

**USC** Iovine and  
Young Academy  
*Arts, Technology and the Business  
of Innovation*

**PRIN 575b: Garage Experience**  
**Units: 2**  
**Spring 2023—Tuesdays—9:00-11:50am**

**Location:** IYH 110

**Instructor:** Grant Delgatty and Trent Jones

**Office:** HSH 101

**Office Hours:** By appointment

**Contact Info:** [delgatty@usc.edu](mailto:delgatty@usc.edu); [trentjon@usc.edu](mailto:trentjon@usc.edu)

**IT Help:**

<https://uscedu.sharepoint.com/sites/IYAStudent/SitePages/IT-Resources.aspx>

**Hours of Service:** 9 a.m. – 6 p.m.

**Contact Info:** [iyahelp@usc.edu](mailto:iyahelp@usc.edu)

**USC Technology Support Links**

[Zoom information for students](#)

[Blackboard help for students](#)

[Software available to USC Campus](#)

## Course Description

Product Innovation capstone leading to innovative outcomes, including advanced research artifacts, operational prototypes and breakthrough enterprises across multiple fields and industries.

## Learning Objectives and Outcomes

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

**Prerequisite(s):** PRIN 575a

## USC Technology Rental Program

The university realizes that attending classes online and completing coursework remotely requires access to technology that not all students possess. If you need resources to successfully participate in your classes, such as a laptop or internet hotspot, you may be eligible for the university's equipment rental program. To apply, please submit an [USC Technology Rental Program Application](#).

## HOW TO PURCHASE SOFTWARE AT THE DISCOUNTED ACADEMY RATE

For classes that require them, the following software are available for purchase **online** through the USC Iovine and Young software catalog at the Academy discounted rate:

| Software             | IYA Short-Term License at USC Bookstore |
|----------------------|---|
| Adobe Creative Cloud | \$70 2022–2023 annual license           |
| Apple Logic Pro      | \$35 semester licenses                  |
| Solidworks           | \$35 semester license                   |
| Apple Final Cut Pro  | \$35 semester license                   |

To purchase:

- Visit: <https://commerce.cashnet.com/IOVINE>
- Select the software license(s) you would like to purchase by clicking “View Details” or the software title, and make your purchase
- You will receive an order confirmation receipt at the email address you provided
- You will be notified by email when the software license has been activated

If you have any questions about this process, please do not hesitate to contact Academy IT Support at [iyahelp@usc.edu](mailto:iyahelp@usc.edu).

## Required Materials

Order Link: <https://hbsp.harvard.edu/import/899695>

Price = \$23.50 and includes one simulation and two cases listed in the syllabus.

## 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 towards developing a final business pitch based on a “traditional” format business plan in accordance with U.S. Government, Small Business Administration (sba) guidelines.

As Garage Experience is intended to be mostly a student led research and development project lasting two semesters, it is expected that students take initiative to maintain a schedule conducive to accomplishing desired outcomes.

## Grading Breakdown

Projects will be graded based on adherence to 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 five criteria: (1) Competency in key concepts, (2) Effort/range of exploration, (3) Process and methodology, (4) Presentation/craftsmanship, and (5) 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 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 listed above.

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 above.

C Below expectation – Due to poor levels of execution, lack of participation, incomplete work, and overall lack of performance/effort.

C- Well below expectation.

D Significantly below expectation.

| Assignment                                    | Points | % of Grade |
|---|--------|------------|
| Innovation Process                            | 50     | 5          |
| MVP1  | 100    | 15         |
| S-Curve                                       | 50     | 5          |
| MVP2  | 100    | 10         |
| Jobs to be Done (JTBD)                        | 50     | 5          |
| Pricing Strategy                              | 100    | 10         |
| Market Sizing                                 | 50     | 5          |
| Competitive Advantage                         | 100    | 10         |
| Strategic Group Analysis                      | 100    | 10         |
| Business Plan                                 | 150    | 15         |
| Final Presentation-VC request for funds pitch | 150    | 15         |

|              |      |     |
|--------------|------|-----|
| <b>TOTAL</b> | 1000 | 100 |
|--------------|------|-----|

