which the activity is assigned for it to be graded by the instructor.
- Missed classes which result in missed in-class activities will not be accommodated unless timely medical/legal documentation can be provided. See course outline for further information about academic work missed and guidelines regarding the McMaster Student Absence Form (MSAF).

There will be a number of active-learning activities and the instructor will pick the best of “?” based on the total number of activities completed during the term. Exercises will be graded based on completion, accuracy, and amount of effort shown by the student.

**Weekly On-Line Quizzes:**

The on-line quizzes will consist of multiple-choice and T/F questions designed to ensure that you are keeping up with your course reading. On-line quizzes will be opened **Friday at 1:00pm and closed Sunday evening at 11:59pm. Ensure that you check the specific quiz dates for your assigned course section.** The quizzes are accessed through A2L and there will be a time limit for completion once you start the on-line quiz. The time limit will be 30 minutes for the completion of 20 randomly assigned questions. **Highly recommended you study the chapter material in-depth before completing the online quiz.**

- **Note:** There will not be any make-up assignments for missed quizzes whatever the reason.
- **Any collaboration, posting or sharing of online quiz questions or answers with other students will constitute academic dishonesty.**

**Project Assignment (Group):**

Apply project management knowledge to a case study and prepare a number of deliverables, such as project scope, objectives, milestones, work schedules, budget, and work breakdown structure (WBS).

	<p><b>SimProject Online Simulation (student pairs only):</b>          You will be running a simulation where you will act as the project manager for a company project. Before running the simulation, you will make a plan using resource documents provided in attempt to keep the project within time and cost restrictions. The simulation gives insight to running a project in a workplace, where you must consider planning and executing project, as well as managing conflicts that may arise mid-project.</p> <p>You will run the simulation three times, allowing you to make any changes to make the project the more successful. You will record your results from each simulation round and write a comparison report once all three (3) rounds have been completed.</p> <p>The Project Simulation consists of three (3) submissions</p> <ul style="list-style-type: none"> <li>• Summary Report 1: Record your planning and the success of your first simulation round (Due W8)</li> <li>• Summary Report 2: Record your changes and success of your second simulation round (Due W9)</li> <li>• Final Report: Comparison of all three rounds and reflection of managing conflict and resources (Due W10).</li> </ul> <p><b>Note: It is imperative to save your results of each round generated by the SimProject simulation to use for your final report.</b></p> <ul style="list-style-type: none"> <li>• <b>Late penalties of 10% will be applied automatically for a late submission of any component of project assignment. A further 10% penalty will be applied each day to a late assignment for up to 3 days. After 3-days the assignment will not be graded and you will receive a ZERO.</b></li> </ul> <p><b>Final Exam:</b>          The cumulative final exam will be written during the scheduled examination period. The final exam format will include multiple-choice questions, application-focused short answer questions and multiple questions related to case incident specific to the constraints presented in the case.</p> <ul style="list-style-type: none"> <li>• <b>Note: Students must write and achieve a <u>passing grade</u> on the final exam to pass the course.</b></li> </ul>	
<b>3. SUB TOPIC(S)</b>		
Week 1: Sep 5-10	<p><b>Explanation of Course:</b></p> <ul style="list-style-type: none"> <li>• Course outline review and student expectations, requirements and guidelines for Group Project Reviews and Working with MS-Project (MSP)</li> </ul>	<p><b>Course Resources:</b>          A2L: Downloading your copy of MS Project 2016 Software (software is free for students)</p>
Week 2: Sep 11-17	<p><b>Project Management Framework</b></p> <ul style="list-style-type: none"> <li>• Project definition and management structures</li> <li>• Integrated approach PMBOK knowledge areas</li> <li>• Process groups: Initiating, Planning, Controlling</li> </ul>	<p><b>Course Resources:</b>          Text: Read CH01, CH02,          A2L: <a href="#">Quiz #1</a></p>
Week 3: Sep 18-24	<p><b>Scope Management</b></p> <ul style="list-style-type: none"> <li>• Defining the project and Statement of Work</li> <li>• Change Control, Scope Creep</li> <li>• Work Breakdown Structure, Planning Tools</li> </ul>	<p><b>Course Resources:</b>          Text: Read CH03, CH04,          A2L: <a href="#">Quiz #2</a></p>

