

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: DMFG 207		Number of Credits: 2 Course credit policy (105)															
Course Full Title: Fabrication Technology Course Short Title: <i>(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)</i>																	
Faculty: Faculty of Applied and Technical Studies		Department (or program if no department): Digital Manufacturing															
Calendar Description: Introduction to common fabrication processes and associated materials including rapid prototyping technologies, non-machining processes such as welding and brazing, metal and plastic bending, forming, molding and casting. Implementation of digital fabrication processes, such as additive and subtractive manufacturing technology, CND machining, laser cutting. Investigate structural concepts and joining methods.																	
Prerequisites (or NONE):		Admission to the Digital Manufacturing diploma or department permission.															
Corequisites (if applicable, or NONE):																	
Pre/corequisites (if applicable, or NONE):																	
Antirequisite Courses <i>(Cannot be taken for additional credit.)</i> Former course code/number: Cross-listed with: Dual-listed with: Equivalent course(s): <i>(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)</i>		Special Topics <i>(Double-click on boxes to select.)</i> This course is offered with different topics: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <i>(If yes, topic will be recorded when offered.)</i>															
		Independent Study If offered as an Independent Study course, this course may be repeated for further credit: <i>(If yes, topic will be recorded.)</i> <input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit															
		Transfer Credit Transfer credit already exists: <i>(See bctransferguide.ca.)</i> <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Submit outline for (re)articulation: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <i>(If yes, fill in transfer credit form.)</i>															
		Grading System <input checked="" type="checkbox"/> Letter Grades <input type="checkbox"/> Credit/No Credit															
		Maximum enrolment (for information only): 20 Expected Frequency of Course Offerings: Annually <i>(Every semester, Fall only, annually, etc.)</i>															
Typical Structure of Instructional Hours <table border="1" style="width: 100%;"> <tr> <td>Lecture/seminar hours</td> <td style="text-align: center;">10</td> </tr> <tr> <td>Tutorials/workshops</td> <td></td> </tr> <tr> <td>Supervised laboratory hours</td> <td style="text-align: center;">20</td> </tr> <tr> <td>Experiential (field experience, practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Supervised online activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td style="text-align: right;">Total hours</td> <td style="text-align: center;">30</td> </tr> </table>		Lecture/seminar hours	10	Tutorials/workshops		Supervised laboratory hours	20	Experiential (field experience, practicum, internship, etc.)		Supervised online activities		Other contact hours:		Total hours	30		
Lecture/seminar hours	10																
Tutorials/workshops																	
Supervised laboratory hours	20																
Experiential (field experience, practicum, internship, etc.)																	
Supervised online activities																	
Other contact hours:																	
Total hours	30																
Labs to be scheduled independent of lecture hours: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes																	
Department / Program Head or Director:		Date approved: October 2018															
Faculty Council approval		Date approved: November 8, 2018															
Dean/Associate VP: John English		Date approved: November 8, 2018															
Campus-Wide Consultation (CWC)		Date of posting: January 18, 2019															
Undergraduate Education Committee (UEC) approval		Date of meeting: February 1, 2019															

Learning Outcomes:

Upon successful completion of this course, students will be able to:

- Describe the common fabrication processes and associated materials.
- Differentiate the applications used in digital fabrication processes and machinery.
- Operate CNC machines, 3D printers, laser cutters.
- Apply the knowledge of structural concept and joining methods.

Prior Learning Assessment and Recognition (PLAR)

Yes No, PLAR cannot be awarded for this course because

Typical Instructional Methods (*Guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion.*)

Lectures and Lab work with occasional guest lecture

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Text(s) and Resource Materials (*If more space is required, download Supplemental Texts and Resource Materials form.*)

Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1.	No textbook required – internal worksheets and lecture notes will be provided	<input type="checkbox"/>		
2.		<input type="checkbox"/>		
3.		<input type="checkbox"/>		
4.		<input type="checkbox"/>		
5.		<input type="checkbox"/>		

Required Additional Supplies and Materials (*Software, hardware, tools, specialized clothing, etc.*)

Students will require a tablet-type device suitable for design collaboration and curation.

Typical Evaluation Methods and Weighting

Final exam:	%	Assignments:	40%	Field experience:	%	Portfolio:	%
Midterm exam:	%	Project:	%	Practicum:	%	Other:	%
Quizzes/tests:	%	Lab work:	60%	Shop work:	%	Total:	100%

Details (if necessary):

Typical Course Content and Topics

Unit 1: Traditional manufacturing methods

Unit 2: Digital and automated manufacturing methods

Unit 3: Welding and brazing

Unit 4: Casting, forming

Unit 5: Additive and subtractive methods

Unit 6: Coating and treatments

Unit 7: Materials and processing effects