Design Media and Exploration I EVDA 541 H(2-8T)/ARST 451

Fall 2015
MW 0900-1250
INSTRUCTORS
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TAs: TBD

CACB SPC: graphics skills [primary] /design skills [secondary]

Introduction

Design Media and Exploration I is a skill-building course, taught in conjunction with Studio One. The course begins by framing the notion of representation, the drawings and models that are the architect's tools to explore, communicate and ultimately anticipate a future. To this end, the course covers a range of digital and analog techniques for communication, production and design thinking. Three modes of representation will be developed: descriptive explorations, interpretive explorations, and transformative explorations. The course offers a series of graphic exercises with an emphasis placed on the connections between design thinking and making for communication, design iteration, and design resolution from ideation to fabrication.

Objectives

1. To develop a critical understanding of representation and its connection to worldviews and intentionality in architecture.
2. To develop communication skills across a number of platforms (digital and physical drawing and making).
3. To connect critical thinking with design thinking through the development of design processes and the application of strategic tools to assess, interpret, transform and create bodies of knowledge.
4. To develop critical-productive positions regarding the use of various techniques and technologies as they relate to architectural design.
5. To develop skills and familiarity around the use of diagramming, orthographic projection, constructed drawings, scale and measurement, visual notes and sketching, composition and layout, modeling by hand and by machine, and material communication, as well as familiarity with the software packages Illustrator, Photoshop, In-Design, AutoCAD, Maya, Rhinoceros and Grasshopper.

Teaching Approach

The course is taught through the use of lectures, tutorials and hands-on production. Typically a lecture in the specific topic will be given alongside a related assignment handed out at the conclusion of the lecture. The following class, a series of tutorials and demonstrations by the course Teaching Assistants will introduce techniques for completing the assignments. The faculty team and Teaching Assistants will provide desk crits, tutorials and reviews of work as specified in each problem statement. Students should be productive during the time allotted in the course for working on projects and should expect to spend additional time outside of the class completing the assignments. Class participation is vital to your success in the course and attendance to lectures and tutorials is mandatory. A maximum of 2 unexcused absences will be allowed.

Sketching will be deployed throughout the term and within projects as a means to evaluate and iterate ideas around each graphics project. A portfolio of sketching will be maintained throughout the term. Completed graphic work is to be posted by the students to the course blog.

CONTENT: TOPIC AREAS AND CLASS SCHEDULE (subject to change)

SEPTEMBER

M12 Representational Tools/Techniques 1: Orthographic Projections
- Course Introduction
- Assignment 1 Handout 2D Object Drawings
- Blog Setup Tutorial (Teaching Assistants)

W14 Lecture: Considering the Object | Descriptive Documentation (MP)
- Introduction to Representation, Plane and Parallel Projections
- Tutorial: 2 Dimensional Digital Tools :Introduction to Rhino, Illustrator

M19 Representational Tools/Techniques 2: Descriptive and Analytical Explorations
- Assignment 1 In Class Review
- Lecture: Considering Precedents | Diagrams, Maps and Data Overlays (JJ)
- Assignment 2 Handout: Precedent Documentation Orthographic Projections

W21 Tutorial Session: (Teaching Assistants)
- Rhino & AutoCAD: 2D Drafting Techniques
- Illustrator: Line weights, Fills, Annotation Techniques

M26 Representational Tools/Techniques 3: Transformative Explorations
- Assignment 2 In Class Review
- Lecture Mapping Material Dimensions: Volume, Mass & Scale (JJ)
- Assignment 3: Precedent Documentation 3D Chunk Annotation

W28 Tutorial: (Teaching Assistants)
- Maya/Rhino 3D Modeling
- Illustrator 3D Export to 2D Drawings

OCTOBER

M 03 Representational Tools/Techniques 4: Mapping Immaterial Dimensions
- Assignment 3 Review
- Lecture: Considering Context: Mapping Immaterial Dimensions: Processes, Flows, Senses (JJ)
- Assignment 4 Handout (Immaterial Flows Digital Site Models)

W 05 Tutorial: (Teaching Assistants)
- Maya, Rhino, Photoshop: Rendering, Post-Production & Animation

Thanksgiving Block Week: No Scheduled Classes (10-14)

M17 Generative Tools 1: 2D Manipulations
- Assignment 4 Review
- Lecture: Image Manipulation & Sequences (MP)
- Pseudo Code - communicating intention I (in class assignment)
- Assignment 5 Handout (Image Manipulation)

