USC Iovine and Young Academy

Arts, Technology and the Business of Innovation

IDSN-540: Processes & Perspectives
Units: 4.0
[Semester]—[Day]—[Time]—Online

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Office Hours: TBD
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Course Description

The first core course required of entering students, and a recommended preparation for all courses that follow, "Processes & Perspectives" provides students with instruction in discipline-specific, cross-disciplinary, and shared approaches to the creation and implementation of products, services, projects, systems and/or organizational development. What are the standard methodologies used to take a creative idea of a technological, business, and/or artistic nature to fruition? What are the philosophical and practical underpinnings of those methodologies? What are the implications of those methodologies when implemented? The course is designed to address these and similar questions through an active dialectic approach — motivating students to adopt different perspectives, manage the methodology-based tensions generated by those different perspectives, and seek creative and integrative solutions. Topics include creative and user-focused elements and perspectives (design), feasibility analytics (technology), and lean startup techniques (business).

Learning Objectives

Students in this course will gain early fluency in the approaches shared by and distinct to those in design, business, and/or engineering. Upon completing this course, students will be able to:

- Understand the steps involved in various data-driven and creative processes (e.g., design methodologies, lean startup).
- Apply their knowledge of these processes to the development of varied prototypes.
- Evaluate the effectiveness and utility of these processes in varied organizational settings, with particular focus on those settings most supportive of or interested in innovation.
- Build and communicate effectively within integrated multi-disciplinary, multi-perspective teams.

Recommended Preparation: IDSN-510 Integrative Practices Residential recommended.

Course Notes

This course will be conducted online, using a combination of synchronous and asynchronous methods.

Technological Proficiency and Hardware/Software Required

Students must provide their own laptop. The laptop specifications take into consideration that students will be creating, streaming, and downloading audio and video; communicating using video conferencing applications and creating and storing large multimedia files.

	Apple	Windows PC
Laptop (Minimum standards)	2.6 GHz dual-core Intel Core i5 or 2.0 GHz quad-core Intel Core i7 - Minimum 13" display 250 GB hard drive or larger 8 GB memory/16GB memory recommended	- Intel Core i5 or Intel Core i7 - Minimum 14" display 250 GB hard drive or larger 8 GB memory/16GB memory recommended

Warranty	● Manufacturer warranty or extended warranty coverage (Apple Care)	● Manufacturer warranty or extended warranty coverage
Operating System	● Max OS X operating system or higher	● Windows 7, 8, 10 operating system or higher
Peripherals	● HD webcam, speakers and microphone (Most newer laptops have built-in webcam, speakers and microphone) ● Headset ● Digital camera (Cameras on newer smartphones are acceptable) ● External drive for cloud account for backup and storage	
Software	● Adobe Creative Cloud (Photoshop, Illustrator, and InDesign) ● Adobe Acrobat Reader ● Microsoft Office Suite ● Sophos Endpoint Security (antivirus) ● Browser: Most recent version of Firefox, Chrome, Safari, or Internet Explorer	
Network	● Cable modem, DSL, T1/T3 or higher	

Required Readings and Supplementary Materials

Required reading will be drawn from textbooks, articles, papers, cases, and online publications (e.g., articles, op-ed essays) available through a host of available outlets; in all instances, the material will be delivered via computer. Students will also be required to view online videos, complete web-based, interactive exercises, and respond to peer and faculty comments (within an online discussion forum or group discussion). Reading assignments are listed in the Course Schedule below. Students may also be asked by the instructor to review additional resources or contemporary news stories posted to the LMS. Lectures, readings, viewings will be supplemented with current articles and audio/video content provided by relevant publications.

