PRIN 510: Foundation Studio
Units: 4
Fall 2021
Mon/Wed
9:00-11:50am

Location:
Iovine and Young Hall
3780 Watt Way
Los Angeles, 90089
Room: IYH 107

Instructor:
Grant Delgatty
Office:
Office Hours: Call or email for appointment
Contact Info: delgatty@usc.edu | mobile: 818.378.2736

IT Help: https://iovine-young.usc.edu/ait/index.html
Hours of Service: 8:30am - 5:00pm
Contact Info: iyhelp@usc.edu, 213-821-6917
Course Description
An intensive look at the process of bringing a product from concept to market. Includes theory and applied
techniques for both physical and virtual products.

Learning Objectives and Outcomes
Students will learn the processes, tools, and techniques for envisioning, designing, and marketing products.
Through discussion and application students will garner an understanding of the steps required to design and
launch physical, virtual and hybrid products, through market and human centered design research, iterative low
and medium fidelity prototyping, consumer testing and proof of concept validation, and final design execution.

Suggested Readings and Supplementary Materials
Prototyping and Modelmaking for Product Design, Laurence King Publishing. Bjarki Hallgrimsson

Description and Assessment of Assignments
Weekly homework assignments will be submitted digitally and/or presented, with feedback being provided
as critique from both the instructor and fellow classmates. For the duration of the class, students will work
in small teams to create a final proposal for a product solution and will also be expected to work with other
teams. Class time may consist of the entire class collectively participating in a large group critique, or the
teams may be broken out to have in-class studio time while the instructor conducts individual critique and
feedback.

While the weekly homework assignments will make up the majority of each student’s grade, we also expect
that the collective body of work from the semester shall be presented at the end of the semester in the
form of video documentation.

Students are responsible for all assignments, including homework, in-class work, critiques, presentations,
demos, readings, process documentation, asynchronous work and archiving the team’s progress. It is the
student’s responsibility to obtain missed work and information missed if absent. As ACAD 245 is a studio-
based class, information is exchanged in group discussion and may not be imparted through handouts or
notes, therefore it is critical for students to attend class and be on time to succeed.

Grading Breakdown
Projects will be graded based on adherence to given guidelines, attention to craft and overall
appropriateness. Taking initiative, progression and follow-through will also be considered. Both giving and
receiving feedback will be critical to your success in the class; therefore, your participation grade is based
on your active involvement in class and critiques. Assignments will be docked one full letter grade each
week they are late. Absence is not an excuse for late work. Please be sure to communicate with the professor if you miss (or plan to miss) a class to arrange for homework submission.

Grades will be assigned according to a point system based on the following criteria:

- Competency in key concepts
- Effort/range of exploration
- Process and methodology
- Presentation/craftsmanship
- Participation in critiques

A  Exceptional - Going above and beyond with exemplary work both quantitatively and qualitatively.
A-  Excellent – Meeting all homework requirements with a very high quality of what’s expected with regard to content, creativity, attention to detail and craftsmanship.
B+  Very good - Completing all assignments with a high level of proficiency but lacking in some areas of competency.
B   Good - Completing assignments with an above adequate to adequate level of proficiency in the five areas of competency.
B-  Satisfactory - Completing assignments with a satisfactory level of proficiency in most areas of competency, and below adequate in some areas.
C+  Unsatisfactory - Improvement needed in the five areas of competency listed in the grading criteria.
C   Below expectation - Most likely caused by poor levels of execution, lack of participation incomplete work, and overall lack of performance/effort.
C-  Well below expectation.
D   Significantly below expectation.

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Points</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Design / Bad Design examples and concept revisions</td>
<td>10</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Market Research:</strong> market trends, target consumer, consumer insights</td>
<td>10</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Initial Ideation:</strong> brainstorming, initial concept sketches and concept revision based on user feedback</td>
<td>30</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Competitor Research</strong> competitive analysis, blue ocean strategy, problem/opportunity statements, design criteria</td>
<td>10</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Midterm Presentation</strong></td>
<td>20</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Design Revision</strong> - concept revisions, prototypes and proof of concept exploration based on user feedback</td>
<td>30</td>
<td>15%</td>
</tr>
</tbody>
</table>
### Final Design
- aesthetic, drawings, renderings, poster
  - 20
  - 10%