W19 Tutorial: (Teaching Assistants)
- Photoshop / Illustrator Recording and Macros

M24 Generative Tools 2 - Visual Coding
- Assignment 5 Review
- Lecture: Inputs, Outputs: Code as Intention (MP & JJ)
- Breaking down geometry: Points, Planes and Vectors
- Pseudo Code - communicating intention II (in class assignment)
- Assignment 6 Handout

W26 Tutorial: (Teaching Assistants)
- Parametric Modeling Techniques I (Points, Planes, Curves, Arrays and Vectors)

M31 Generative Tools 3 - Differentiated Fields
- Assignment 6 Review
- Lecture: Aggregate assemblies: points, curves and attractors (MP)
- Pseudo Code - communicating intention III (in class assignment)
- Assignment 7 Handout

NOVEMBER

W02 Tutorial: (Teaching Assistants)
Parametric Modeling Techniques II (Lists, Data Trees and Attractors)

M07 Generative Tools 4 - Inter-articulated Assemblies
Lecture: Informed multi-dimensional forms (from 2d to 3d) (MP & JJ)
Pseudo Code - communicating intention IV (in class assignment)
Assignment 8 Handout

W09 Tutorial: (Teaching Assistants)
Parametric Modeling Techniques Help Session

M14 Fabrication Tools 1: Measured Contexts
Lecture: Site Documentation Tools & Techniques Working Drawings (JJ)
Assignment 9A Handout (As Built Documentation)

W16 Tutorial: (Teaching Assistants)
CAD & Document Setup

M21 Fabrication Tools 2: Situated Assemblies
Assignment 9 Review
Lecture: Describing Processes and Components
Assignment 9B Handout (Situating Assemblies)

W23 Lecture: Communicating Design
Tutorial: (Teaching Assistants)
InDesign, Video Production

M28 Fabrication Tools 3: Production
Assignment 9B Review
Assignment 9C Handout

W30 Work Session (TAs)

DECEMBER

M05 Assignment 9C Final Review

W07 Studio Presentation Reviews and Advice Session

Readings and References

Although there are no required readings for this course, the following list should be used as reference material.

Technical

Browning, Hugh, *The Principles of Architectural Drafting*
C Ching, Francis, D.K., *Design Drawing*
Ramsay and Sleeper, *Architectural Graphic Standards*

Conceptual

Johnson, Jason & Josh Vermillion, *Digital Design Exercises for Architecture Students*
Balmond, Cecil, *Informal*
Corner, Paul, *Taking Measure Across the American Landscape*

Communication

Tufte, Edward, *Envisioning Information*

Resources

Illustrator:

Lynda.com: https://www.lynda.com/Illustrator-training-tutorials/227-0.html
Adobe TV: https://helpx.adobe.com/illustrator/tutorials.html

InDesign:

Lynda.com: https://www.lynda.com/InDesign-training-tutorials/233-0.html
Adobe TV: https://helpx.adobe.com/indesign/tutorials.html

Photoshop:

Lynda.com: https://www.lynda.com/InDesign-training-tutorials/233-0.html
Adobe TV: https://helpx.adobe.com/photoshop/tutorials.html

AtudoCAD:

My Cad Site: http://www.mycadsite.com/tutorials/
CADTutor: http://www.cadtutor.net/tutorials/
Lynda.com: https://www.lynda.com/AutoCAD-training-tutorials/160-0.html
First Level 2D Fundamentals: http://www.sdcpublications.com/pdfsample/978-1-58503-959-3-1.pdf

Rhinoceros:

Learning to Use Rhino: https://www.rhino3d.com/tutorials

Rhino Tutorials: https://vimeo.com/rhino
Lynda.com: https://www.lynda.com/Rhino-training-tutorials/302-0.html
McNeel WiKi: http://wiki.mcneel.com/rhino/tutoriallinks
Plethora Project: http://www.plethora-project.com/2012/01/18/rhino-modeling-the-lf-one-by-zaha-hadid/

Grasshopper:

Grasshopper Primer: http://modelab.is/grasshopper-primer/
Grasshopper Blog: http://www.grasshopper3d.com/
Plethora Project: http://www.plethora-project.com/education/2012/02/05/rhino-grasshopper/
Generative Landscapes: https://generativelandscapes.wordpress.com/index-of-examples/

