Engineering Entrepreneurship
EGN4641 – Section GEN1
Class Periods: Tuesday, Periods 5-6, 11:45 am – 1:40 pm
Location: Wert 360
Academic Term: Fall 2025

Instructor:
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Office location: Wertheim 380
Office hours: Wednesdays 1:00 pm – 3:00 pm

Course Communication
The instructor will send out all communication through Canvas. All students will be held responsible for any information disseminated through the course website or spoken in class. General course questions, questions about grades, or personal issues must be sent within Canvas. You are welcome to set up an appointment to talk with the instructor as needed. If you have an issue or need help, don't wait to ask about it. Problems are generally easier to solve sooner rather than later.

Course Mentor:
Tomas (Tommy) Duque
Please contact the Course Mentor through the Canvas website

Course Description
Engineering Entrepreneurship introduces engineering students to the concepts and practices of technological entrepreneurial thinking and entrepreneurship. Using lectures, case studies, business plans, 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.

Course Pre-Requisites / Co-Requisites
EGN4641 – Junior/Senior Standing (Some exceptions may be granted)

Course Objectives
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.

Organizational size neither offers a safe harbor nor increased risk. New 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 to one of entrepreneurial thinking in large companies – termed by many as "intrapreneurship."

Every student that plans a career, therefore, will face the need to negotiate these new realities, whether through a big company, small company, new company or old. The goal of this course is to provide the background necessary to

understand the entrepreneurial approach to technology businesses and the tools required to function effectively in that environment.

The Student Learning Objectives and how those objectives will be accomplished include:

- Students will gain and demonstrate an understanding of the entrepreneurial thought process as applied to organizations ranging from startup to large, multinational companies through exercises that test the students' proficiency in the key skills sets associated with starting and building technology-based entrepreneurial ventures.
- Students will learn and demonstrate their understanding of the key attributes of technology entrepreneurs and the organizations they start and lead through team projects that mimic real world entrepreneurship.
- Students will learn to function and thrive in multidisciplinary team environments while creating measurable value in meeting the needs of myriad stakeholders through team-based projects to create and promote a technology entrepreneurial venture.

Materials and Supply Fees
None

Professional Component (ABET): **N/A**

Relation to Program Outcomes (ABET): **N/A**

Required Textbooks and Software

Business Model Generation, Osterwalder & Pigneur, ISBN: 978-0470-87641-1, Wiley & Sons, 2010

Value Proposition Design, Osterwalder, Pigneur, Bernarda, & Smith, ISBN: 978-1-118-96805-5, Wiley & Sons, 2014

Students should also expect to have reading and viewing (e.g. video) assignments from current events related to the course topics that will be posted in the Canvas course website.

Recommended Materials

The Startup Owner's Manual: The Step-by-Step Guide for Building a Great Company, Steve Blank and Bob Dorf, K&S Ranch Publishers, 2012, ISBN-13: 978-0-9849993-0-9.

Course Schedule

The course will be delivered weekly in a "Flipped Classroom" modality. Weekly lectures typically consisting of overviews of the weekly topics by the instructor will be pre-recorded and should be viewed prior to the scheduled class periods. Scheduled class periods will be utilized for activities, student teamwork, and team presentations. Sessions may also include guest speakers that exemplify technology entrepreneurship. Students should be prepared to bring their laptops to the class for participation in class activities.

The course is firmly presented in a "real-world" format, including students taking the roles of company founders and investors, creating a vision and execution plan for their company, and raising funds – exactly as they would in a true entrepreneurial endeavor.

The course consists of three main modules. The expected topics and/or activities to be covered each week in the course modules are summarized below. The actual weekly outline of topics and activities is subject to change from that indicated below at the course instructor's discretion and will be reflected in the updated course schedule that students will have access to via the Canvas course website. The finalized course schedule will include weekly topics, reading requirements, assignment due dates, and dates for other course activities. The course is delivered along the following outline of major course modules:

I. Introduction to Entrepreneurship – Introduction to Technology Entrepreneurship and Technology Ventures, Attributes and Myths of Technology Entrepreneurs, Engineers as Entrepreneurs, Mindset of the Entrepreneurial Leader, Value Proposition Introduction.
II. Idea Generation and Feasibility Analysis – Entrepreneurial Idea Generation and Feasibility Analysis, Technology Commercialization Potential, Paths and Barriers from Idea to Market, Creating and Selling the Entrepreneurial Value Proposition, Assessing and Presenting the Opportunity.
III. Business Planning and Execution – Business Structuring and Strategy, Business Model Canvas design, Business planning and the Business Plan, Financial Analysis and Projections; Market and Competitive Analysis, Presentation of the Opportunity, Intellectual Property Strategies for Technology Companies; Marketing, Sales and Distribution Strategies, Investment and Financial Strategies, Venture Growth and Value Harvesting.

Attendance Policy, Class Expectations, and Make-Up Policy

Attendance is mandatory for on-campus students, and all students are expected to fully participate in each class during the semester. Students should be prepared to bring their laptops to the class for participation in class activities.

