

KIEI-925: Startup Programming and Management

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KIEI-924 OR EQUIVALENT EXPERIENCE IS HIGHLY RECOMMENDED.

ATTENDANCE AT ALL LECTURES HIGHLY RECOMMENDED.

PLEASE SEE THE FAQ AT THE END OF THIS SYLLABUS.

NOTE: This course overlaps with DSGN 425 and is NOT RECOMMENDED FOR MMM STUDENTS.

Course Description

This course is geared for entrepreneurs and non-programmers who want to build their own web applications and/or manage a software product lifecycle. Students will use HTML, CSS, and the Ruby programming language to build an online product, learning the fundamentals of computer programming and software project management along the way.

Perhaps more importantly, students will gain insight into the construction and management of online products and services, enabling them to ideate more constructively, converse more effectively with developers, and manage teams more efficiently.

Also covered are agile project management techniques, recommended online management tools, hiring practices, in-house-vs-offshore decisions, and more.

Students will be expected to have Mac, Windows, or Linux computers that they can complete homework and projects on (detailed instructions on setup will be provided to registered students prior to the first day of class).

Learning Goals

- The Ruby on Rails web framework for building web applications
- Communicate more effectively and credibly with developers on your teams
- The core principles of agile team management and best practices
- Prioritize features more efficiently by developing a better feel for their costs

Student Expectations

This is an empowering course, but it is not an easy course. Students should expect to spend 8-10 hours a week on project assignments. Students are highly encouraged to work with a partner or study group.

Attendance at lectures is paramount. If you miss a lecture, it is your responsibility to meet with classmates. If you miss two lectures, you will probably never catch up.

Computer Requirements

We will be using a cloud-based coding environment at <http://c9.io>. Students must own or have access to a modern computer that is capable of smoothly running one of the following web browsers: Google Chrome, Mozilla Firefox, or Safari.

Assignments and Grading

Students must build a project of their choosing throughout the quarter as their final project. Students are encouraged to work in groups for all assignments including the final project, but each student must still turn in their own project code that they developed themselves. Details will be provided at the first class.

- Homework is worth 50% of your grade: 5 homework assignments @ 10% each
- There will be a mid-term exam worth 25% (week 6)
- The final project is worth 25%

Course Schedule

WEEK 1	Development Environment. User stories, MVP identification, and domain modeling.
WEEK 2	Ruby programming language and APIs
WEEK 3	Database-backed domain modeling
WEEK 4	Parameters; RESTful routing
WEEK 5	View helpers; the Golden 7; Model associations

WEEK 6	Model Associations part 2; MIDTERM
WEEK 7	Model Validations; User Authentication and Authorization
WEEK 8	Web Hosting
WEEK 9	Sending Email & Texts
WEEK 10	Surprise goodies & wrap-up

FAQ

Q. Do I need to know any computer programming?

Yes. You are expected to have taken KIEI-924 or have the equivalent experience. You should know how to build a static website and deploy it to a live internet service, such as GitHub Pages. For an example of a website you should know how to build before taking this class, go to www.jeffcohenonline.com/prereq.

Q. I know that I will need to miss a class for an interview or wedding. Is that ok?

Don't register for this class. Historically, students who have missed a week had a hard time catching up; students who missed two weeks never caught up.

Q. If I miss a class, will the instructor or the TA teach me what I missed?

No. Classes are an interactive combination of demonstrations and lab exercise and cannot be replicated on an individual basis. If you are ill and have to miss class, please do your best to catch up with classmates. The instructor and TA are always available to help answer questions, but we can't re-enact the entire class over again.