Week 4: Sep 25-Oct 1	<b>Time and Cost Management</b> <ul style="list-style-type: none"> <li>Estimating Project Times</li> <li>Work Breakdown Structure, Planning Tools</li> </ul>	<b>Course Resources:</b> <b>Text: Read CH05</b> <b>A2L: Quiz #3</b>
Week 5: Oct 2-8	<b>Developing a Project Plan</b> <ul style="list-style-type: none"> <li>Estimating Project Times</li> <li>Work Breakdown Structure, Planning Tools</li> </ul>	<b>Course Resources:</b> Text: Read CH06 A2L: <b>Quiz #4</b>
<b><i>Fall Recess: Monday October 9 to Sunday, October 15 , 2017 (No Classes Scheduled)</i></b>		
Week 6: Oct 16-22	<b>Scheduling Resources and Managing Duration</b> <ul style="list-style-type: none"> <li>The Resource Scheduling problem</li> <li>Constraints</li> <li>Rationale for Reducing Project Duration</li> <li>Options for Accelerating Project</li> </ul>	<b>Course Resources:</b> Text: Read CH08, CH09, A2L: <b>Quiz #5</b>
Week 7: Oct 23-29	<b>Managing Project Teams - Human Resources</b> <ul style="list-style-type: none"> <li>Team organization planning</li> <li>Team building</li> <li>PM Interpersonal skills</li> <li>Motivation, Influence, Power</li> <li>Roles and Responsibilities</li> </ul>	<b>Course Resources:</b> Text: Read CH10 A2L: <b>Quiz #6</b>
Week 8: Oct 30-Nov 5	<b>Risk Management</b> <ul style="list-style-type: none"> <li>Risk types, Identification, Analysis</li> <li>Risk register</li> <li>Impact assessment and response planning</li> <li>Change control management</li> </ul>	<b>Course Resources:</b> Text: Read CH07 A2L: <b>Quiz #7</b> <b>Project Assignment Due:</b> <b>Sunday Nov 5 @ 11:59pm</b>
Week 9: Nov 6-12	<b>Outsourcing and Procurement</b> <ul style="list-style-type: none"> <li>Managing Inter-organizational Relations</li> <li>Best Practices in Outsourcing</li> <li>Art of Negotiating</li> <li>Contract Management</li> </ul>	<b>Course Resources:</b> Text: Read CH12 A2L: <b>Quiz #8</b> <b>SIM 1 Summary Due:</b> <b>See specific date/time for your section</b>
Week 10: Nov 13-19	<b>Progress and Performance Management</b> <ul style="list-style-type: none"> <li>Progress Reporting</li> <li>Issues Management and Action Log</li> <li>Earned Value Management</li> <li>Performance Metrics</li> </ul>	<b>Course Resources:</b> Text: Read CH13 A2L: <b>Quiz #9</b> <b>SIM 2 Summary Due:</b> <b>See specific date/time for your section</b>
Week 11: Nov 20-26	<b>Communication: Execution and Leadership</b> <ul style="list-style-type: none"> <li>Project governance</li> <li>Technical and people dimensions</li> <li>Decision making framework</li> <li>Conflict management</li> </ul>	<b>Course Resources:</b> Text: Read CH11 A2L: <b>Quiz #10</b> <b>SIM Report Due:</b> <b>Sunday Nov 26 @ 11:59pm</b>
Week 12: Nov 27-Dec 3	<b>Closing Projects</b> <ul style="list-style-type: none"> <li>Organization and Administrative</li> <li>Lessons learned</li> </ul>	<b>Course Resources:</b> Text: Read CH14
Week 13: Dec 4-6	<b>Course Wrap-up</b> <ul style="list-style-type: none"> <li>Exam preparation</li> <li></li> </ul>	
Classes end – Wednesday December 6, 2017 Final examination period: Friday, December 8, 2017 to Thursday, December 21, 2017 All examinations MUST BE written during the scheduled examination period.		

