ASTU 3460
Experimental 3D
T/Th 11:00am-1:50pm
Curry Hall 316
Martin Back
martin.back@unt.edu

DESCRIPTION
Over the course of a few short years digital fabrication tools have become less expensive, easier to learn and widespread. 3D printing, industrial CNC routers and laser cutters provide artists and creative individuals with the means of realizing unique and critically engaged projects across and between disciplines. Artists using 3D modeling/printing and laser cutters have re-claimed artifacts destroyed by the Islamic State, have turned President Obama’s voice into sculpture, cast their wax prints into bronze sculptures, etched stills from recursive video circuits onto large wooden panels, and have transformed clothes destined for the trash into wearable art pieces by laser-etching patterns, words, and images onto them. In this studio art course students will learn the fundamentals of the technology of 3D printing, laser cutting/etching, plasma cutting and CNC routing in order to produce unique projects that skillfully and rigorously combine theory and practice toward the creation of critically innovative interdisciplinary artworks.
COURSE STRUCTURE
This course is comprised of various in class and out of class exercises, major assignments, in-class critiques, and lectures. Digital fabrication cannot, like carpentry, metalsmithing, or any other physical production activity, be learned in theory. It must be done. Mistakes must be made. The rate of failure to success will likely be high. Failure must be embraced in order that something resembling success can be achieved. Therefore, every few weeks will be conducted in a workshop style in order to focus on particular projects, which use specific technologies available.

COURSE OBJECTIVES
1. Become familiar with contemporary artists who work with digital fabrication
2. Learn the fundamentals of 3D modeling, concomitant software tools, and 3D printing
3. Learn the fundamentals of laser cutting and etching, including basic Adobe Illustrator functions
4. Learn the fundamentals of plasma cutting
5. Participate in all class exercises and discussions
6. Become familiar with the workflow and scheduling process in CVAD’s FABLAB
7. Produce critically engaging and original works of art that synthesize digital fabrication technology potential with established media art forms.

LEARNING OUTCOMES
This course will introduce students to the tools of digital fabrication as a means for creating art objects that are critically engaging, aesthetically insightful and intellectually rigorous. Special attention will be paid to the student’s overall development with regards to both virtual and physical production and ability to synthesize key issues and art historical (and art-futurist) concerns introduced during the course of the semester.

Required materials:
- Journal or sketchbook dedicated to this course.
- External hard drive 500 GB or greater
- CVAD sculpture shop card and FABLAB shop card
- Participation in all exercises and discussions
- A willingness to experiment.
*Please budget your time wisely. The FABLAB operates according to a fairly strict schedule. Not only do you need to requisition enough time to actually fabricate projects but you also must consider that your files must be approved, which may result in your need to refine them.

NEW MEDIA ART MISSION STATEMENT

The mission of the New Media Art program at the University of North Texas is to cultivate new methods of performance and media art practices in contemporary art. Through creative and critical inquiry, we emphasize artistic excellence, interdisciplinary learning, socially engaged practices, and welcome collaboration.

We see our mission as the study and practice of visual culture, past and present, in order to understand how the convergence of performance, storytelling, and media can illuminate and expand, or conceal and limit the worlds they represent. Finally, we recognize that example is the best teacher and strive through our own creative research to embody the values we wish to impart. Pursuing research and creative opportunities, both locally and internationally, we draw upon and engage with the current critical discourse around Media and Performance Art.

This mission is fulfilled:

- Through innovative active learning curricula that contributes toward and engages with current practices and theoretical structures
- By continually investigating emerging media and technologies, as well as traditional approaches, as a way to open new channels of research and practice
- Through a belief that diversity—in background, status, culture, and viewpoint—is essential to a vital and creative community
- By expecting academic excellence as a fundamental part of a professional education in the visual arts
- Through a commitment toward rich engagement within our communities through community based learning experiences and service related activities
- By fostering an intellectual community within which experimentation is key
GRADING
Students will be graded upon completed projects, attendance and participation, presentations, and readings. Projects will be evaluated by their originality and conceptual clarity, evidence of technical development, adherence to deadline, and attention paid to detail and execution.
A=100-90  B=89-80  C=79-70  D=69-60  F= <60

ATTENDANCE
It is your responsibility to attend class on time. Lateness by more than 10 minutes will result in an absence. You are allowed no more than THREE absences. More than three absences will result in a WF or an F for the class. Any necessary absences known of in advance should be approved by the Professor within the first 3 weeks of class. These absences will, however, count against the 3 absence limit. An excused absence will only be granted in the case of an illness with a written doctor's note (presented to me as a physical copy) or a family emergency with provided documentation.

