

## Course Outline

1. COURSE INFORMATION			
<b>Session Offered</b>	Winter 2017		
<b>Course Name</b>	Financial Systems for Technological Organizations		
<b>Course Code</b>	GEN TECH 3FS3		
<b>Date(s) and Time(s) of lectures</b>	C01: Thursday 6:30pm to 9:30pm (online)		
<b>Program Name</b>	One of the following: Civil Engineering Infrastructure Technology, Software Engineering Technology, Energy Engineering Technologies, or Manufacturing Engineering Technology		
<b>Calendar Description</b>	Introduction to the use of accounting data in the management of technical units and projects.		
<b>Instructor(s)</b>	Aadil Merali, B.Eng.Mgt, M.B.A., C.P.A., C.M.A.	E-Mail: <a href="mailto:merali@mcmaster.ca">merali@mcmaster.ca</a> Office: ETB/217 Office Hours: 12pm to 2pm each Wednesday in ETB 217, or by appointment	
2. COURSE SPECIFICS			
<b>Course Description</b>	<p>GenTech 3FS3 will prepare you to apply accounting concepts to project supervision and management. Divided into two sections, this course first differentiates between business transactions and accounting transactions and their effect on the company's financial success, financial health, and liquidity. The second part of the course focuses on cost concepts (differentiating cost based on behavior, function, and type) to aid in the calculation of the cost of production or project, prediction of future costs, relationship between cost and profitability when volume is altered, and non-routine decision making. In addition, the second part will also apply cost concepts in preparation of static/master and flexible budgets followed by calculation and analysis of variances.</p>		
<b>Instruction Type</b>	<b>Code</b>	<b>Type</b>	<b>Hours per term</b>
	C	Classroom instruction	
	L	Laboratory, workshop or fieldwork	
	T	Tutorial	
	DE	Distance education (Online Class)	39
	<b>Total Hours</b>		39
<b>Resources</b>	<b>ISBN</b>	<b>Textbook Title &amp; Edition</b>	<b>Author &amp; Publisher</b>
	1-269-83380-4	Financial Systems for Technological Organizations & MyAccountingLab [Custom Ed for McMaster University Bachelor of Technology Program]	Pearson Education Inc. [Custom Edition Text]
	<b>Other Supplies</b>	PowerPoint slides and supporting material will be provided via electronic files on the course A2L site Source	
<b>Prerequisite(s)</b>	Registration in Civil Engineering Infrastructure Technology, Computing and Information Technology, Energy Engineering Technologies or Manufacturing Engineering Technology		
<b>Corequisite(s)</b>	None		
<b>Antirequisite(s)</b>	GEN TECH 1FS3, GEN TECH 1FT3, GEN TECH 3FF3		
<b>Course Specific</b>	<ul style="list-style-type: none"> <li>Other than laptops for course related content, no mobile or other devices may be used</li> </ul>		