### Final Model
- function, craftsmanship, form, ergonomics
  - 20
  - 10%

### Final Presentation
  - 25
  - 15%

### Class Participation
  - 10
  - 5%

### Process Video
  - 10
  - 5%

### TOTAL
  - 200
  - 100%

#### Grading Scale

Course final grades will be determined using the following scale:

- 95 – 100: A = 4.0
- 90 – 94: A- = 3.7
- 85 – 89: B+ = 3.3
- 80 – 84: B = 3.0
- 75 – 79: B- = 2.7
- 70 – 74: C+ = 2.3
- 65 – 69: C = 2.0
- 60 – 64: C- = 1.7
- 55 – 59: D = 1.0
- 0 – 55: F

#### Assignment Submission and Rubric Policy

Unless otherwise noted, all assignments must be submitted as a PDF presentation. For assignments delivered in class (such as presentations), the work must be completed before the commencement of the class session in which the assignment is due. For assignments that are designated for virtual submission, one team member is expected to submit the assignment to delgatt@usc.edu (unless otherwise specified) by 6:00pm on the due date.

#### Grading Timeline

Grades and feedback for all assignments will be returned to students within one week of submission.

#### Academy Attendance Policy

The Academy maintains rigorous academic standards for its students and on-time attendance at all class meetings is expected. Each student will be allowed two excused absences over the course of the semester for which no explanation is required. Students are admonished to not waste excused absences on non-critical issues, and to use them carefully for illness or other issues that may arise unexpectedly. Except in the case of prolonged illness or other serious issue (see below), no additional absences will be excused. Each unexcused absence will result in the lowering of the final grade by ⅓ of a grade (e.g., an A will be lowered to A-, and A- will be lowered to a B+, etc.). In addition, being tardy to class will count as one-third of an absence. Three tardies will equal a full course absence.

Students remain responsible for any missed work from excused or unexcused absences. Immediately following an absence, students should contact the instructor to obtain missed assignments or lecture notes and to confirm new deadlines or due dates. Extensions or other accommodations are at the discretion of the instructor.
Automatically excused absences normally may not be used for quiz, exam or presentation days. Using an excused absence for a quiz, exam or presentation, such as in the case of sudden illness or other emergency, is at the discretion of the instructor.

In the case of prolonged illness, family emergencies, or other unforeseen serious issues, the student should contact the instructor to arrange for accommodation. Accommodation may also be made for essential professional or career-related events or opportunities. All accommodations remain at the discretion of the instructor, and appropriate documentation may be required.

Additional Policies

It is expected that students will conduct themselves in a professional manner. Use of connected devices such as cell phones, tablets, etc. during class critique is not allowed, and should only be used during class for the purpose of taking notes or researching information pertinent to the project at hand.

Although the focus of this class is to develop consumer and digital products, it is also expected that much thought and care be put into every component of the project. This includes spelling, punctuation, and grammar, as well as attention to detail such as design layout, cleanliness and craftsmanship, and formatting of homework assignments. Not adhering to these professionalism standards will be reflected in the final grade.
# Course Schedule: A Weekly Breakdown

<table>
<thead>
<tr>
<th>Week 1a (Mon) 8/23</th>
<th><strong>Introduction</strong></th>
<th><strong>Homework Assignments</strong></th>
<th><strong>Deliverable/Due Dates</strong></th>
</tr>
</thead>
</table>
| **Topics/Daily Activities** | - Introductions  
- Lecture on failure  
- Group discussion on what makes a successful/unsuccesful product | - 3-4 examples of ‘good’ design products (1-2 products/slide)  
- 3-4 examples of ‘bad’ design products (1-2 products/slide)  
- Pages should include photos/images of products, MSRP, and reasons (bullet points) for your opinion. | - min 3 examples of good design  
- min 3 examples of bad design  
– **Due Week 1b (Value – 5pts of total 10pt Good Design/Bad Design grade)** |

