USC

USC VITERBI SCHOOL OF ENGINEERING – DATA SCIENCE PROGRAM

Data Science 556: User Experience Design & Strategy - 4 units

Fall 2021 (32424D) Syllabus

Class Day/Time: Mondays 2:00pm - 5:20pm PST
Location: Kaprielian Hall (KAP) Room 137
Instructor Name: David Chan
Email Address: dchan788@usc.edu

Office Hours:
Office hours are available throughout the week via Zoom (by appointment). Appointments can be booked by contacting the professor via email. Students are advised to be specific with the subject matter to be discussed and be prepared for their appointment by bringing all applicable materials and information.

Catalogue Description:
The practice of User Experience Design and Strategy principles for the creation of unique and compelling digital products and services.

Expanded Course Description:
Designers, product managers/owners, engineers and entrepreneurs must work collaboratively to create innovative and compelling user-centered products and services. The process of developing a shared vision of a product's value proposition requires an open mind to experimentation and failure. User Experience Design and Strategy are practices that, when conducted empirically, are a better guarantee of a successful digital product than just writing a bunch of code and crossing your fingers.

This course is a combination of contemporary methodologies culled from several disciplines including user research, interaction design, and business strategy. Topics will include: competitive analysis and identification of marketplace opportunities, value

innovation, rapid prototyping, customer discovery, and designing for conversion using metrics. By the conclusion of the course each student should be equipped with a strategic method to quickly and effectively launch a product or service online.

Recommended Course/Prep:
Students should have a basic familiarity with web development and/or graphic design using a digital layout tool. However, you can easily pick up these skills by allowing yourself extra time to do the assignments and by paying close attention to the homework critiques in class.

This course is foundational and appropriate for students with backgrounds in a wide variety of fields, including any engineering discipline, and other fields including business, cinematic arts, communications, and design.

You will need to have a total cash budget of approximately $150 to either compensate research participants or for running online ad campaigns in order to do some of the homework assignments.

Learning Objectives:
The course objectives are to provide:
- An overview of the discipline of user experience design including an introduction to the principles of information architecture, interaction design, and user research
- An understanding of how to conduct strategy informed by both traditional and contemporary business approaches such as "Blue Ocean Strategy" and "Lean Startup"
- An understanding of how to validate your assumptions about your end-user's needs through customer discovery techniques, user interviews and design experiments
- A comprehensive view of the necessary tools and techniques to enact a successful User Experience strategy for a digital product through hands-on weekly assignments and class critiques
- The analytical abilities required for students to be able to confidently articulate their impressions of technological advancements that affect how people communicate, shop, earn money, and entertain themselves using digital products and services

Methods of Teaching/Class Rules:
Each class will include weekly lecture(s), homework critiques/peer reviews, and in-class

discussions or exercises. The materials presented in readings, videos, and lectures are intended to assist you in completing the homework assignments.

Throughout the course, students will work independently and in teams to develop a comprehensive prototype and visual presentation ("pitch deck") that will demonstrate both creative and strategic-thinking capabilities.

Students will be required to complete all weekly homework assignments, which should average between three to four hours to complete per week, plus assigned reading time. A computer with access to the internet is required to do all of the assignments.

Between 60-75-minutes of each class will be dedicated to homework critiques. Students will also be called upon to also give feedback to each other. This is a design-centric course so some feedback may seem subjective. If you have trouble receiving subjective feedback or learning from the critiques of other student's work, please consider taking a different class.

Homework assignments and final presentations turned in with spelling and/or grammatical errors may be graded down. Oral presentations must be articulated so that everyone can hear and understand you clearly.

Grading Schema:

Homework Assignments:	50%
Participation:	15%
Final Project:	25%
Final Presentation:	10%
Total	100%

Grades will range from A through F. The following is the breakdown for grading:

94 - 100 = A	74 - 76 = C
90 - 93 = A -	70 - 73 = C-
87 - 89 = B+	67 - 69 = D+
84 - 86 = B	64 - 66 = D
80 - 83 = B-	60 - 63 = D-
77 - 79 = C+	Below 60 is an F

The graded coursework will consist of five components:

1. CLASS PARTICIPATION – Class participation is based on engagement in informed discussions, student assignment critiques, and class exercises. Students are expected to arrive to class on time and stay for the entire class in order for attendance to be counted. If you want to get your full points in this category, be certain that you participate in discussions (in-person and/or online via Blackboard etc.).

2. WEEKLY HOMEWORK - Each week, one or more readings and exercises will be assigned. Each student is expected to submit the completed assignments on Blackboard. Homework is due by midnight of the evening prior to the day that the class meets. Each homework assignment will receive up to 2 points. If you turn it in late you lose a point. If you turn it in and you have not followed the directions, you can also lose a point. NO assignments will be accepted late. An incomplete grade will be granted only under the conditions specified in the student handbook, SCAMPUS, which is available online, http://scampus.usc.edu.

3. FINAL PROJECT - Each student will submit a final case study (in PDF format) along with a corresponding digital product prototype. This project will be a refined version of all the homework assignments ordered to tell a compelling story about their process, what they learned, and the benefits of their core user experience expressed in the prototype. The prototype demo can be created using Adobe XD, Sketch, Figma or a similar rapid prototyping tool. Students will be graded based on creativity, ingenuity, and ability to apply class teachings.

4. FINAL PRESENTATION – At the end of the semester, students will create and present a 7-8-minute visual presentation video, which includes their digital product prototype, to the class. Students will be graded on oral presentation skills, enthusiasm, and storytelling skills. If your presentation goes over or under by one-minute, it will affect your grade. So please rehearse your presentations!

Class Communication:
Blackboard will be used for class communication and uploading homework assignments.