<b>Policies</b>	<p>during class</p> <ul style="list-style-type: none"> <li>• It is your responsibility to check Avenue daily – everything you will need is there and any important announcements will be posted there. Set your home page to the news feed for the course. See the Course Website for any updates</li> <li>• It is your responsibility to understand what constitutes academic dishonesty</li> <li>• We only respond to emails from students' McMaster email accounts. Ensure that your Mac account is activated and has space to receive emails. We reply to emails only once, and if it returns to us as "undeliverable mail" we do not attempt any further replies. Do not use the email provided by Avenue. <b>We do not check Avenue for emails. We do not respond to emails asking questions to which the answer is readily available in the course outline or Avenue.</b></li> </ul>	
<b>Departmental Policies</b>	<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. Where group work is indicated in the course outline, such collaborative work is mandatory. 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. 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>3. SUB TOPIC(S)</b>		
Week 1: Jan 5	<p><b>The Financial Statements</b></p> <ul style="list-style-type: none"> <li>• Explain the language of business</li> <li>• Explain the conceptual framework</li> <li>• Describe the purpose of the financial statements</li> <li>• Illustrate the relationships among the financial statements</li> <li>• Classify the elements of financial statements</li> </ul>	Chapter 1
Week 2: Jan 12	<p><b>Recording Business Transactions</b></p> <ul style="list-style-type: none"> <li>• Reading and understanding the Financial Statements.</li> <li>• Understand what type of activities impact financial statements.</li> <li>• Record the impact of activities in financial statements.</li> <li>• Review the cycle of transactions leading to financial statements.</li> </ul>	Chapter 2
Week 3: Jan 19	<p><b>Accrual Accounting and the Financial Statements</b></p> <ul style="list-style-type: none"> <li>• Explain difference between statements prepared under cash basis and accrual basis.</li> <li>• Apply revenue and expense recognition principles.</li> <li>• Record adjusting entries and understand their impact on financial statements.</li> <li>• Prepare the financial statements.</li> <li>• Horizontal and vertical ratio analyses.</li> </ul>	<p>Chapter 3</p> <p><b>QUIZ 1 (5%)</b>          OPENS: Jan 19 @ 10pm          CLOSES: Jan 22 @ 11:59pm          Testing material from Chapters 1 and 2.          40 questions to complete in a 5-hour time limit</p>
Week 4: Jan 26	<p><b>The Statement of Cash Flows</b></p> <ul style="list-style-type: none"> <li>• Interpreting the cash flow statement.</li> <li>• Explain the uses of the statement of cash flows.</li> <li>• Prepare the statement of cash flows using the direct and indirect methods.</li> </ul>	<p>Chapter 4</p> <p><b>QUIZ 2 (5%)</b>          OPENS: Jan 26 @ 10pm          CLOSES: Jan 29 @ 11:59pm</p>

		Testing material from Chapters 3 and 4. 40 questions to complete in a 5-hour time limit
Week 5: Feb 2	On Tuesday or Wednesday, there will be a review session for the midterm on Thursday. You are expected to be prepared for the material to benefit from the review session. Details will be posted on Avenue.	<b>MIDTERM EXAM (30%)</b> Date: Thu, Feb 2 Time: 7:00 - 9:30pm Assessing: Chapters 1 – 4
Week 6: Feb 9	<b>An introduction to cost terms and purposes</b> <ul style="list-style-type: none"> <li>Identify and distinguish between two manufacturing cost classification systems: direct and indirect, prime and conversion.</li> <li>Differentiate fixed from variable cost behaviour and explain the relationship of cost behaviour to direct and indirect classifications.</li> <li>Interpret unitized fixed costs appropriately when making cost management decisions.</li> <li>Apply cost information to produce a GAAP compliant income statement showing proper cost of goods sold and a balance sheet showing proper inventory valuation.</li> <li>Explain cost identification classification, and management systems and their use within the decision framework.</li> </ul>	Chapter 5
Week 7: Feb 16	<b>Quantitative Analyses of Cost Functions</b> <ul style="list-style-type: none"> <li>Use standard mathematical notation to specify a cost function that can be graphed as a straight line.</li> <li>Understand the various methods of cost estimation and use historical data to predict future costs.</li> <li>Apply OLS linear regression to analyze goodness of fit and the values of A and B to predict the MOH cost pool.</li> <li>Explain ways to clean up dirty data.</li> <li>Use statistics reported from a simple linear regression to reliably and confidently predict the range within which total value of the cost pool will fall.</li> <li>Use multiple linear regression to determine how more than one cost driver (X) improves the prediction of the MOH cost pool value (y).</li> </ul>	Chapter 6  <b>QUIZ 3 (5%)</b> OPENS: Feb 16 @ 10pm CLOSES: Feb 19 @ 11:59pm Testing material from Chapters 5 and 6. 40 questions to complete in a 5-hour time limit
<b>Mid-term recess (Monday, February 20 to Saturday, February 26)</b>		
Week 8: Mar 2	<b>Job Costing and Activity Based Costing</b> <ul style="list-style-type: none"> <li>Identify and explain the elements of an effective job-costing system</li> <li>Distinguish among three methods, actual, budgeted, and normal, to calculate job cost allocation rates and assign indirect costs to a distinct job</li> <li>Analyze the flow of costs from direct and indirect cost pools to inventory accounts, including adjustments for over- and under-allocated costs</li> <li>Identify the basic elements of activity-based costing systems as distinguished from traditional systems, and explain how preventable undercosting and overcosting of products and services affects profitability</li> <li>Assign costs using activity-based costing (ABC)</li> </ul>	Chapter 7 and 8

