Many companies are using data as the core enabler for their business and for many it is the fundamental economic value of the company behind the service they provide. This course focuses on topics relevant understanding and building these types of high-growth companies. How do you create a data driven start-up? What are the fundamentals of building a data driven firm? How can the value of a firms data assets be maximized. What are the differences between an idea and true opportunity? How does an entrepreneur form a team and gather the resources necessary to create an enterprise? This class focuses on team projects, in-depth case studies, research on the entrepreneurial process, and the opportunity to network and ask questions of top entrepreneurs and venture capitalists. For MS engineering students who seek to understand the formation and growth of high-impact technology driven start-ups.

Course Objective

This course introduces the fundamentals of data-driven entrepreneurship. You will learn the process that data-driven entrepreneurs use to start companies. It involves taking a technology idea and finding a high-potential commercial opportunity, gathering resources such as talent and capital, figuring out how to sell and market the idea, and managing rapid growth.

This class demonstrates the entrepreneurial mind set ... when others see insurmountable problems, people look for opportunities in technology and business solutions. An entrepreneurial perspective is also a wonderful way of thinking in order to tackle new opportunities in today’s innovative market place.

Who is this Course For?

This course is designed for engineering students who seek to understand what the entrepreneurial mindset and its key processes are about. Topics introduced in this course are relevant for future founders of enterprises, as well as the future employees of an independent or corporate startup.

How Do We Teach this Course?

Curriculum is delivered through case studies, lectures, workshops, and projects that cover high-growth ventures in information technology, electronics, life sciences, green technology and other industries, this course provides the student with the tools necessary to successfully identify a true business opportunity and to start, grow and maintain a technology enterprise.

At the highest level, you should come away from the class with solid answers to the following questions:

- What are the characteristics of a successful entrepreneur?
- What is the nature of an entrepreneurial career?
- Where do ideas come from?
- How do you distinguish ideas from real opportunities?
- Which opportunities are aligned with a data driven strategy?
- What is the right strategy for managing entrepreneurial projects?
- What are the characteristics of a winning business model?
- How does the entrepreneur manage risk?
- Is an entrepreneurial career right for you?

You should also develop skills in the following areas:

- Using the business model canvas and hypothesis development to identify and refine the core elements of your business and identify opportunities to use data to optimize and monetize the value stream
- Using data to drive business interaction, direction, and extracting economic value from that data
- Using the customer development process to solicit the earliest possible customer feedback to your value proposition and the compelling (or not) nature of your business idea.
- Calculating breakeven, cash flow, and key financial metrics.
- Knowing how to identify early customers to gain and embrace their feedback.
- Understanding the different sources of financing and when each one is appropriate.
- Determining the value of new businesses at various stages of development.
- Learning how to pitch your idea.