Design & Agile Project Management Engineering Lab

Columbia University
School of Engineering
IEOR E-4573

Prof. R.A. Farrokhnia

Fall 2016
Thursdays, 13:10-15:45

Classroom TBA

Syllabus Summary

This course is an intensive, project-based seminar in which students will:
01) learn a multi-disciplinary approach to evidence-based product design,
02) agile project planning and execution,
03) rapid MVP prototyping, and
04) launch strategy formulation and implementation.

Within such context, students will apply lean techniques in developing inventive, tech-driven, and design-centric solutions to business briefs related to their projects.

Designed and taught by award-winning Columbia faculty R.A. Farrokhnia, this course focuses on the practical use of design thinking, design studio, and iterative design sprint methodologies. In addition, systematic approach to Lean User Research, User Experience (UX), and User Interface (UI) design and deployment will be an integral part of the course curriculum.

Working in teams, students will be able to apply course concepts to sponsored projects, with defined deliverables and launch timelines. These will be a mix of startup and enterprise projects that are either application-drive, data-driven, or a combination of both. Throughout the semester, teams will be supported in devising prototypes and actualizing their proposed solutions.

One of the principal objectives of this course is to be at the intersection of academia and practice, with a blended infusion of Engineering, Business, Design, and Storytelling craftsmanship into every class project. As such, interactions with domain experts and guest speakers (in and outside of class) will augment the lectures and exercises, beneficial to both students' educational goals and future careers. Those interested in startups, tech applications, product design, data analytics, consulting, and project management will equally benefit from the course.

In offering the most relevant and up-to-date content, some of the course methodologies are based on those developed at Google Design Studio, Google Creative Lab, IDEO, and Pentagram, to name a few. The curated list of course mentors will also provide a unique opportunity for students to learn of the latest best-practices deployed at some of the most successful firms in the startup, design, and tech realms. Lastly, students will also gain exposure to venture capital investing, learning the mechanics of pitching, fundraising, deal structures, and investor relations.

Grades will be determined based on class participation, assignments (both individual and team-based), final project, and peer evaluations.

This course is application-only, open to bidding late summer. Please note that in addition to class lectures (held on Thursdays), student teams may be required to attend recitation sessions as well as Scrum/Sponsor meetings on certain Fridays (details and dates will be given during first class session).