UNT PLAGIARISM POLICY
Plagiarism is a serious violation of UNT’s code of academic conduct. The UNT Code of Student Conduct and Discipline, Policy Manual, Graduate Catalog, and Undergraduate Catalog explain specific policies, penalties, and the appeals process. The UNT Policy on Academic Misconduct provides definitions of plagiarism and states that the instructor can assign penalties for violations of the policy.

The term plagiarism includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgment. Plagiarism also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

The UNT policy further states that all students: are responsible for making themselves aware of the definitions and implications of academic misconduct. For further information on academic misconduct, penalties and
appeal procedures, the student should refer to the "Code of Student Conduct and Discipline."

Penalties are assigned by instructors and can range from reducing the grade for a test or assignment to revoking an academic degree already granted.

**DISABILITY STATEMENT**

The College of Visual Art and Design is committed to full academic access for all qualified students, including those with disabilities. In Keeping with this commitment and in order to facilitate equality of educational access, faculty members in the College will make reasonable accommodations for qualified students with disability, such as appropriate adjustments to the classroom environment and the teaching, testing, or learning methodologies when doing so does not fundamentally alter the course.

If you have a disability it is your responsibility to obtain verifying information from the Office of Disability Accommodation (ODA) and to inform me of your need for an accommodation. Requests for accommodation must be given to me no later than the first week of classes. Grades assigned before an accommodation is provided will not be changed. Information about how to obtain academic accommodations can be found in UNT Policy 18.1.14, at [www.unt.edu/oda](http://www.unt.edu/oda), and by visiting the ODA in Room 321 of the University Union. You may also call the ODA at 940.565.4323.

**COURSE RISK FACTOR**

This course recognizes that there are certain risks inextricably associated with certain activities within the lab, and categories are assigned to those risk factors. Working with computers in a lab environment such as this class is considered a category 2 risk. I ask every student to be especially mindful of these risks. Be concerned for your safety and the safety of those around you, specifically as it relates to how you use your computer equipment.

**BUILDING EMERGENCY PROCEDURES**
In case of an emergency (alarm will sound), please follow the building evacuation plans posted on each floor of your building and proceed to the nearest parking lot. In case of a tornado (campus sirens will sound) or other weather related severity, please go to the nearest hallway or room on your floor without exterior windows and remain there until an all clear signal is sounded. Follow the instructions of your faculty and act accordingly.

**CENTER FOR STUDENT RIGHTS AND RESPONSIBILITIES**

Each University of North Texas student is entitled to certain rights associated with higher education institutions. See [www.unt.edu/csrr](http://www.unt.edu/csrr) for further information. The faculty retains the right to change the syllabus with or without notice.

**SCHEDULE**

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<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Dates</th>
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<tbody>
<tr>
<td>1</td>
<td>Introductions &amp; FABLAB training</td>
<td>Jan 17 &amp; 19</td>
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<tr>
<td>2</td>
<td>3D Challenge &amp; Lasers</td>
<td>Jan 24 &amp; 26</td>
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<tr>
<td>3</td>
<td>Etching and Cutting</td>
<td>Jan 31 &amp; Feb 2</td>
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<tr>
<td>4</td>
<td>Etching and Cutting</td>
<td>Feb 7 &amp; 9</td>
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<td>5</td>
<td>Scanning</td>
<td>Feb 14 &amp; 16</td>
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<td>6</td>
<td>Basic 3D Modeling</td>
<td>Feb 21 &amp; 23</td>
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<td>7</td>
<td>3D Modeling Continued</td>
<td>Feb 28 &amp; Mar 2</td>
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<tr>
<td>8</td>
<td>3D Printing</td>
<td>Mar 7 &amp; 9</td>
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<td>9</td>
<td>Spring Break</td>
<td>Mar 14 &amp; 16</td>
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<tr>
<td>10</td>
<td>Mixed Media</td>
<td>Mar 21 &amp; 23</td>
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<tr>
<td>11</td>
<td>Mixed Media Continued</td>
<td>Mar 28 &amp; 30</td>
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<tr>
<td>12</td>
<td>Research for Final Project</td>
<td>Apr 4 &amp; 6</td>
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Weeks 13* through 16 Studio Time and Final Presentations

*April 14th: Digital Fabrication Symposium from 9am-4pm in the Factory area in the Library.

PROJECT DEADLINES

Jan. 19: 3D Challenge

Feb. 2: Fashion (laser etching)

Feb. 16: Negative Space/Light (laser cutting)

March 9: Scan Series

March 30: 1st Walking/Collecting Journals Due

April 6: 2nd Walking Collecting Journals Due + Final Project Proposal

April 20: MadMapper Exercise Due (in Groups)

May 4: Final Project Due