Grading Breakdown

Assignment	% of Grade
Mind-Map: How Do You Solve Problems?	4%
Creative Problem Solving Interviews: Your Turn!	4%
Contribute to the CPS Repository	2%
Process Book Individual Entries	19%
Big Questions 1—7	14%
The Destination and Journey (group)	3%
What's in It for Me? (group)	3%
Success at First.	3%
Contingency Management (group)	3%
Morphological Analysis (group)	3%
Conjunction Junction	2%
Problem Definition (group)	4%
Group Brainstorming and Debriefing Session (group)	7%
Choosing a Solution (group)	4%
Business Model Canvas (group)	3%
Conceptualize It (group)	4%
Evaluate (final presentation)	4%
Evaluate (other groups)	4%
Evaluate (self assessment)	2%
Participation (synchronous and asynchronous)	8%
Total	**100%**

Assignment Submission Policy

<u>All</u> assignments must be uploaded to the learning management system by **9:00 a.m. Pacific Time** on the date that deliverable is listed as due in the Course Schedule. No exceptions. (Early submissions are, of course, encouraged!)

- Deliverables that exceed maximum page or time length requirements will only be assessed up to (and not beyond) that limit.
- Read and heed supplementary Assignment Details, distributed when each assignment is launched, carefully.

All assignments, no matter how late, must be completed in order to pass this class.

Late Submissions

Assignments will be accepted after the deadline with the following grade penalties. Do not ask for extensions; the below *are* the extensions.

- Submission in the 24 hours after the deadline   10% deduction
- Submission between 24 and 48 hours after the deadline   20% deduction
- Submission between 48 hours and 3 days after the deadline   50% deduction
- Submission more than 3 days after the deadline   100% deduction

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Keep copies of all your files and emails until the end of the semester.

Correcting a Grading Error or Disputing a Grade

If you don't inform the instructor of missing or incorrect grades within two weeks of those grades being posted, the grades will be assumed correct. Do not wait until the semester's end to check or appeal any grades. If you feel a grade merits re-evaluation, you are encouraged, within one week of the instructor providing a grade and initial feedback, to send the instructor a memo in which you request reconsideration. The memo should include a thoughtful and professional explanation of your concerns. Be aware that the reevaluation process can result in three types of grade adjustments: positive, none, or negative. (Note: Complaints on the date of a graded assignment's return to you will not be addressed; it is essential to wait one full day prior to raising a concern.)

Additional Policies

Class notes policy: Notes or recordings made by students based on a university class or lecture may only be made for purposes of individual or group study, or for other non-commercial purposes that reasonably arise from the student's membership in the class or attendance at the university. This restriction also applies to any information distributed, disseminated, or in any way displayed for use in relationship to the class, whether obtained in class, via e-mail or otherwise on the Internet, or via any other medium. Actions in violation of this policy constitute a violation of the Student Conduct Code, and may subject an individual or entity to university discipline and/or legal proceedings. Again, <u>it is a violation of USC's Academic Integrity Policies to share course materials with others without permission from the instructor</u>.

No recording and copyright notice: <u>No student may record any lecture, class discussion or meeting with the instructor without his/her prior express written permission</u>. The word "record" or the act of recording includes, but is not limited to, any and all means by which sound or visual images can be stored, duplicated, or retransmitted whether by an electro-mechanical, analog, digital, wire, electronic or other device or any other means of signal encoding. The instructor reserves all rights, including copyright, to his/her lectures, course syllabi and related materials, including summaries, slides (e.g., Keynote, PowerPoint), prior exams, answer keys, and all supplementary course materials available to the students enrolled in the class whether posted to the LMS or otherwise. They may not be reproduced, distributed, copied, or disseminated in any media or in any form, including but not limited to all course note-sharing websites. <u>Exceptions are made for students who have made prior arrangements with </u>The USC Office of Disability Service<u>s and Programs and the instructor</u>.

Participation: Students are expected to actively participate in this course. In an online forum, participation

includes:

- Careful reading and viewing of assigned materials by the date due
- Regular, substantive contributions to discussions
- Active engagement with online content
- On-time attendance and full attention in synchronous sessions
- Significant collaboration with classmates and teammates

Course grades may be affected for students who do not contribute to the course through active participation. Students should notify the instructor in advance if they are unable to attend class.

Contact Hours

This 4-unit course requires 3,000 minutes of instructional time per semester, which equals 200 minutes (4 hours) of instructional time each week. Instructional time may be further broken down into 100 minutes (2 hours) of asynchronous time and 100 minutes (2 hours) of synchronous time. In addition, it is expected that students will work, on average, an additional 400 minutes (8 hours) per week outside of class — on readings/viewings, homework assignments, field experiences, and individual or team projects. Synchronous class sessions will be offered as regularly scheduled evening or weekend classes, once each week.

