SPECIAL TOPICS: 3D DIGITAL DESIGN
ART 3041 FMW — MW 4:10-5:25PM
BARUCH COLLEGE FALL 2015
HTTP://BLOGS.BARUCH.CUNY.EDU/3DFALL2015/

Zoë Sheehan Saldaña
Zoe.sheehan@baruch.cuny.edu
Office: VC7-235
Office hours: Weds 10-12 & by appt

COURSE DESCRIPTION: THREE DIMENSIONAL DIGITAL DESIGN
This course examines the creation of three-dimensional forms (including construction, rendering, and output) using digital tools. Investigation of the fundamental principles of three-dimensional design (line-plane-volume-mass-space-light). Applied study of computer-aided design (CAD) programs and rapid prototyping (RP) technologies for three-dimensional visualization. Readings, case studies, and hands-on projects emphasize the development of critical skills and their application to design issues of the present. Potential applications for packaging, product, and industrial design as well as architecture, art, and new media. Pre-requisite: ART 2050 or NMA 2050 or departmental permission.

This is a hybrid course with three weekly hours of face-to-face meetings and one weekly hour of asynchronous class time. Asynchronous class time will include activities such as online discussion forums, digital tutorials, attendance at meet-ups/conferences/exhibits, visits to area businesses, etc. The course website address is https://blogs.baruch.cuny.edu/3dfall2015/.

We will collaborate closely, and meet regularly, with MGT 4993 Special Topics in Business Management: Business Meets 3D Digital Design and Fabrication. MGT 4993, taught by Allison Lehr-Samuels of the Management Department (allison.lehr-samuels@baruch.cuny.edu) and Monica Dean from the Field Center for Entrepreneurship (monica.dean@baruch.cuny.edu) meets at the same time. Please be aware that class meetings will include students enrolled in both courses, and may take place in various classrooms; class meeting locations will be posted on the course website.

COURSE LEARNING GOALS
Students will:
— Build conceptual and practical knowledge of 3-dimensional digital design, including ideation, fabrication, revenue analysis, and future directions
— Investigate the fundamental principles of three-dimensional design
— Conceptualize, design, and create three-dimensional forms using digital tools
— Develop critical thinking skills and apply them to design issues of the present
— Design and build a product prototype using three-dimensional printing, as well as explain and rationalize revenue models for the planned product.

STUDIO COMPONENT
You will be making things in the course, whether in 3D or 2D formats. There are assignments that will require you to use 3D design software and prototyping technologies. We will let you know when you may sign up to use this software/equipment. 3D printing is time consuming. Errors, false starts, and failures are the norm. Many drawings, models, prototypes, prints and reprints are needed to achieve a quality result. Printers cannot be ‘set and forget’. Expect to spend substantial time designing, modeling, fixing, printing…and then designing, modeling, fixing, and printing again, and again. All required technology will be available in Baruch facilities. However you should not expect to complete studio exercises using only class time. You will be required to work outside of class time during open lab hours or on home workstations if possible.

ONLINE COMPONENT
Part of the learning in this class will take place online using Blogs@Baruch. You must sign up for the course website, https://blogs.baruch.cuny.edu/3dfall2015/. As the semester progresses you will make your own blog.

Blogging should be treated similar to an in-class discussion in that posts should demonstrate that you have read materials and are contributing to the discussion. Your writing style should reflect that you are part of an academic community and a professional. The tone of your posts should be professional and written in the King’s English. Posts that are written in the style of texting or informal emails among friends will be ignored and not graded. Proofread your work and check that your post (texts and images) appears as you intend it to.
CLASSROOM COMPONENT

Face-to-face class meetings include lectures, discussions, presentations, demonstrations, etc. Class meets on Mondays and Wednesdays. It is assumed that if you have registered to take the class then you have the time in your schedule to attend the class.

REAL WORLD COMPONENT

There may be occasions when you are asked to conduct independent research at area businesses, fabrication labs, research facilities, conferences, etc. concerned with 3D design and fabrication.