## Grading Scale

Course final grades will be determined using the following scale

|    |              |
|----|--------------|
| A  | 95-100       |
| A- | 90-94        |
| B+ | 87-89        |
| B  | 83-86        |
| B- | 80-82        |
| C+ | 77-79        |
| C  | 73-76        |
| C- | 70-72        |
| D+ | 67-69        |
| D  | 63-66        |
| D- | 60-62        |
| F  | 59 and below |

## Assignment Submission 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 by midnight the day before the commencement of the class session in which the assignment is due.

## 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  $\frac{1}{2}$  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. Additionally, students who need accommodations for religious observations should provide advanced notice to instructors and student athletes should provide Travel Request Letters. All accommodations remain at the discretion of the instructor, and appropriate documentation may be required.

### *Fall 2022 addendum:*

- Unless students provide an accommodation letter from USC's Office of Student Accessibility Services (OSAS) or a letter from IYA Student Services detailing visa or travel restrictions, attendance and active participation is expected in the classroom. Any student with such accommodations should submit their accommodation document to the instructor as soon as possible to discuss appropriate accommodations. Either classroom recordings or live remote access to the class via Zoom will be provided.
- Students who are experiencing illness should not attend class in person. Please inform the instructor in advance of any class sessions that you can't attend for medical reasons, and accommodations will be arranged to view recorded lectures and submit alternatives to any missed class participation. Students will not be penalized for not attending class in person under these circumstances.
- In the event that you find yourself experiencing COVID-19 related symptoms, in keeping with university recommendations, you should Stay home! This is the best way to prevent spreading COVID-19 as supported by scientific evidence; Please do not come to an in-person class if you are feeling ill, particularly if you are experiencing symptoms of COVID-19.

### **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 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.

### **Iovine and Young Hall Cleanout**

The Academy is unable to store student projects and materials beyond the end of the semester. Students must remove all projects and personal materials from the Creators Studio, lockers/locker room, and other classrooms by the end of each semester. **All projects and materials left in Iovine and Young Hall will be discarded two days after final exams end. No exceptions.**

## Course Schedule: A Weekly Breakdown

|               | Topics/Daily Activities  | Readings and Homework  | Deliverable/ Due Dates   |
|---------------|--|--|--|
| <b>Week 1</b> | <p>Discussion of the SBA business plan template and methods for project scheduling. The Minimum Viable Product (MVP)</p> <p>Discussion of what comes next for product development and prototyping.</p> <p>Final Class Artifact</p> | <p>Select one method for scheduling your project from those discussed and presented in the slide deck posted within Blackboard (Bb) for this session and come to class ready to apply it to your project. Review the SBA business “traditional” plan template, this syllabus, and include the key elements in your project schedule. Finally watch the brief videos on what an MVP is.</p>   | <p>Review the syllabus and any materials posted for the sessions within Bb.</p> <p>Take your working prototype from the end of term 1 of GX and use it as an MVP1 experiment for: willingness to pay (WTP) for the key minimum features you think it needs to succeed in the market. Get your MVP out for a market test, by the end of the first week.</p> |
| <b>Week 2</b> | <p>The process of innovation</p> <p>Discuss the product introduction life cycle using classic examples.</p> <p>Discuss levels of fidelity, goal setting and documentation.</p> <p>Personal &amp; Product Goals</p>                 | <p>Each project team will be randomly assigned one product category (e.g., aircraft, cameras, cars, and ships) and will be provided with a representative sample of pictures for each as it changed over time. Your assignment is to come to class with a slide deck of 3-4 slides that answers the following the following questions and gives examples: (1) what subsystems changed over time and how did they affect the overall structure of the product? (2) What were the most likely major dilemmas faced by the incumbent firms as the product’s changed over time? (3) What were the major implications for the incumbent firm’s supply chains, the incumbent firm’s employees, and their society more generally as the product changed</p> | <p>Your Spring term schedule (see Week 1 assignment)</p> <p>Submit and present your analysis and answers to the assigned questions in 3-4 slides.</p> <p>Progress report on MVP1 tests.</p>  |
| <b>Week 3</b> | <p>The S curve and the implications for your project on it.</p>  | <p>Plot the S-curve as a cumulative frequency distribution of your product category adoptions (from</p>  | <p>In class discussion of the implications of where your product is on the S-curve for likely future scenarios for your product class.</p>   |