Maya:

Maya 2016 Essential Training (Lynda.com): https://www.lynda.com/Maya-tutorials/Maya-2016-Essential-Training/370380-2.html
A Basic Modeling Workflow: http://cgi.tutsplus.com/tutorials/creating-a-temple-in-maya-a-basic-modeling-workflow--cg-14076
Simply Maya: http://simplymaya.com/autodesk-maya-training/?p=0&s=n&q=23#menu
Maya Tutorial for Beginners: https://www.youtube.com/watch?v=tElsku3aKQI

Evaluation

The course evaluation will be based on the assignments completed during the term, in class assignments and the final monograph of the semester's work.. Each assignment has to be completed in order to pass the course. The late work will receive 10% reduced grade per week. Students are required to post all assignments to the class blog. Evaluation will be as follows:

Weekly assignments	70%
Class Participation: Attendance & In Class Assignments	20%
Monograph Assignment	10%

Grading Scale

Final grades will be reported as letter grades, with the final grade calculated according to the 4-point range. Assignments will be evaluated by percentage grades, with their letter grade equivalents as shown.

Grade	Grade Point Value	4-Point Range	Percent	Description
A+	4.00	4.00	95-100	Outstanding - evaluated by instructor
A	4.00	3.85-4.00	90-94.99	Excellent - superior performance showing comprehensive understanding of the subject matter
A-	3.70	3.50-3.84	85-89.99	Very good performance
B+	3.30	3.15-3.49	80-84.99	Good performance
B	3.00	2.85-3.14	75-79.99	Satisfactory performance
B-	2.70	2.50-2.84	70-74.99	Minimum pass for students in the Faculty of Graduate Studies
C+	2.30	2.15-2.49	65-69.99	All final grades below B- are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements.
C	2.00	1.85-2.14	60-64.99	
C-	1.70	1.50-1.84	55-59.99	
D+	1.30	1.15-1.49	50-54.99	
D	1.00	0.50-1.14	45-49.99	
F	0.00	0-0.49	0-44.99	

Notes:

- A student who receives a "C+" or lower in any one course will be required to withdraw regardless of their grade point average (GPA) unless the program recommends otherwise. If the program permits the student to retake a failed course, the second grade will replace the initial grade in the calculation of the GPA, and both grades will appear on the transcript.

Notes

1. Written work, term assignments and other course related work may only be submitted by e-mail if prior permission to do so has been obtained from the course instructor. Submissions must come from an official University of Calgary (ucalgary) email account.

2. Academic Accommodations. Students who require an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to their Instructor or the designated contact person in EVDS, Jennifer Taillefer (jtaillef@ucalgary.ca). Students who require an accommodation unrelated to their coursework or the requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Vice-Provost (Student Experience). For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/

3. Plagiarism - Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Most commonly plagiarism exists when:(a) the work submitted or presented was done, in whole or in part, by an individual other than the one submitting or presenting the work (this includes having another impersonate the student or otherwise substituting the work of another for one's own in an examination or test),(b) parts of the work are taken from another source without reference to the original author,(c) the whole work (e.g., an essay) is copied from another source, and/or,(d) a student submits or presents work in one course which has also been submitted in another course(although it may be completely original with that student) without the knowledge of or prior agreement of the instructor involved. While it is recognized that scholarly work often involves reference to the ideas, data and conclusions of other scholars, intellectual honesty requires that such references be explicitly and clearly noted. Plagiarism is an extremely serious academic offence. It is recognized that clause (d) does not prevent a graduate student incorporating work previously done by him or her in a thesis. Any suspicion of plagiarism will be reported to the Dean, and dealt with as per the regulations in the University of Calgary Graduate Calendar.

4. Information regarding the Freedom of Information and Protection of Privacy Act (http://www.ucalgary.ca/secretariat/privacy) and how this impacts the receipt and delivery of course material

5. Emergency Evacuation/Assembly Points (http://www.ucalgary.ca/emergencyplan/assemblypoints)

6. Safewalk information (http://www.ucalgary.ca/security/safewalk)

7. Contact Info for: Student Union (http://www.su.ucalgary.ca/page/affordability-accessibility/contact); Graduate Student representative(http://www.ucalgary.ca/gsa/) and Student Ombudsman's Office (http://www.su.ucalgary.ca/page/quality-education/academic-services/student-rights).