<table>
<thead>
<tr>
<th>Week 1b (Wed) 8/25</th>
<th><strong>The Product Design Process</strong></th>
<th><strong>Homework Assignments</strong></th>
<th><strong>Deliverable/Due Dates</strong></th>
</tr>
</thead>
</table>
| **Topics/Daily Activities** | - Homework presentations/group crit cont. - (good/bad products)  
- YouTube video on Human Centered Design  
- Lecture on product design process/human centered design. | - Choose three of your examples (good or bad) and redesign these products to improve the design/solution.  
- Consider prompts/categories for the semester project and potential team members | - 3 redesigned products  
– **Due Week 2a (Value – 5pts of total 10pt Good Design/Bad Design grade)** |

<table>
<thead>
<tr>
<th>Week 2a (Mon) 8/30</th>
<th><strong>Market Trends/Target Consumer</strong></th>
<th><strong>Homework Assignments</strong></th>
<th><strong>Deliverable/Due Dates</strong></th>
</tr>
</thead>
</table>
| **Topics/Daily Activities** | - Homework presentations/group crit cont. - (good/bad redesigns)  
- Team formation  
- Project kickoff (framing and parameters)  
- Discussion on creating informative user questionnaires | - Create a slide layout design to be used as a consistent format for your team’s project  
- Conduct in-depth (micro and macro) trend analysis on the subject topic (3-5 slides)  
- Produce a trend/mood board of the target consumer and include a brief description of the user profile  
- Create a target consumer insights questionnaire (1 slide, 10-15 questions) | - Trend analysis (min 3 slides)  
- Target consumer mood board  
- Insights questionnaire  
– **Due Week 2b (Value – 5pts of total 10pt Market Research grade)** |

<table>
<thead>
<tr>
<th>Week 2b (Wed) 9/1</th>
<th><strong>Consumer Insights</strong></th>
<th><strong>Homework Assignments</strong></th>
<th><strong>Deliverable/Due Dates</strong></th>
</tr>
</thead>
</table>
| **Topics/Daily Activities** | - Lecture on the importance of consumer insights.  
- Discussion/demo on conducting interviews  
- Team break out presentations and questionnaire discussion - (market trends, target consumer, and insights questionnaire) | - Conduct in-person interviews and document if possible. (minimum of 2 per team member - more is preferred)  
- Produce an on-line survey  
- Create slides for key insights (1 slide per target user interviewed) | - User insights/pain points (min 2 interviews per team member)  
- On-line survey  
- Problem statement  
– **Due Week 3a (Value – 5pts of total 10pt Market Research grade)** |

