EXPANDED COURSE DESCRIPTION

VISUAL ARTS
School of the Arts, Media, Performance and Design
Department of Visual Art Art History
FA / VISA 3034 3.0 SECTION M
DIGITAL FABRICATION
FALL 2018 / WINTER 2019

COURSE CALENDAR DESCRIPTION

Introduces students to the possibilities for translating digital objects into physical objects using three-dimensional printing technologies, and the related conceptual concerns. Prerequisite: FA/DATT 3940 3.00 or FA/VISA 3033 3.00.

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Course Listed Courses: DATT 3941

INSTRUCTOR(S)

<table>
<thead>
<tr>
<th>Name</th>
<th>Section / Format / Term</th>
<th>Contact Email</th>
<th>Contact Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith, P. Roch</td>
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SPECIAL FEATURES

This course builds upon and extends the skills students developed in Modelling for 3D Fabrication. The course introduces students to the possibilities for translating digital objects (objects that exist in a computer file) into physical objects using three-dimensional printing and milling/cutting technologies and the conceptual concerns related to these practices. Students are introduced to advanced operating and strategies and processes for translating digital objects into physical objects through the use of 3D printing technologies. Students have the opportunity to work with Computer Numerically Controlled (CNC) routering machines, 3D printers, laser etchers/cutters, and 3D scanners. Along with the development of these skills, students will explore the social and cultural implications of digital objects transcending the screen into the physical world such as how this technology impacts on our notions of the object, authenticity, intellectual ownership, and craftsmanship. The conceptual framework of related research in this field will be addressed through in class lectures, readings, critiques and discussions.

We will be art researchers in the sense that taking an idea from the virtual realm to the real requires a series of steps – each of which requires conception, execution, and iterative testing in order to achieve a final “real life” form. Students will undertake these steps: testing of the 3D model (soundness of its geometry); refining a model’s production path (does the model need to be chopped to print and reassembled into a coherent whole, are rafts and supports required and can they be easily removed post-printing), and finally post-production finishing techniques and presentation.

Manufacturers of 3D printing and cutting equipment tout the ease of operation of various machines however they have not yet achieved the ease of a photocopier and part of your drive as a learner will be well served in understanding the challenges of production and how to be a tenacious problem solver. Persistence and patience will be the key assets in the level of success that you achieve in this class.

This course will utilize the Digital Sculpture Laboratory (DSL) at York University, which was developed with funding from several faculty research awards and is dedicated to examining the impact of emerging digital technologies on contemporary sculptural practices. This facility seeks to integrate several advanced
3D printing systems, 3D design software, and 3D scanning devices into the contemporary discourse surrounding studio and post-studio based art making practices. Student’s participation in this course will provide them with the experience and technical skills needed to take advantage of the recent boom in computer-aided production and research. The DSL’s unique approach to examining and manipulating the operating structures of divergent software that this course will engage will lead to the training of a new hybrid of artist/researcher who understands the mechanics of the production processes and who is also capable of evolving their skills as new technological innovations emerge. Students will develop Digital Fabrication skills through utilizing 3D printers, 3D design software and 3D scanning devices in the execution of their independent research.

TOPICS AND CONCEPTS

WEEK1: Course introduction - Sculpture Studio safety orientation
WEEK 2: Demo – 3D printers/printing
WEEK 3: Demo – Scanning for Fabrication
WEEK 4: Demo – Laser cutter/etcher
WEEK 5: Intro to CNC Router
WEEK 6: Slide Presentation - Fabrication day
WEEK 7: Demo: Plexiglas methods/techniques
Demo: Finishing techniques for 3D printed forms
WEEK 8: Tutorials Due – Class Discussion of Tutorials
WEEK 9: Final Project Proposal Due
Demo: sculpture woodshop orientation and tools – Fabrication Day
WEEK 10: Fabrication Day
WEEK 11: Fabrication Day
WEEK 12: Final Class – Projects Due – Presentation of work and class critique

LIST OF LEARNING OUTCOMES AND EXAMPLES OF

Lectures, tutorials, demonstrations, group critiques and most importantly, hands-on instruction are the essential means by which we will investigate the many processes involved with 3D fabrication. Students will undertake and complete a series of tutorial projects at the outset of the term in order to gain familiarity and competency with the various technological opportunities offered in the studio. In their final independent project, students will integrate their conceptual and technical learning into a coherent cumulative work to be presented on the final day of class.
Required readings for this course will be posted on Moodle and can be accessed by students at the appropriate time. As well, all tutorials and instructions for completing projects will also be posted on the course Moodle.

GRADED ASSESSMENT

Tutorials (5 @ 12%): 60%
Independent Project: 30%
Active participation in class and critique discussions 10%
Tutorials will be marked on March 6, 2019
Independent Project will be marked on April 3, 2019
Evaluation will be based on cumulative achievement, regular attendance, and the student’s participation in discussions and critiques. You are expected to show a commitment to experimenting with the medium and serious ambition in the execution of all projects and assignments.
Any physical objects to be marked for course credit will be submitted in the sculpture studio on the scheduled date for class critique. Periodic meetings with the instructor will be scheduled to discuss works in progress. Failure to complete any project or to participate in discussion, lectures and readings will result in failure of this class.

