Thomas R. Nickoloff Entrepreneurship & Innovation Faculty Fellowship Program

Detailed Program:

Our goal is to create the Thomas R. Nickoloff Entrepreneurship & Innovation Faculty Fellowship Program, which will provide focused and strategic involvement from key faculty, allowing Mines to establish an active, collaborative network of colleagues who are informed and enthusiastic about integrating an entrepreneurial mindset into their teaching and research. Tom Nickoloff has donated funds to the Center for Entrepreneurship and Innovation to create the first cohort of this Faculty Fellowship program and hope to fund it in subsequent years, if it proves valuable.

The overall objective of this program is to:

- Recruit key faculty as “Thomas R. Nickoloff Entrepreneurship & Innovation Faculty Fellows,” who would then act as catalysts for the incorporation of Entrepreneurial Engineering concepts and principles with the help of our new partner, the Kern Entrepreneurial Engineering Network (KEEN, https://engineeringunleashed.com/).
- Provide students with a new way of problem solving—entrepreneurial mindset using KEEN principles and content, either already existing or created for specific courses introduced by Nickoloff Entrepreneurial Faculty Fellows.
- Provide enough basic material in a highly interactive format so both faculty and students understand the key processes and techniques of entrepreneurial thinking.

Program goals, expectations, milestones and success metrics:

Faculty Entrepreneurship Bootcamp (July 16 – Aug 3):

A 3-week “Entrepreneurial Bootcamp” will consist of workshops and seminars from entrepreneurs from both large companies and small start-ups together with enough basic material in the areas of teaming and leadership, strategy and management, market and market research, intellectual property, finance, production, oral presentations and funding so that the Faculty Fellows can become entrepreneurial thinkers. Additional time focuses on active discussions, team activities and creating the core capabilities in entrepreneurial thinking that will produce new content for entrepreneurially minded students and graduates.

E&I Faculty Fellows Goals and Performance Metrics:

1. Nickoloff E&I Fellow will attend a summer workshop entitled “Faculty Entrepreneurship Bootcamp” and will present an Elevator Pitch associated with their team’s project developed during the bootcamp.
2. Nickoloff E&I Fellow will present a Lessons Learned presentation outlining the key learning objectives obtained with their team’s project developed during the bootcamp.
3. Nickoloff E&I Fellow will attend at least 1 KEEN ICE Workshop to learn the process of integrating entrepreneurial content into an established curriculum.
4. Nickoloff E&I Fellow will prepare at least one module for deployment within their academic curriculum that demonstrates key entrepreneurial principles. Modules will be developed in consultation with E&I Center staff and KEEN and will be reviewed prior to dissemination. Modules developed in this program may be deployed by other KEEN-affiliated universities.
5. Nickoloff E&I Fellows will teach the deployed modules in their normal courses, and possibly work with KEEN for dissemination of the module throughout the network.

E&I Host Department Goals and Performance Metrics:

1. Each Department that receives E&I Fellows agrees to highlight E&I activities, allow and encourage faculty, staff and students to participate in such activities (both curricular and extracurricular) and support the development of E&I programs.

2. Each Department that receives E&I Fellows agrees to hold at least one departmental event annually that features E&I content, whether it is a seminar, workshop, competition or host an external E&I speaker.

3. Each Department Head so involved agrees to encourage participation of their faculty in E&I programs and to highlight such performance in faculty performance reviews and reward faculty for their participation in such events.

Program Sustainability and Success Metrics:

Our goal is to create an Entrepreneurial & Innovation Faculty Fellowship program that will provide focused and strategic involvement from key faculty, allowing Mines to establish an active, collaborative network of colleagues who are informed and enthusiastic about integrating an entrepreneurial mindset into their teaching and research.

E&I Center Goals for Faculty E&I Participation:

1. Our primary goal is to create a set of faculty to serve as Entrepreneurial Catalysts within each department at Mines; therefore, we hope to include a minimum of 10% of the active faculty (roughly 30 teaching and tenure-track faculty) at first. At six faculty per cohort, this will require roughly 5 years for saturation.

2. Our secondary goal is to incorporate entrepreneurial thinking content into all academic curricula offered to undergraduates by the university. We can accomplish this in two ways:
   a. Cross disciplinary courses: Courses like EPICS 151 (Cornerstone) are required for all Mines undergraduates and are taught by one program (currently, EDS, Engineering Design for Society). These courses are taught primarily by Adjunct Faculty who already have entrepreneurial experience, and we will provide additional content and train these faculty to teach entrepreneurial thinking (co-ordinated thru Prof. Leslie Light, course director).
   b. Discipline-specific courses: Since this content is primarily regulated by departments, if we include 2 departments per cohort, we will reach ten departments if five years. While this is not 100% participation, it should reach >95% of the undergraduate student population within 5 years.

3. Our tertiary goal is to identify entrepreneurial research faculty, postdocs and graduate students who are interested in identifying and promoting commercialization of unique research ideas. Initially, this can be accomplished using existing NSF i-Corps (or NREL Lab-Corps) and DoD H4D (Hacking for Defense) programs. We have been selected as a site for H4D deployment beginning in January, 2019 and Prof. Sid Saleh has been trained as an H4D instructor. We are working with the VPRTT (Stefanie Tomkins) and the Alumni Association to encourage faculty and alumni to participate in these programs.