**2013-2014 UC Berkeley Master of Engineering**

**Capstone Project Proposal**

**Overview:**

The Capstone Project, a 5-unit Master of Engineering course requirement, integrates core leadership coursework with a student’s engineering concentration. Capstone Project teams range from three to ﬁve students, drawn from the cross-disciplinary engineering cohort, to apply diverse knowledge and skills to actual industry problems, identiﬁed by faculty or industry partners. The Fung Institute for Engineering Leadership within the College of Engineering provides capstone cohort support and curriculum integration.

**Capstone Sponsor Information:**

Please read the following instructions and requirements before submitting your proposal. In order to be considered, this document must be completed in full. By submitting this proposal, you agree to its inclusion in the *UC Berkeley Master of Engineering Capstone Project Portfolio* for the 2013-14 Academic Year. Use of links, diagrams and images to illustrate your project is encouraged. Example projects can be found here: <http://funginstitute.berkeley.edu/programs/capstone-projects>

**Timeline for submission and important deadlines:**

|  |  |  |
| --- | --- | --- |
| **Year** | **Dates** | **Activity** |
| **2013** | **March** | **Capstone Project Call for Proposals** |
|  | **By April 1** | Submit a one-sentence description of your project idea. |
|  | **By May 1** | **Full Project Proposals due**  Please use the proposal form supplied. |
|  | **May-July** | **Proposal Review –** screening for skill set and objective fit with incoming M.Eng. class**.** |
|  | **July-August** | **Student Project Exploration**  Industry advisors should be available for questions and interview screening of students during this time. |
|  | **August 12-31** | **Capstone Team Selection Process, Sponsor and Faculty office hours** |
|  | **September 1-12** | **Capstone Final Match:** Notification no later than Sept 12 |
|  | **Early December** | **Fall Student Poster Session** |
| **2014** | **Early May** | **Spring Student Poster Session** |
|  | **May 1-17** | **Final Student Presentations and Deliverables** to Industry & Faculty Advisors |

If selected for the 2013-2014 Capstone Project Portfolio you will be responsible for sponsoring and adhering to the terms you outline below. **As the Capstone Sponsor, please *initial* the following requirements by which you are agreeing to the following:**

Top of Form

Provide a point person from your organization to advise the capstone team on a regular basis and throughout the whole duration of the project

Supply all necessary tools, software, and/or data necessary to do the project in a timely manner

Ensure the project has achievable deliverables that fit into a 9-month timeframe

Provide clear objectives for both the technical and business-related challenges of the

project

By signing below you are indicating that you completed this form to the best of your knowledge and are agreeing to all the requirements of UC Berkeley’s Capstone Project Program as listed above.

We look forward to working with you!

Name: Amanda Chiu Title: VP, Fidelity Center for Applied Technology

Email: amanda.chiu@fmr.com Phone: 415 445 7109

Signature or Initials: AC

Date: April 30, 2013

*Questions?* Contact Beth Hoch hoch@berkeley.edu or 510-664-4587

**Proposal Form (please complete all sections):**

|  |  |
| --- | --- |
| **Project Title** | Next Generation Financial Guidance Experience & Tools: Gamified & Data Driven |
| **Industry Partner**  Company Name, Department, and Website | Fidelity Investments [www.fidelity.com](http://www.fidelity.com)  Fidelity is among the most diversified financial services companies in the world, offering a full range of product solutions for individual investors, employers, institutions and intermediaries. Our mission is to help customers achieve their financial objectives.  Departments: Fidelity Investment Services & Fidelity Center for Applied Technology |
| **Problem**  (Describe the industry problem your project addresses in 100 words or less.) | Traditional financial guidance tools are tried and true. But changes in lifestyle, job security and healthcare system, and the long time horizon the younger investors face emphatically invite new approaches to better inform, engage and motivate them to plan and save for the future.  This cohort of 18-35, often referred to as Gen Y, accounts for about 1/4 of the nation’s population and slightly outnumbers the Boomers. We seek to explore: How do the young investors think about personal finances? What type of guidance experience would resonate with them? How could we best leverage advances in technology, game mechanics, data and visualization, and more? |
| **Technical Challenge**  (Highlight the technical challenge of the problem in 100 words or less) | Our technical objective is to incorporate game mechanics and open data into our financial guidance tools to enable a more engaging experience for younger investors. For the project deliverable, we are looking for a prototype of a single tool or a suite of tools that is thoughtfully designed and built for an interactive and compelling user experience.  We want to provide the team the flexibility to explore and pursue the best solution. As such, we prefer an open model to tap the best minds across the Berkeley community. |
| **Objective**  (In 100 words or less, use bullet format and ensure objective is practical for a 9 month project) | Our business objective is to extend, through innovation, our financial guidance capability by leveraging gamification and data techniques to help our customers plan for and ultimately achieve their financial goals.  We would like the student team to use the Lean Startup approach to continually solicit user input and refine the solution as the project develops. |
| **Project Illustration (Optional)**  Include websites, videos, diagrams or images to help students understand your project | We have a broad set of financial guidance tools currently available to our customers and non-customers. Examples can be found here <http://personal.fidelity.com/planning/retirement/investment_overview.shtml> [Please note that in order to access some of these tools, the students will have to register on the site.] |
| **Open or Closed Model – Please check one:**  Open Model (Public collaborative and may use university lab equipment) or Closed Model (Virtual internship, private, with faculty liaison)\* Please list the necessary equipment, software or data that is needed and will be provided to the team. | Please select one and clearly outline what, if any, resources will be provided:  ✓✓ Open Model/Public collaborative  **Tools and Equipment that will be provided include:** At this time, we don’t think specialty tools and equipment are needed.  Closed Model/Virtual internship  **Tools and Equipment that will be provided include:** |
| **Ideal Team Size**  (We prefer teams of 4 students, unless otherwise specified) | 4 students |
| **Departments Accepted**  (Choose from CEE, EECS, IEOR, ME, MSE, NE. Indicate ideal team makeup and technical concentrations desired, i.e.  “1 CEE ; 1 EECS; 2 IEOR”) | *Please indicate your ideal team makeup by specifying the technical concentrations desired.* BIOE= Bioengineering General Program; CEE = Civil & Environmental Engineering; EECS = Electrical Engineering & Computer Science; IEOR = Industrial Engineering & Operations Research; MSE = Materials Science & Engineering; ME = Mechanical Engineering; NE = Nuclear Engineering  We prefer EECS students who can help code the prototype. But recognizing their availability might be limited, we also welcome students with broad system thinking. E.g. A team with 2 EECS and 2 IEOR |
| **Specific Skills Required**  (i.e. *C/C++/C#, Python ,CAD, Robot Kinematics, MATLAB, Excel Financial Modeling, etc.*)  The more detail provided here the better team match you will receive. | We think students with the skills and knowledge in, and/or aptitude to learn the following subjects would be most helpful   * Game mechanics * Analytics [e.g. R] & data visualization [e.g. D3] |
| **Coursework**  (Indicate any recommended/required prerequisite/co-requisite classes) | * General interest in financial services |
| **Industry Advisor(s)**  **Name, Email, Phone Number** \*If this is a closed model an Industry Point Person from your organization is required for the duration of the project and must be available to advise the team on a regular basis and provide all necessary resources | Lisa Szturma  SVP, Advisory Solutions Technology  lisa.szturma@fmr.com  617-563-4790 |
| **Faculty Advisor(s) or Academic Liaison**  **Name, Department, and Email** \*If this is an open model the Faculty Advisor or Academic Liaison is the primary party responsible for the advising and guidance of the capstone team, including providing all the necessary resources | [Berkeley to advise] |