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|               | MVP 2 Studio Work Time   | the previous term) on a graph vs time for your project category and come to class prepared to present your graph and where your product is on the graph.   | Modify your MVP and submit the revised version for MVP2.   |
| <b>Week 4</b> | Market Niches and the S curve<br>1:1 Meetings- MVP 2 results and moving forward. Exploring additional methods of prototype testing.<br>Introduce Project Update 1  | Apply the S curve to your project and develop alternative scenarios for development.   | MVP2 progress report.  |
| <b>Week 5</b> | Project Update 1 Presentations<br>A summary of progress made so far from each team.<br>Using “Jobs to be Done” (JTBD) to identify and strengthen your market niche | Come to class prepared to apply the JTBD approach to identifying how to narrow your niche. Watch the following 3 videos to understand the basic idea and then how to use the idea to ID your critical customer and size your market. | Bring 2-3 slides to class to share by restating your earlier assignment from last term in terms of the JTBD approach? What are its functional, emotional, and social dimensions of the job and the weight of each? Be prepared to discuss the experiences that you will provide your customer with that will enable them to perform their job perfectly. Then, how will you need to integrate your operational system to provide these experiences? Finally, we can put a purpose or a brand on our solution. MURAL has a template for the JTBD approach within it that may be helpful to you in this assignment. MURAL uses JTBD itself to introduce new products.<br>Discuss implications your MVP results had for your original JTBD? |
| <b>Week 6</b> | Willingness to Pay (WTP)<br><br>Studio Work Time   | Discuss alternative methods for providing evidence of WTP and apply the most appropriate to your project.  | Focus on MVPs, surveys and focus groups, discuss +/- of all methods and select one method to provide your WTP evidence. Send or use them to collect evidence to present next week  |
| <b>Week 7</b> | Pricing Strategies<br>Sourcing Materials- Digital<br>Products (Guest Speaker TBD)<br>Studio Work Time  | Before coming to class take 2 hours to play “Pricing Simulation: Universal Rental Car V2”. Come to class prepared to discuss the key learnings and their implications for your project.  | Using the results from last week’s method for collecting WTP evidence and what you’ve learned from the simulation, prepare a pricing strategy for your product.  |
| <b>Week 8</b> | Business Models  | Apply the “business model canvas” to your project to   | Present and turn-in a brief slide deck showing your business model   |