Week 9: Mar 9	<b>Cost – Volume – Profit Analysis</b> <ul style="list-style-type: none"> <li>Identify the essential elements of cost-volume-profit analysis and calculate the breakeven point (BEP)</li> <li>Apply the CVP model to calculate a target operating profit before interest and tax</li> <li>Distinguish among contribution, gross, operating, and net income margins, and apply the CVP model to calculate target net income</li> <li>Apply the CVP model in decision making and explain how sensitivity analyses can help managers both identify and manage risk</li> <li>(Not responsible for multi-product analyses)</li> </ul>	Chapter 9  <b>QUIZ 4 (5%)</b> OPENS: Mar 9 @ 10pm CLOSES: Mar 12 @ 11:59pm Testing material from Chapters 7, 8 and 9. 40 questions to complete in a 5-hour time limit
Week 10: Mar 16	<b>Decision Making and Relevant Information</b> <ul style="list-style-type: none"> <li>Contrast relevant and irrelevant costs and revenues as well as quantitative and qualitative information influencing decisions</li> <li>Identify the differences among relevant costs for short-term and long-term production output decisions</li> <li>Explain why opportunity cost is relevant and book value is irrelevant in decision making</li> <li>Identify key concepts and apply them to product and customer mix decisions</li> <li>Explain how to reduce the negative effects and conflicts arising in relevant-cost analyses</li> </ul>	Chapter 10
Week 11: Mar 23	<b>Master Budget and Responsibility Accounting</b> <ul style="list-style-type: none"> <li>Distinguish the long-term from the short-term benefits of budgets (pro forma financial statements)</li> <li>Prepare a master operating budget and all supporting budget and supporting budgets or schedules</li> <li>Prepare a cash budget</li> <li>Contrast responsibility against controllability</li> </ul>	Chapter 11  <b>QUIZ 5 (5%)</b> OPENS: Mar 23 @ 10pm CLOSES: Mar 26 @ 11:59pm Testing material from Chapters 10 and 11. 40 questions to complete in a 3 hour time limit
Week 12: Mar 30	<b>Flexible Budgets, Variances, &amp; Management Control</b> <ul style="list-style-type: none"> <li>Static vs. flexible budgets</li> <li>Material, labour and overhead variances</li> </ul>	Chapter 12
Week 12: Apr 6	<b>Review Session</b>	Chapters 5 - 12
Classes end – Thursday, April 6, 2017 Final examination period: Tuesday, April 11, 2017 to Thursday, April 27, 2017 All examinations MUST BE written during the scheduled examination period.		
Note that this structure represents a plan and is subject to adjustment term by term. 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.		

4. ASSESSMENT OF LEARNING *including dates*	Weight
Online Quizzes (Five at 5% each)	25%
Midterm Exam	30%
Case on Chapter 10	10%
Final Exam	35%
<b>TOTAL</b>	<b>100%</b>

Percentage grades will be converted to letter grades and grade points per the University calendar.

#### 5. LEARNING OUTCOMES

1. Demonstrate the use of financial statements to interpret the financial success, financial health, and liquidity of a firm.
2. Calculate and analyse financial ratios in order to comment on the profitability, solvency, and liquidity of a firm using benchmarks and comparative data between previous years, and other competitors in the industry.
3. Calculate the cost of producing a product and completing a job or process.
4. Demonstrate application of cost predictions using statistical and algebraic methods of cost behaviour analysis.
5. Identify cost behaviour and relevant costing to non-routine decision making in a short term and long term dimension.
6. Demonstrate application of cost-volume-profit analysis in calculating production goals to achieve break even or target profits.
7. Assess the financial implementation of short and long term business plans of an organizational unit or project.
8. Create production budgets and compare actual vs projected deviations through variance analysis.

#### 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/Anti-Discrimination%20policy.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 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 cannot be used during any final examination period.

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.

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.

This form should be filled out immediately when you are about to return to class after your absence. <http://www.mcmaster.ca/msaf/>

### **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**

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>