<b>List of Project Management Labs</b>	
Lab 1	MS Project Software - Setup
Lab 2	MS Project Software - Introduction
Lab 3	MS Project - Scheduling
Lab 4	MS Project - Resources
Lab 5	MS Project - Critical Path
Lab 6	MS Project - Resource Leveling
Lab 7	SimProject (Planning)
Lab 8	SimProject (Round 1)
Lab 9	SimProject (Round 2)
Lab 10	SimProject (Round 3)
Lab 11	Project Team Conflict Resolution
Lab 12	Project Management & Tacit Knowledge
<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>	
<b>4. ASSESSMENT OF LEARNING *including dates*</b>	
	<b>Weight</b>
Weekly On-line Quizzes (10 total throughout term) <i>(Released on Fri at 1:00pm and close on the ensuing Sun at 11:59pm)</i>	15%
Active Learning <i>(Randomly assigned in-class activities, lab exercises, homework reports, etc.)</i>	20%
Project Assignment <i>(Due Sunday November 5 @ 11:59pm)</i>	10%
SimProject Online Simulation <ul style="list-style-type: none"> <li>Round 1 Report: Due week 8 (2.5%)</li> <li>Round 2 Report: Due week 9 (2.5%)</li> <li>Final Report: Due week 10 (15%)</li> </ul>	20%
Comprehensive Final Examination <i>(TBA between December 8 - 21)</i>	35%
<b>TOTAL</b>	<b>100%</b>
<p>Percentage grades will be converted to letter grades and grade points per the University calendar.</p>	
<b>5. LEARNING OUTCOMES</b>	
1. Apply knowledge of the areas of integration, scope, time, cost, quality, risk, human resources, and communications in the planning and management processes of initiating, planning, controlling, executing, and closing projects.	
2. Construct typical project management documents (i.e. Work Breakdown Structure, Network Diagrams, Risk Matrices and others).	
3. Analyze project metrics and measurement tools to effectively monitor projects.	
4. Distinguishing the importance of acquiring and applying appropriate personal, leadership and organizational skills, which affect the running of projects.	
5. Formulate effective negotiation and conflict resolution techniques in support of project planning and management.	
6. Use Microsoft Project software to plan and execute projects with Gantt Charts, Network Diagrams, and other features.	

## 6. POLICIES

### Anti-Discrimination

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.

[http://www.mcmaster.ca/policy/General/HR/Discrimination\\_Harassment\\_Sexual\\_Harassment-Prevention&Response.pdf](http://www.mcmaster.ca/policy/General/HR/Discrimination_Harassment_Sexual_Harassment-Prevention&Response.pdf)

### Academic Integrity

You are required to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

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.

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>.

The following illustrates only three forms of academic dishonesty:

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.)

The McMaster Student Absence Form is an on-line self-reporting tool for Undergraduate Students to report absences for:

1. Relief for missed academic work worth less than 25% of the final grade resulting from medical or personal situations lasting up to three calendar days:
  - Students may submit a maximum of one academic work missed request per term. It is the responsibility of the student to follow up with instructors immediately (within the 3 day period that is specified in the MSAF) regarding the nature of the accommodation. All work due in that time period however can be covered by one MSAF.
  - MSAF cannot be used to meet religious obligation or celebration of an important religious holiday, for that has already been completed or attempted or to apply for relief for any final examination or its equivalent.
2. For medical or personal situations lasting more than three calendar days, and/or for missed academic work worth 25% or more of the final grade, and/or for any request for relief in a term where the MSAF has not been used previously in that term:
  - Students must visit their Associate Dean's Office (Faculty Office) and provide supporting documentation.

### E-Learning Policy

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 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/fippa/fippa.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](mailto: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>