CLASS DISCUSSIONS

You are expected to have finished all readings and other work assigned for each class period and to be able to offer informed and thoughtful comments in class discussions. How you conduct yourself during these in-class sessions is graded and contributes to your class participation grade, so please keep in mind the following.

In these classes I expect your active participation as a speaker AND a listener. An environment of respect is conducive to learning, and an important component of respect is listening attentively and patiently to the person who has the floor. Please do not hold disrespectful side-conversations (this includes texting) that distract your colleagues (and the instructors) from the class discussion and the learning experience.

You can use your laptop, tablet, etc. for class-related purposes only – this means for note-taking, referring to your class readings or participating in a class exercise. Texting, tweeting, websurfing, etc. is absolutely not acceptable during class. These are all activities that distract you from the educational process. I consider you to be absent if you are not paying attention. I reserve the right to mark you “Absent” for the day if I find you doing the above activities.

Factors that positively influence your grade:
— Attending class
— Arriving on time
— Participating during class discussions
— Demonstrating that you have done the assigned readings
— Adding valuable contributions to the class discussions

Factors that negatively influence your grade:
— Missing classes
— Arriving late
— Leaving the classroom during the class
— Not taking part of class discussions
— Sleeping
— Texting, tweeting, etc.
— Side conversations
— Unpreparedness for the class
— Making comments/acting in such a way that detracts from the class discussion
— Detracting from the class’s educational experience

Effective class participation consists of analyzing, commenting, questioning, discussing, listening, and building on others’ contributions; it does not consist of repeating facts or monopolizing class time. The ability to present one’s ideas concisely and persuasively and to respond effectively and respectfully to the ideas of others is a key entrepreneurial skill.

Discussions provide the greatest learning experience when they take place in a constructive environment. I encourage dialogue; we do not need to agree with each other. Ask thought provoking questions! But, I insist that this dialogue take place in an environment in which we are respectful and open to hearing opinions that
differ from our own. Comments that are not respectful and/or are counter to the educational environment will be deleted. Any online situation where comments are deleted will significantly impact your overall class grade.

**QUESTIONS**

You are encouraged to use the course website to post questions, comments, or concerns about the class that are not personal in nature. If you are unsure about a particular assignment or deadline, you must first make sure that you read over the syllabus and posted course information. If after reviewing these course materials you still have a question then please post the question to the course website.

All students may and should answer such questions. I will regularly monitor the course website. One purpose of the course website is to make sure that all students are comfortable with the course material and the assignments. That being said, do not waste the time of your classmates and instructors by posting a question before reading through everything.

In regards to email correspondence, please address your emails to zoe.sheehan@baruch.cuny.edu. You may also wish to contact Allison.Lehr-Samuels@baruch.cuny.edu and Monica.Dean@baruch.cuny.edu. If you are not using your Baruch email account, please make sure you include your name in your email.

I will do my utmost to respond to you within 48 hours.

**ASSIGNMENTS & GRADING**

Details regarding assignments will be posted to the course website. In general, work is evaluated based on achievement of technical and creative concepts, thoughtfulness, attention to detail, effort, and originality of approach. Students are encouraged to take risks and try new things. For final grading,

<table>
<thead>
<tr>
<th>Class participation</th>
<th>10%</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blog (Midterm/Final/Readings/Studio exercises)</td>
<td>60%</td>
<td>Individual</td>
</tr>
<tr>
<td>Group Project</td>
<td>30%</td>
<td>Group</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

**General guidelines**

Late assignments will not be accepted, but you can submit earlier than the due date.

Please adhere to length requirements as I will take off points for assignments that are too short or too lengthy. An important skill in both writing and design is conveying the relevant information in the allotted space. You can write less than the maximum allowance, but note that we set these limits with an understanding of what a good assignment should include, so assignments that are much shorter might be missing key components.

**Writing**

Effective communication is essential for all beings. The ability to write clearly and effectively is one of the most important skills a person can develop. Writing well is a continuous process. Time invested in writing will pay off—the more you re-write and edit your work, the more clear and effective it will become. To help you improve as writers, I will grade for writing style and clarity as well as for content. The College offers several wonderful resources for assisting you with developing your written work.