<table>
<thead>
<tr>
<th>Week 3a (Mon) 9/6</th>
<th><strong>Consumer Insights (cont.)</strong></th>
<th><strong>Homework Assignments</strong></th>
<th><strong>Deliverable/Due Dates</strong></th>
</tr>
</thead>
</table>
| **Topics/Daily Activities** | - D’Wayne Edwards interview  
- Work in class – user interviews  
- Discussion on creating a problem statement | - Create a concise single sentence problem statement | |
<table>
<thead>
<tr>
<th>Week 3b</th>
<th>Project Framing/Brainstorming</th>
<th>- Create a mind-map showcasing different potential problems and touch points for your product category. - Create minimum of 20 ‘How might we’ framing questions</th>
<th>- Mind-map - 20 framing questions (mural) – Due Week 4a (Value – 5pts of total 30pt Initial Ideation grade)</th>
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<tbody>
<tr>
<td>(Wed) 9/8</td>
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<tr>
<td>Week 4a</td>
<td>Visual Communication</td>
<td>- Produce dynamic sketching exercises</td>
<td>- Dynamic sketching exercises – Due Week 4b</td>
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<tr>
<td>(Mon) 9/13</td>
<td>Dynamic sketching videos – Peter Han</td>
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<tr>
<td>Week 4b</td>
<td>Ideation</td>
<td>- Produce sketches of initial ideation concepts based on ‘what if’ exercise (number of concepts/sketches TBD)</td>
<td>- 60 ’what if’ post-its (mural) - 30 concept sketches per team – Due Week 5a (Value – 15pts of total 30pt Initial Ideation grade)</td>
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<tr>
<td>(Wed) 9/15</td>
<td>Work in class - perform ‘what if’ brainstorming exercise - Demo on alternative vis com/sketching techniques</td>
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<tr>
<td>Week 5a</td>
<td>Feedback</td>
<td>- Run initial concepts by target users to obtain initial feedback (document this with photos) - Obtain information on similar products already used by target users</td>
<td>- User feedback - 20 revised concept sketches – Due Week 6a (Value – 10pts of total 30pt Initial Ideation grade)</td>
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<tr>
<td>(Mon) 9/20</td>
<td>Group presentations (initial concepts)</td>
<td></td>
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<tr>
<td>Week 5b</td>
<td></td>
<td>- Revise concepts based on user feedback - Decide on a general project direction</td>
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<tr>
<td>(Wed) 9/22</td>
<td>In-class ideation/group work</td>
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<tr>
<td>Week 6a</td>
<td>Competitive Analysis</td>
<td>- Identify a minimum of 10 competitive products Each should have: - brand and model name of the product - image of the product - retail price point - key features and benefits claimed by manufacturer - pros and cons</td>
<td>- Competitor analysis (min 10 examples) – Due Week 6b (Value – 5pts of total 10pt Competitor Research grade)</td>
</tr>
<tr>
<td>(Mon) 9/27</td>
<td>- Lecture on competitive landscape</td>
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<tr>
<td>Week 6b</td>
<td>Blue Ocean Strategy</td>
<td>- Create a primary and secondary opportunity matrix identifying blue ocean strategy - Compose a problem/opportunity statement - Create a list of design criteria</td>
<td>- Opportunity matrix (min of 2) - Problem/Opportunity Statement - Design criteria (min of 7) – Due Week 7a (Value – 5pts of total 10pt Competitor Research grade)</td>
</tr>
<tr>
<td>(Wed) 9/29</td>
<td>- Homework presentations/group crit (competitive analysis – pros/cons) - Lecture on ‘blue ocean’ vs. ‘red ocean’ and creating a problem/opportunity statement.</td>
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Syllabus for Foundation Studio, Page 7
| Week 7a  | Concept Revision  | - Narrow down to 5 concepts based on opportunity and design criteria  
- 3 high fidelity sketches for each concept (15 total)  
- Sketches should show multiple views and details for each concept, and include annotations communicating features and functionality.  
- Concepts should be ranked in order of preference and presented as such in the midterm presentation.  
- 15 sketches – Due Week 8a (Midterm) (Value – 10pts of total 30pt Design Revision grade) |
| (Mon)  | 10/4  |
|  | - Homework presentations/group crit - (market opportunity (blue ocean) matrix, problem/opportunity statement and design criteria) |
| Week 7b  | - Individual check-in  
- Work in class |
| (Wed)  | - Consolidate all information into a midterm digital presentation |
| 10/6  | Midterm presentation - Week 8a (Value – 20pts) |
|  | - Demo on building low-fidelity prototypes  
- Individual team check-in  
- Work in class/shop |
| Week 8a  | - Create low-fidelity prototypes – one per person |
| (Mon)  | - Initial prototypes (min 1 per person)  
– Due Week 9a (Value – 5pts of total 30pt Design Revision grade) |
| 10/11  |  |  |
|  | - Demo on building medium-fidelity and proof of concept prototypes  
- Individual team check-in  
- Work in class/shop |
| Week 8b  | - Create revised medium-fidelity prototypes/proof of concept (POC) models – one per person  
- Obtain user feedback on initial prototypes/POC (document with photos) |
| (Wed)  | - Medium fidelity prototypes/proof of concept (min of 1)  
- User feedback  
– Due Week 10a (Value – 5pts of total 30pt Design Revision grade) |
| 10/13  |  |  |
|  | - Individual team check-in  
- Work in class/shop |
| Week 9b  | Revised medium-fidelity prototypes (min of 2)  
- Revised sketches/renderings with annotated details depicting functionality, materials, technology, etc. (min of 6 high fidelity sketches and/or renderings)  
– Due Week 11a (Value – 10pts of total 30pt Design Revision grade) |
| (Wed)  | - Decide on final product direction  
- Revise concept based on user feedback and produce new high fidelity sketches/renderings, as well as revised medium fidelity prototypes, considering functionality, human factors, materials, aesthetics, etc. |
| 10/20  |  |  |
|  | Final Direction  
- Individual team check-in  
- Work in class/shop |
| Week 10a  | - Revised medium-fidelity prototypes (min of 2)  
- Revised sketches/renderings with annotated details depicting functionality, materials, technology, etc. (min of 6 high fidelity sketches and/or renderings)  
– Due Week 11a (Value – 10pts of total 30pt Design Revision grade) |
| (Mon)  | - 15 sketches – Due Week 8a (Midterm) (Value – 10pts of total 30pt Design Revision grade) |
| 10/25  |  |  |
| Week 10b (Wed) 10/27 | - Individual team check-in  
- Work in class/shop |  |  |
|----------------------|-------------------------------------------------|------------------|------------------|
| Week 11a (Mon) 11/1  | Prototyping  
- Demo on higher fidelity prototyping techniques  
- Individual team check-in  
- Work in class/shop | - Produce higher fidelity study models (minimum of 1 per person) determining scale, functionality, tech, mechanisms, and ergonomics | - High fidelity study models (min of 1 per person)  
- Due Week 12a (Value – 10pts of total 20pt Final Model grade) |
| Week 11b (Wed) 11/3  | - Individual team check-in  
- Work in class/shop  
- Discussion on final presentation requirements |  |  |
| Week 12a (Mon) 11/8  | Form Language/Aesthetic  
- Lecture/demo on form and aesthetics  
- Individual team check-in  
- Work in class/shop | - Begin to build the final product design into 3D CAD or other digital applications.  
- Include computer generated annotations communicating features and details  
- Produce several form, material, and color studies to determine the final aesthetic. | - CAD designs (min of 3 renderings of final design in different views)  
- Form, material, color studies/renderings (min of 5 renderings)  
- Due Week 14a (Value – 10pts of total 20pt Final Design grade) |
| Week 12b (Wed) 11/10 | - Individual team check-in  
- Work in class/shop |  |  |
| Week 13a (Mon) 11/15 | Proof of Concept  
- Individual team check-in  
- Work in class/shop | - Validate final concept with target users and iterate if necessary.  
- Begin final model construction | - User feedback  
- Final model  
- Due at Final Presentation  
- (Value – 10pts of total 20pt Final Model grade) |
| Week 13b (Wed) 11/17 | - Individual check-in  
- Work in class/shop | - Decide on final name of product and create logo |  |
| Week 14a (Mon) 11/22 | Final Design  
- Lecture on IP  
- Individual check-in  
- Work in class/shop | - Begin final poster design  
- Final poster should visualize your product being used in the intended environment, and should include name/logo, short description indicating what it is and the problem it is solving, and potentially other images showing/annotation unique features and benefits. Image can either be a rendering of the product, or a photo of the final model. | - Final poster  
- Due at Final Presentation  
- (Value – 10pts of total 20pt Final Design grade) |
| Week 14b (Wed) 11/24 | - Individual check-in  
- Work in class/shop | - Edit video of team project/process | - Video documentation  
- Due at Final Presentation  
(Value – 10pts) |
Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