For known excused absences, such as interviews, special curricular activities, and religious holidays, etc., a valid notification must be submitted to the Canvas Excused Absence Notification/Documentation assignment prior to the class period that will be missed. For emergency excused absences a valid reason must be submitted within 24 hours of the end of the missed class period.

If a student misses a class, it is the student's responsibility to find out from their classmates, the class website, or the instructor what material was covered, what additional assignments were made, and to obtain any handouts he/she may have missed.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies. Click here to read the university attendance policies: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/.

Except in rare circumstances at the sole discretion of the instructor subject to the policies of the undergraduate catalog (https://catalog.ufl.edu/ugrad/current) 1) assignments must be submitted via Canvas by the stated deadline, 2) late submissions may be accepted but with a points penalty 3) no credit will be given for partial assignment submissions, and 4) no-make-up assignments will be accepted.

AI Policy

If you choose to use Generative AI to complete any of your work in this class, please note the guidelines below that must be followed.

Be aware of the limits of Generative AI:

- The results you get are very dependent on the prompts you use and how well you define those prompts. If you want to get good outcomes, you need to work to refine your prompts to achieve the best results.
- Remember that numbers and facts you may get when using Generative AI could be completely wrong. Unless you can independently confirm the results through another source, do not trust that they are correct. You will be responsible for any incorrect numbers or facts you get from the tool.
- Generative AI is a tool and as such you must acknowledge that you used it in completing any work for the class. You must include a paragraph at the end of any assignment in which you used Generative AI explaining how you used it and what prompts you used to get the results. Failure to do so may be considered a violation of academic honesty policy.
- Be thoughtful about how you use this tool and don't use it when it is not appropriate for the case or circumstance.

Evaluation of Grades

The course will be organized around lectures, readings, class discussion and a team project. All students, including EDGE students, are required to work in teams. All students will organize into teams for the purpose of developing a venture idea into an early-stage business pitch and presenting that pitch. The deliverables for each team will be individual elements, a pitch presentation of the business opportunity to the class, and a Business Opportunity Summary document.

Grades will be assigned as follows:

Assignments - Undergraduate	**Assignment type**	**Total Points**	**% of Final Grade**
Student Biography and Discussion Post	Individual for all students	40	4%
Information for Team Formation**	Individual for all students	---	---
In-class Team Meeting Attendance (11 @5 points each)*	Team for all students*	55	6%
Experiential Learning Reflections (3 @15 points each)	Individual for all students	45	5%
Precedents Thinking Assignment	Individual for all students	15	2%
Team Problem-Solution Proposals	Team for all students	100	10%
Team Value Proposition Canvas Assignment	Team for all students	100	10%
Competitor Analysis	Team for all students	50	5%
Value Proposition Presentation	Team for all students	100	10%
Value Proposition Feedback Response	Team for all students	25	3%
Mid-Term Team Member Participation**	Individual for all students	---	---
Company Cap Table Submission - Seed Round**	Team for all students	---	---
Business Model Canvas Presentation	Team for all students	60	6%
Business Model Canvas - Interview Summary	Team for all students	40	4%
Business Model Canvas Feedback Response	Team for all students	25	3%
Company Cap Table Submission - Series A Round**	Team for all students	---	---
Company Financials Analysis	Team for all students	100	10%
Business Pitch Presentation	Team for all students	100	10%
Final Team Member Participation**	Individual for all students	---	---
Business Opportunity Summary	Team for all students	100	10%
Total Points Possible		955	100%

*Individual if any team member is not in attendance.

**May result in negative points if not completed.

All students will complete evaluations of their own and each of their team members participation/contribution to team assignments twice during the semester (Mid-Term and Final). Rankings and comments will be used to assess each student's contributions and if, in the sole discretion of the instructor, a student is not contributing acceptably to his/her team, the instructor reserves the right to lower an individual student's grade for any and all team assignments to a degree that the instructor in his/her sole discretion feels appropriate to reflect the lack of contribution of the student to team assignment(s).

Grading Policy

For all students, final course grades will be determined by dividing the number of points that the student has earned by the Total Points Possible for all assignments as given above (student total weighted class score) and applying the following Grading Scale:

Percent	**Grade**	**Grade Pts**
93.4 - 100	A	4.00
90.0 - 93.3	A-	3.67
86.7 - 89.9	B+	3.33

83.4 - 86.6	B	3.00
80.0 - 83.3	B-	2.67
76.7 - 79.9	C+	2.33
73.4 - 76.6	C	2.00
70.0 - 73.3	C-	1.67
66.7 - 69.9	D+	1.33
63.4 - 66.6	D	1.00
60.0 - 63.3	D-	0.67
0 - 59.9	E	0.00

Academic Policies and Resources

To support consistent and accessible communication of university-wide student resources, please refer to the academic policies and campus resources provided at this link: https://go.ufl.edu/syllabuspolicies.

Commitment to a Safe and Inclusive Learning Environment

The Herbert Wertheim College of Engineering values varied perspectives and lived experiences within our community and is committed to supporting the University's core values. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- HWCOE Human Resources, 352-392-0904, student-support-hr@eng.ufl.edu
- Pam Dickrell, Associate Dean of Student Affairs, 352-392-2177, pld@ufl.edu