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|                | Guest Speaker- Models of Impact (TBD)  | identify key revenues and costs to optimize for maximum profitability.   | canvas including your pricing strategy developed previously.   |
| <b>Week 9</b>  | Sizing the market<br><br>Sourcing Materials- Physical Products (Guest Speaker TBD)<br><br>Introduce Project Update 2   | Before coming to class watch the video on sizing your market. Then using the JTBD to apply this approach to identifying the number of prime beneficiaries for your product.  | Present and turn-in a brief slide-deck showing the size of your market that includes the JTBD approach to identify your primary customer beneficiary and your business model canvas analysis.  |
| <b>Week 10</b> | Spring Break   |  |  |
| <b>Week 11</b> | Project Update 2 Presentations<br><br>Erecting Barriers to Imitation Part A  | Come to class prepared to discuss, "Attack of the Cones: Birchbox Defends Against Copycat Competitors."  | Come to class prepared to discuss what went right and wrong with Birchbox. Was this a blue or a red ocean market? What would you recommend that the entrepreneurs do differently next time? How does what happened with Birchbox relate to your project? |
| <b>Week 12</b> | Erecting Barriers to Imitation Part B<br><br>1:1 Meetings +Studio Work Time  | Come to class prepared to discuss, "Mobileye: The Future of Driverless Cars"   | Come to class prepared to discuss what went right and wrong with Mobileye. Was this a blue or a red ocean market? What would you recommend that the entrepreneurs do differently next time? How does what happened with Mobileye relate to your project? |
| <b>Week 13</b> | Branding<br><br>Guest speaker (e.g., Steve Child or new faculty member?)   |  | Present & turn-in 3-4 slides on ways you'll create a sustainable competitive advantage   |
| <b>Week 14</b> | Competition as markets change from blue to red oceans<br><br>Studio Work Time<br><br>1:1 Meetings- Assessing documentation, assets, and artifacts.<br><br>Studio Work Time | Watch the following videos:<br><a href="#">Red Queen Competition: A Dynamic View of Strategy, featuring William P. Barnett – Bing video</a> (1.16 min)<br><br><a href="https://www.youtube.com/watch?v=mYF2_FBCvXw">https://www.youtube.com/watch?v=mYF2_FBCvXw</a> (13.11 min)<br><br>Skim the two slide decks posted in Bb: (1) Industry Competitive Analysis Basics. (2) Strategic Group Analysis | Create a strategic group analysis for your product industry and how you will successfully enter their market. Prepare 3-4 slides for presentation and turn-in next week  |



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| <b>Week 15</b> | Go to market strategies<br>Revisiting our goals and metrics Studio Work Time | Online thru another vendor – e.g., ETSY, Amazon, Apple Apps (Online independent, direct sales online, Brick & mortar, Independent, Alliance partner, Bought out) | Present and turn in strategic group map and market entry strategy including market entry/distribution strategy. |
| <b>FINAL</b>   | Final Exam: Business Plan and Pitch  | Presentation of business pitch to raise outside funds based on business plan and turn-in the completed business plan and presentation slide deck.                | Presentation of business pitch  |

## Statement on Academic Conduct and Support Systems

### 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](http://policy.usc.edu/scampus-part-b). Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on [Research and Scholarship Misconduct](#).

### Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University’s educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at [osas.usc.edu](http://osas.usc.edu). You may contact OSAS at (213) 740-0776 or via email at [osasfrontdesk@usc.edu](mailto:osasfrontdesk@usc.edu).

### Support Systems:

**Counseling and Mental Health** - (213) 740-9355 – 24/7 on call  
[studenthealth.usc.edu/counseling](http://studenthealth.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](http://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), press “0” after hours – 24/7 on call

[Studenthealth.usc.edu/sexual-assault](http://Studenthealth.usc.edu/sexual-assault)

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

**Office for Equity, Equal Opportunity, and Title IX (EEO-TIX)** - (213) 740-5086  
[eeotix.usc.edu](http://eeotix.usc.edu)

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

**Reporting Incidents of Bias or Harassment** - (213) 740-5086 or (213) 821-8298  
[usc-advocate.symplicity.com/care\\_report](http://usc-advocate.symplicity.com/care_report)

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

***The Office of Student Accessibility Services (OSAS) - (213) 740-0776***

[osas.usc.edu](http://osas.usc.edu)

OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

***USC Campus Support and Intervention - (213) 821-4710***

[campussupport.usc.edu](http://campussupport.usc.edu)

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

***Diversity, Equity and Inclusion - (213) 740-2101***

[diversity.usc.edu](http://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](http://dps.usc.edu), [emergency.usc.edu](http://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](http://dps.usc.edu)

Non-emergency assistance or information.

***Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)***

[ombuds.usc.edu](http://ombuds.usc.edu)

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

***Occupational Therapy Faculty Practice - (323) 442-3340 or [otfp@med.usc.edu](mailto:otfp@med.usc.edu)***

[chan.usc.edu/otfp](http://chan.usc.edu/otfp)

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.