Support Systems:

*Student Health Counseling Services* - (213) 740-7711 – 24/7 on call engemannshc.usc.edu/counseling
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

*National Suicide Prevention Lifeline* - 1 (800) 273-8255 – 24/7 on call suicidepreventionlifeline.org
Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

*Relationship and Sexual Violence Prevention Services (RSVP)*
-213-740-9355 (WELL https://studenthealth.usc.edu/sexual-assault/
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Relationship and Sexual Violence Prevention and Services provides immediate therapy services for situations related to gender- and power-based harm (e.g., sexual assault, domestic violence, stalking). (wording from the site)

*Office of Equity and Diversity (OED) | Title IX* - (213) 740-5086 equity.usc.edu, titleix.usc.edu
Information about how to get help or help a survivor of harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race,
color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations.

USC Policy Reporting to Title IX (213) 740-5086
https://policy.usc.edu/reporting-to-title-ix-student-misconduct/
The university encourages individuals to report prohibited conduct to the Title IX Office. Individuals can report to the university Title IX Coordinator in the Office of Equity and Diversity.

Bias Assessment Response and Support - (213) 740-2421
studentaffairs.usc.edu/bias-assessment-response-support
Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation and response.

The Office of Disability Services and Programs - (213) 740-0776
dsp.usc.edu
Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Support and Advocacy - (213) 821-4710
studentaffairs.usc.edu/ssa
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.
Diversity at USC - (213) 740-2101
diversity.usc.edu
Information on events, programs and training, the Provost’s Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu
Non-emergency assistance or information.