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" https://policy.usc.edu/student/scampus/part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct.

Discrimination, sexual assault, intimate partner violence, stalking, and harassment are prohibited by the university. You are encouraged to report all incidents to the *Office of Equity and Diversity/Title IX Office* http://equity.usc.edu and/or to the *Department of Public Safety* http://dps.usc.edu. This is important for the health and safety of the whole USC community. Faculty and staff must report any information regarding an incident to the Title IX Coordinator who will provide outreach and information to the affected party. The sexual assault resource center webpage http://sarc.usc.edu fully describes reporting options. Relationship and Sexual Violence Services https://engemannshc.usc.edu/rsvp provides 24/7 confidential support.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* http://ali.usc.edu, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://dsp.usc.edu provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* http://emergency.usc.edu will provide safety and other updates, including ways in which instruction will be continued by means of Blackboard, teleconferencing, and other technology.

Course Schedule

WEEK	TOPIC	ASSIGNMENTS	GUEST
1	Processes and Perspectives ● Interdisciplinary Focus ● Engineering Environments ● Business Environments ● Design Environments ● Workforce Skills	How Do You Solve Problems?	
2	Unpacking a Problem: The Engineer's Perspective ● Individual Perspectives ● The Engineer's Perspective		○ Mike Crowley ○ Patrick Dent
3	Unpacking a Problem: The Entrepreneur's Perspective ● The Entrepreneur's Perspective		○ Steve Barth ○ Zal Phiroz
4	Unpacking a Problem: The Designer's Perspective ● The Designer's Perspective		○ Grant Delgatty
5	Creative Problem Solving: Cross-Disciplinary Perspectives ● Cross-Disciplinary Perspectives	Process Book #1	○ Steve Barth ○ Mike Crowley ○ Grant Delgatty ○ Patrick Dent ○ Zal Phiroz
6	Exploring Creativity ● Exploring Creativity ● Defining Creativity ● Attributes of a Creative Individual ● Thinking About Creativity ● Overcoming Creative Obstacles		
7	Creative Problem Solving Methods and Models ● Methods ● Models ● A Universal Creative Problem Solving Model	Creative Problem Solving Interviews Contribute to the CPS Repository	
8	Process: Acceptance ● Defining Acceptance ● Methods and Techniques for Acceptance	Big Questions #1 The Destination and Journey (group) What's in It for Me? (group) Contingency Management (group) Process Book #2: Success at First	
9	Process: Analysis ● Defining Analysis ● Methods and Techniques for Analysis	Big Questions #2 Morphological Analysis (group) Process Book #3	

10	Process: Definition • Defining Definition. • Methods and Techniques for Definition	Big Questions #3 Conjunction Junction Problem Definition (group) Process Book #4	
11	Process: Ideation • Defining Ideation • Methods and Techniques for Ideation	Big Questions #4 Group Brainstorming (group) Process Book #5	
12	Process: Selection • Defining Selection • Methods and Techniques for Selection	Big Questions #5 Choosing a Solution (group) Process Book #6	
13	Process: Implementation • Defining Implementation • Methods and Techniques for Implementation	Big Questions #6 Business Model Canvas (group) Conceptualize It (group) Process Book #7	
14	Process: Evaluation • Defining Evaluation • Methods and Techniques for Evaluation	Big Questions #7 Evaluate (final presentations) Process Book #8	
15	Defining your own Process • Adapting and Individualizing the Creative Problem Solving Process • Building a Culture of Creativity	Evaluate (final presentations) Process Book #9	

Assignments

Mind-Map: How Do You Solve Problems?
Use the mindmapping format to articulate the processes you typically go through when solving a problem.

Creative Problem Solving Interviews.
Interview 3 individuals. Ask them to respond to two questions: How do you come up with new ideas? What is your problem-solving process? Use the CPS Interview template to format your interviewees answers.

Contribute to the CPS Repository.
Research and add five additional CPS processes to the "CPS Model Collection." Annotate your submissions including which professions practice this model; how it differs from the other models; where it excels and where it falls short. No duplicates- so be sure to check what your peers have submitted so your submissions are original!