The Writing Center is open to all undergraduates attending Baruch College. It supports all areas of the writing process, including pre-writing strategies, developing a thesis, critical thinking, organization, evidence and support, grammar, vocabulary, revision, etc. Support does not include editing or proofreading. You can
schedule appointments by phone or by going to the Center. You can schedule appointments by phone (646 312 4012) or by going to the Center (NVC 8-185).

The CUNY WriteSite (www.writesite.cuny.edu) is an online writing lab. As such, it is always available. The WriteSite offers online instructional support in grammar and style, as well as help with each stage in the writing process. It provides interactive practice exercises and discussions about writing issues. The site also has helpful links to campus and Web-based writing resources.

Overall, you are expected to adhere to writing standards described in of the Little, Brown Writing Handbook, (10th edition) by Fowler and Aaron.

COURSE MATERIALS
We will use the course tools on an ongoing basis, so you need to obtain your own. Please keep in mind that our institution adheres to USA copyright law, which means that it is illegal for you to copy and/or duplicate the copyrighted material in any manner.

Required Text

Suggested Text

Additional readings will be posted to the course website or distributed in class.

Required Tools
— A 6-inch steel ruler (15cm) with 1/16” (1mm) markings ($2.50). Alternately, a digital caliper (such as http://www.amazon.com/gp/product/B000R8ZUG4, $20)
— A few drawing pencils and a white eraser ($5-10)
— 9x12” pad of tracing paper ($5)
— X-acto knife and spare blades, or similar ($5-10)
— Optional: Sketchbook or notebook that you like to draw, write, doodle, and stick stuff in
— Jump drive or other device for storing digital files. Best to have two of these. You MUST back up your work regularly or you will lose it and that will be sad for you since we will show no pity.
— Sketchup Make – if possible, install this free software to your personal computer. The software will also be available on select lab computers. http://www.sketchup.com/products/sketchup-make
— In order to import and export .STL files for 3D printing you will also need to install a SketchUp extension (a kind of plug-in) called SketchUpSTL. It is a simple install using SketchUp’s extension manager (from SketchUp go to Window>Extension Warehouse and then do a quick search for SketchUpSTL). Or visit https://github.com/SketchUp/sketchup-stl
— Recommended: A subscription to Lynda.com for software tutorials ($25/month)

ATTENDANCE
Class includes face-to-face meetings on Mondays and Wednesdays, an active on-line component, regular studio work, and field trips. It is assumed that if you have registered to take the class then you have the time in your schedule to give the class your full attention. If you miss several face-to-face classes and/or blog posts you will likely fail the course. If you anticipate having a hard time meeting these expectations you should not enroll in this course.
I take attendance every class, noting who is present and who is on time—and who isn’t. Even though you may not notice me taking attendance, remember that I take attendance each and every class.

Baruch policy mandates that all students attend every session of their courses. If a freshman or sophomore is absent in excess of twice the number of class sessions per week, the instructor must give the student a WU grade, which counts as an F. The instructor may give a junior or senior a WU grade (the equivalent of an F) for excessive absences. The Registrar’s office requires that students who have attended no classes before week 5 be dropped from the class.

I expect you to attend every “face to face” class, to arrive on time to class, and to stay for the entire class period. It should be evident that I cannot award you points for class participation if you are not there either physically or mentally.

You are allowed to miss two face-to-face classes without penalty, no questions asked. Subsequent absences over this limit will reduce your Class Participation grade.

You are expected to show up on time and stay until the end of class. You are allowed to be late for two classes without penalty, no questions asked. Subsequent tardiness will reduce your Class Participation grade.

You are responsible for all materials, assignments and class discussions, even if you are absent due to lateness, early departure, or absence.

**ACADEMIC INTEGRITY**

Cheating and plagiarism are serious offenses. Ignorance of the rules is not an acceptable excuse for disobeying them. You are expected to know and adhere to the Baruch College Academic Honesty Policy, found at http://www.baruch.cuny.edu/academic/academic_honesty.html. It states, inter alia, that

> Academic dishonesty is unacceptable and will not be tolerated. Cheating, forgery, plagiarism and collusion in dishonest acts undermine the college’s educational mission and the students' personal and intellectual growth. Baruch students are expected to bear individual responsibility for their work, to learn the rules and definitions that underlie the practice of academic integrity, and to uphold its ideals. Ignorance of the rules is not an acceptable excuse for disobeying them. Any student who attempts to compromise or devalue the academic process will be sanctioned.