All work submitted for evaluation will be original work created by the student. Plagiarism will result in a failing grade. In terms of this class, having another person (student, friend, parent, hired hand) produce or assist in producing your work will be considered plagiarism. York students are required to maintain high standards of academic integrity and are subject to the Senate Policy on Academic Honesty Students are expected to review the materials on the Academic Integrity website.

Grading Criteria:
- Quality of the work produced, including the student’s sensitivity to material & form
- Engagement of the student in their research studies as well as their curiosity and motivation to learn and achieve
- The student’s openness to new ideas
- The degree to which students can set challenges for her or himself
- The student’s willingness to engage in class discussions
- Attendance in class is imperative

Please note that attendance in all classes is mandatory. An absence is an absence - whether or not a reason or an excuse is presented. This is particularly true in studio classes where the process is as important as the object (end result). Failure to attend classes will result in a 5% penalty on your final mark and a second absence will result in a request that the student withdraws from the course.

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ADDITIONAL INFORMATION

SAFETY:

Safety is an essential component of this course. The Odette Sculpture Studio is monitored by technicians and/or student monitors when a faculty member is not present, it is imperative that you treat these people with respect and follow their direction. Failure to do so will result in academic penalty. This is a communal studio environment and in order to be successful in this course it is necessary for you to take responsibility for the studio. If you observe a student using tools in a dangerous manner please notify the studio supervisor. If you recognize that a tool is damaged and has become unsafe please bring it to the attention of the studio supervisor immediately in order to ensure other student’s safety is not put at risk.

The studio is a safe work environment that adheres to strict rules and regulations to ensure student safety. However, accidents do occur, if you or a fellow student is injured please notify the individual responsible for the studio immediately (faculty member, technician, or monitor) and follow their direction.

Repeated failure to observe instruction on proper safety procedure will result in the instructor requesting a student withdrawal from the course. Many of the process utilized in this course can be hazardous to your immediate and long-term health; as such it is imperative that you observe all instruction and protocol when participating in this course. If you are unsure of the necessary safety precautions, ask the instructor or a technician.

Cell phones, headphones, and stereos are not permitted in the sculpture studio. These devices cause distractions and increase the chance of serious injury. Turn you cell phones off before entering class and/or the studio. Failure to comply with this rule will have an adverse effect on your final grade and could lead to failure of this class. If you have an existing medical condition that may impact your ability to successfully complete this course or could possibly impact your ability to use the studio in a safe manner it is strongly recommended that you speak with your instructor about the situation. If a student has environmental allergies or has a high degree of chemical sensitivity it is recommended you do not use the sculpture studio. Your instructor is available to discuss any health and safety related topic and will do so while respecting your right to confidentiality and discretion.

ALL course outlines will also include the following information:
Last date to drop a winter term (W) course without receiving a grade: March 8, 2019
Last date to drop a full year (Y) course without receiving a grade: February 8, 2019

Academic Policies / Information
The Senate Academic Standards, Curriculum and Pedagogy Committee (ASCP) provides a Student Information Sheet that includes:
York's Academic Honesty Policy and Procedures / Academic Integrity Web site
Access/Disability
Ethics Review Process for Research Involving Human Participants
Religious Observance Accommodation
Student Code of Conduct

http://secretariat.info.yorku.ca/files/CourseInformationForStudentsAugust20121.pdf

Academic Accommodation for Students with Disabilities
Alternate Exam and Test Scheduling
Grading Scheme and Feedback Policy
The Senate Grading Scheme and Feedback Policy stipulates that (a) the grading scheme (i.e. kinds and weights of assignments, essays, exams, etc.) be announced, and be available in writing, within the first two weeks of class, and that, (b) under normal circumstances, graded feedback worth at least 15% of the final grade for Fall, Winter or Summer Term, and 30% for ‘full year’ courses offered in the Fall/Winter Term be received by students in all courses prior to the final withdrawal date from a course without receiving a grade.

Important University Sessional Dates (you will find classes and exams start/end dates, reading/co-curricular week, add/drop deadlines, holidays, University closings and more.
http://www.registrar.yorku.ca/enrol/dates/index.htm

Manage my Academic record
http://myacademicrecord.students.yorku.ca/

"20% Rule"
No examinations or tests collectively worth more than 20% of the final grade in a course will be given during the final 14 calendar days of classes in a term. The exceptions to the rule are classes which regularly meet Friday evenings or on Saturday and/or Sunday at any time, and courses offered in the compressed summer terms.

Final course grades may be adjusted to conform to Program or Faculty grades distribution profiles.

Many courses utilize Moodle, York University’s course website system. If your course is using Moodle, click here to access it.
Moodle @ York University