



Entrepreneurship for Engineers Course Description

Entrepreneurship for Engineers (EGN6640) introduces Gator Engineers to the concepts and practices of technology entrepreneurial thinking and entrepreneurial actions. Using lectures, case studies, business plans, guest lectures, and student presentations, the course teaches life skills in entrepreneurial thought and action that students can utilize in starting technology companies or executing R&D projects in large companies.

Entrepreneurs have started new ventures for generations. Success was more a function of tenacity and a measure of the idea underpinning the business. Errors in the structure and early conduct of the enterprise could be overcome with time through learning. In the new paradigm, tolerance for such errors is acutely narrow. Competition has become intense, technology-based, market-focused and highly competent. In such a competitive environment the lack or misuse of the application of currently available technology to the structure and conduct of a new business could quickly spell its demise. Similarly, the inability to adapt the enterprise to the emergence of new technologies to make it market-driven and structure-perfect could have the same effect. In summary, competition is just too tough; the end could come quickly.

An entrepreneurial orientation – and mindset – is the common denominator among successful enterprises in this new paradigm. The elements that are frequently crucial to successful competition include a team approach to focusing on enterprise value rather than individual recognition; structuring an environment that promotes seeking and exploiting opportunities rather than recognizing and solving problems; conceptualizing and committing to new markets rather than being constrained by traditional boundaries; and balancing intelligent risk and the opportunity for rapid advancement.

Organizational size neither offers a safe harbor nor reflects increased risk. Nascent ventures exist either as a new, small business or as an element of a large organization. Large companies have become competitive in this new paradigm by redefining their cultures and embracing an entrepreneurial mindset. Decision-making has been shifted downward in these companies to encourage quick reaction to market opportunities.

Every student who embarks on a career in the 21st century is faced with navigating these new realities, whether with a big company, small company, new company or old company. The goal of Engineering Entrepreneurship and Entrepreneurship for Engineers is to provide students the information necessary to understand the entrepreneurial approach to business and the insight needed to acquire the tools to function effectively and successfully today and tomorrow.

Students explore the entrepreneurial mindset and culture that has been developing in companies of all sizes and industries for decades. Students will examine the entrepreneurial process from the generation of creative ideas to exploring feasibility to creation of an enterprise for implementation of the ideas; they will experience the dynamics of participating on a business team and the power inherent in a team relative to individual effort. Students will create and present a business plan (Business Model Canvas) for a technology-centric idea; they will be provided with the professional tools, creative competence, and life skills to participate in the entrepreneurial process within a large company, in a new venture, or as an innovator in companies – both large and small.

Student Learning Outcomes include, but are not limited to:

- Successfully functioning on multidisciplinary teams;
- Understanding their professional and ethical responsibilities;
- Knowing how to communicate effectively and persuasively;
- Recognizing the impact engineering has on global, economic, environmental, and societal issues;
- Becoming more aware and knowledgeable of contemporary issues.
- Identifying their personal learning goals and determining ways to measure the progress made in achieving these goals.
- Thinking critically and stepping out of one's comfort zone(s) to explore new entrepreneurial concepts.
- Becoming familiar with best practices methods for achieving successful entrepreneurial outcomes.
- Applying best practices in the workplace – and beyond – in changing the world.

In completing Entrepreneurship for Engineers, students will have acquired the skills needed to conceive and start companies. Students will have developed their own methods for thinking and acting with an entrepreneurial mindset. And students will have studied – and learned to apply effectively – the best practices used by successful entrepreneurs and industry leading intrapreneurs.

The course is offered in the summer “C” semester and is taught by David Whitney, Assistant Director of the Engineering Innovation Institute. Professor Whitney is an experienced entrepreneur and investor; his hands-on approach in teaching draws upon proven strategies and tactics for accelerating entrepreneurial ventures. Professor Whitney helps working professionals develop and advance problem-solving products, services, and work processes; he advises them on the best way to commercialize technologies and to create, launch, and operate sustainably profitable ventures.

Please send requests for additional information on Entrepreneurship for Engineers to Professor Whitney at dwhitney@ufl.edu.