Books, Readings, Videos:

The required book (details below) is available online from Amazon. Students must buy their own legal copy of UX Strategy (2nd edition) and show proof of purchase by the 2nd week of class. Do not buy or use the 1st edition. All other required articles and videos will be accessible on Blackboard.

Required Book (Abbreviated title is used in class schedule):
UX Strategy: Product Strategy Techniques for Devising Innovative Digital Solutions (2nd Edition) Jaime Levy. O'Reilly Media, 2021 (UXS)
https://www.amazon.com/dp/1492052434/ref=cm_sw_r_tw_dp_x_2U2UFbWSBBTCG

Class Conduct:
Please keep your mobile devices and laptops in your bags unless required for presenting or class exercises. Breaking this rule may negatively impact your participation score.

Course Structure & Schedule:
Class sequence, dates, topics, and guest speakers are subject to change as the semester proceeds. Any major revisions will be promptly announced via Blackboard.

	Topics/Activities	Readings & Homework	Homework Due
Wk 1 8/23	Review of syllabus. Class introductions. Intro to UX and Design Process.	**Reading:** UXS Ch 1 & 2 **HW 1:** 10 Principles + Write 3 Problem Statements and 5 Whys	
Wk 2 8/30	Customer Discovery: Empathy Maps and Provisional Personas	**Reading:** UXS Ch 2 & 3 **HW 2:** Empathy Map, Provisional Persona	HW 1
Wk 3 9/6	HOLIDAY - LABOR DAY Initial Value Proposition and Customer Discovery (lecture video and supporting materials will be provided via Blackboard)	**Reading:** UXS Ch 3 **HW 3:** Initial Value Proposition, Customer Discovery Plan-of-Action.	HW 2
Wk 4 9/13	Customer Discovery Interviews and Findings Slides	**Reading:** UXS Ch 4 **HW 4:** Conduct and Document Discovery Interviews + Create Findings Slides	HW 3
Wk 5 9/20	Heuristic Evaluation, Conducting Competitive Research	**Reading:** UXS Ch 4+5 **HW 5:** Reassess Value Prop, Conduct Competitive Research	HW 4
Wk 6 9/27	Competitive Analysis: Benchmarking + SWOT Analysis + Findings Brief, Feature Prioritization	**Reading:** UXS Ch 5 **HW 6:** Conduct Competitive Analysis + Create Findings	HW 5

		Brief	
Wk 7 10/4	Designing Key Experiences: Developing Scenarios and Storyboarding Value Innovation	**Reading:** UXS Ch 6 **HW 7:** Create Scenario Maps and Storyboard Key Features	HW 6
Wk 8 10/11	Designing Key Experiences: Prototyping for Value Proposition Validation	**Reading:** UXS Ch 7 **HW 8:** Create a Prototype for Testing the Value Innovation and Business Model	HW 7
Wk 9 10/18	Online User Research: Planning Phase + The Experiment Design Tool. Prototype share.	**Reading:** UXS Ch 7+8 **HW 9:** Refine prototype. Online User Research: Planning Phase (Determine hypotheses, Interview prep, Recruit participants)	HW 8
Wk 10 10/25	Online User Research: Conducting and Analyzing + Pilot Study.	**Reading:** UXS Ch 8 **HW 10:** Conduct and Analyze Online Research Study	HW 9
Wk 11 11/1	Business Model Canvas. Online User Research: Findings Brief.	**Reading:** UXS Ch 8 **HW 11:** Business Model Canvas (v1.0). Create a Findings Brief (including updated prototype screens).	HW 10
Wk 12 11/8	Design for Conversion: Landing Page Experiment and Ad Campaign (Experiment 1)	**Reading:** UXS Ch 9 **HW 12:** Create Landing Page and Run Ad Campaign (Experiment 1)	HW 11
Wk 13 11/15	Share Experiment 1 results. Finalize Landing Pages and Run Final Facebook Campaign (Experiment 2). Lean Canvas and Business Model Canvas (v2.0)	**Reading:** UXS Ch 9 **HW 13:** Run Split-test Online Ad Campaign to Two Segments. (Experiment 2). Create Conversion Findings Brief. Lean Canvas.	HW 12
Wk 14 11/22	Present Design for Conversion Findings Briefs. Design Ethics and Values. End of class survey.	**Reading:** UXS Ch 10 **HW:** Create Final Presentation and Case Study.	HW 13
Wk 15 11/29	Final Presentations and Peer Feedback.	**HW:** Create Final Presentation and Case Study.	-
Wk 16 12/6	NO CLASS - STUDY DAYS	**HW:** Create Final Presentation and Case Study.	-
Wk 17 12/13	Final Presentations and Peer Feedback. Submit Final Project Case Study.		Submit Final Project Case Study

Students with Disabilities:
Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. Your letter must be specific as to the nature of any accommodations granted. DSP is located in STU 301 and is open 8:30 am to 5:30 pm, Monday through Friday. The telephone number for DSP is (213) 740-0776.

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. 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.

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

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

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call
Free and confidential therapy services, workshops, and training for situations related to gender-based harm. engemannshc.usc.edu/rsvp

Sexual Assault Resource Center
For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: sarc.usc.edu

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086
Works with faculty, staff, visitors, applicants, and students around issues of protected class. equity.usc.edu

Bias Assessment Response and Support
Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. studentaffairs.usc.edu/bias-assessment-response-support

The Office of Disability Services and Programs
Provides certification for students with disabilities and helps arrange relevant accommodations. dsp.usc.edu

Student Support and Advocacy – (213) 821-4710
Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. studentaffairs.usc.edu/ssa

Diversity at USC

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. diversity.usc.edu

USC Emergency Information
Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.
Provides overall safety to USC community. dps.usc.edu