My policy is to give a failing grade to any assignment that has been plagiarized or an exam in which a student has cheated. In addition, your final course grade will be lowered and I am required by College policy to submit a report of suspected academic dishonesty to the Office of the Dean of Students. This report becomes part of the student’s permanent file.

The following definitions are based on the College’s Academic Honesty website:

**Cheating** is the attempted or unauthorized use of materials, information, notes, study aids, devices or communication during an academic exercise. Examples include but are not limited to:

— Copying from another student during an examination or allowing another to copy your work
— Unauthorized collaborating on a take home assignment or examination
— Using unauthorized notes during a closed book examination
— Changing a corrected exam and returning it for more credit
— Submitting substantial portions of the same paper to two classes without consulting the second instructor
— Allowing others to research and write assigned papers including the use of commercial term paper services.
Plagiarism is the act of presenting another person's ideas, research or writing as your own. Examples include:
— Copying another person's actual words without the use of quotation marks and footnotes (a functional limit is four or more words taken from the work of another).
— Presenting another person's ideas or theories in your own words without acknowledging them.
— Using information that is not considered common knowledge without acknowledging the source.
— Failure to acknowledge collaborators on homework and laboratory assignment.

**SCHEDULED CLASS MEETINGS & EXCEPTIONS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon August 31</td>
<td></td>
</tr>
<tr>
<td>Weds September 2</td>
<td></td>
</tr>
<tr>
<td>Mon September 7</td>
<td>No class meeting</td>
</tr>
<tr>
<td>Weds September 9</td>
<td></td>
</tr>
<tr>
<td>Thurs September 10</td>
<td>Monday classes meet</td>
</tr>
<tr>
<td>Mon September 14</td>
<td>No class meeting</td>
</tr>
<tr>
<td>Weds September 16</td>
<td></td>
</tr>
<tr>
<td>Mon September 21</td>
<td></td>
</tr>
<tr>
<td>Weds September 23</td>
<td>No class meeting</td>
</tr>
<tr>
<td>Mon September 28</td>
<td></td>
</tr>
<tr>
<td>Weds September 30</td>
<td></td>
</tr>
<tr>
<td>Mon October 5</td>
<td></td>
</tr>
<tr>
<td>Weds October 7</td>
<td></td>
</tr>
<tr>
<td>Mon October 12</td>
<td>No class meeting</td>
</tr>
<tr>
<td>Weds October 14</td>
<td></td>
</tr>
<tr>
<td>Mon October 19</td>
<td></td>
</tr>
<tr>
<td>Weds October 21</td>
<td></td>
</tr>
<tr>
<td>Mon October 26</td>
<td></td>
</tr>
<tr>
<td>Weds October 28</td>
<td></td>
</tr>
<tr>
<td>Mon November 2</td>
<td></td>
</tr>
<tr>
<td>Weds November 4</td>
<td></td>
</tr>
<tr>
<td>Mon November 9</td>
<td></td>
</tr>
<tr>
<td>Weds November 11</td>
<td></td>
</tr>
<tr>
<td>Mon November 16</td>
<td></td>
</tr>
<tr>
<td>Weds November 18</td>
<td></td>
</tr>
<tr>
<td>Mon November 23</td>
<td></td>
</tr>
<tr>
<td>Weds November 25</td>
<td></td>
</tr>
<tr>
<td>Mon November 30</td>
<td></td>
</tr>
<tr>
<td>Weds December 2</td>
<td></td>
</tr>
<tr>
<td>Mon December 7</td>
<td></td>
</tr>
<tr>
<td>Weds December 9</td>
<td></td>
</tr>
<tr>
<td>Mon December 14</td>
<td>Last regular class meeting</td>
</tr>
<tr>
<td>Weds December 16</td>
<td>Final exams begin</td>
</tr>
</tbody>
</table>