Big Questions 1—7.
These are sets of questions that will go with each step of the universal creative problem solving process. Sometimes there are many, and sometimes there are few, but they should always be treated with the same amount of value. They are often introspective, and will not be shared with your peers, so feel free to be open with your responses.

Process Book 1—9.
Your process book entries are an important way that you catalog not only your experience in the course but also how you have progressed through the creative problem solving process to address your group's problem. The

process book will take the form of an individual Tumblr blog where you will be able to post content in the form of text, images, and video to be shared with the rest of the class as well as the world.

The Destination and Journey. (group)
Review and select a problem to solve. Provide a rationale why you should be part of the team, outlining your interest, expertise and contributions. You will work with a team, throughout the remainder of the course, to collectively and collaboratively work through the stages of the creative problem solving process

What's in It for Me? (group)
In your Process Book, list the benefits of what you might accrue if you become involved in this project. Repeat this exercise with your team.

Contingency Management. (group)
In your Process Book, identify the project's contingencies, real or imaginary, that may impede progress, that seem outside of your control, and or issues that need to be resolved before you can move forward. Respond individually and share and discuss with your team the following "behavioral modifications" or rules of engagement:
- Understand your limits. what are your capabilities and the collective capabilities of your team?
- Establish reasonable and feasible goals and standards. What are your and your team's intentions and are they in line with your abilities. Where does your team have gaps and how will you mitigate that?
- Be strict and consistent. Do not promise what you cannot deliver. Talk with your team on how to stay within scope and meet and exceed expectations with within your collective means.
- Reward yourself. What incentives do you and your team value when you meet your goals and, conversely, what is agreed upon and accepted "consequences" for you or your team members not contributing or behaving poorly?

Morphological Analysis. (group)
Complete a morphological analysis of aspects of your project (http://creatingminds.org/tools/morphological.htm) Teammates should choose different project components to perform the analysis on. Compare findings with teammates. Include grid result as a post in your Process Book (either as an image or as a table).

Conjunction Junction.
Try describing five different things (objects, spaces, paintings, people, etc) using only the conjunction 'and' to specify their qualities. Follow up by describing the same things using only the conjunction 'but' to specify their qualities. Add the results to your process book.

Problem Definition. (group)
Revise your team's problem definition on your own, adding it to your Process Book. Then get together and explain from your perspective the path you took to arrive at your definition and your rationale for its development. Discuss, critique, compare and contrast your definitions and make notes on what your group members have to say about your definition. How similar were all the definitions? How different were they? What were the patterns and what were the outliers?

Group Brainstorming and Debriefing Session. (group)
Using your problem definition, come to a consensus on what your idea-generating question should be. While you brainstorm with your team, be sure to record everyone's ideas. Observe and visualize your brainstorming process (Do you do it remotely? What collaboration software do you use? Are you writing or drawing or something else? How does everyone feel?). Limit the duration of your group brainstorming activity and make sure that you always have the prompt in front of you. Get as many ideas out as possible; the more the better.
Once your brainstorming session is over, take a little time to look at the ideas that you have generated as a group and attempt to make an effort to organize them in some logical fashion. Discuss some of your favorite ideas from each other and how you could combine different ideas in various ways.

Choosing a Solution. (group)

Using the ideas generated in the ideation phase, working in your teams, use one or more of the decision-making methods/tools to select a solution to your problem that you will implement.

Business Model Canvas. (group)
Complete the Business Model Canvas comprising key questions such as what is your revenue stream, what are key partnerships you'll need to forge, and what resources are vital to your operation. [IDEO's "The Field Guide to Human-Centered Design." section on Business Model canvas." pp. 123-126]

Conceptualize It. (group)
Create and present a visual rendition, model, simulation, wireframe, or prototype of the solution.

Evaluate. (group final presentations)
Create a multimedia presentation documenting how your team used the creative problem solving process to solve your problem.

Evaluate Other Groups.
As a team, define the rubrics for evaluating each of the other team's creative problem solving processes, solution and presentations.

Self and Team Member Assessment.
Complete a self-assessment and an assessment of each member of your team.