

DRAFT SYLLABUS

Engineering Entrepreneurship (EGN4641) Entrepreneurship for Engineers (EGN6640) Advanced Section

Instructor:

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Teaching Assistant (Grading Only):

Contact through Canvas: TBA

Course Description

This course 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.

Note that this section is an advanced version of the course (EGN4641 and EGN6640). Registration is by application only and with instructor approval to assure student preparedness for this advanced section. The primary differences from the normal sections are that all students must have taken Engineering Innovation (EGN4643 or EGN6642) with a final grade of B or better, or be actively pursuing a startup venture with a drafted pitch deck as approved by the instructor. This course offers a deeper dive into the real-world process of launching and growing a company.

- As such all students will have already learned about and demonstrated proficiency in, either through the Engineering Innovation pre-requisite course or through their own startup venture activities, Innovation Types, Methods & Methodologies; Design Thinking; Problem Identification and Discovery; Needs Statement Development; Ethnographic/Market Research; Stakeholder Landscape Analysis; Ideation & Creativity; Developing an Innovator's Mindset; Brainstorming; Innovation Strategies and Tactics; Engineering Specifications; Prototyping and Assumptions Testing; Intellectual Property Basics; Competitors vs Strategic Partners; Feasibility, and Execution strategy.
- All students will have already conceived and created an Innovation Playbook or an equivalent venture pitch deck for a vetted innovative idea upon which a company might be built. Student teams will self-select one of these ideas upon which to more deeply explore entrepreneurial company creation in this course.
- Having already completed the creative ideation and innovation work in Engineering Innovation or equivalent, time in this course will instead be transferred to diving deeper into the real-world details of company formation and growth (e.g., recruiting a team, creating boards of advisors and directors, bootstrapping, angel network and venture capital investment details, government funding programs, company growth strategies, gaining market traction, company acquisition strategies).

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.

Every student will face the need to negotiate these 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.

Course Pre-Requisite

Engineering Innovation (EGN4643 or EGN6642) with a final grade of B or better, or be actively pursuing a startup venture with a drafted pitch deck as approved by the instructor.

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 in class.

General course questions, including questions about grades, must be sent to the instructor within Canvas. Questions or concerns of this nature sent to the instructor outside of Canvas may not be answered.

You are welcome to set up an appointment to speak 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.

Materials and Supply Fees: None

Professional Component and Relation to Program Outcomes (ABET): N/A

Required Textbooks and Software

Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers,
Osterwalder & Pigneur, ISBN: 978-0-470-87641-1, Wiley & Sons, 2010.

Students will also 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 or through Canvas messages / announcements.

Course Schedule

The course will be delivered weekly in a hybrid “Flipped Classroom” modality wherein some of the lecture materials will be delivered on-line between classes mixed with live, in-class lectures. Weekly lectures typically consisting of overviews of the weekly topics by the instructor may be pre-recorded and, if so, must be viewed prior to the scheduled class periods. Scheduled class periods will typically be utilized for lectures and discussions, activities, student teamwork, and student 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 is delivered along the following outline of major course modules. The actual weekly outline of topics and activities is subject to change from that indicated below to optimize learning 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.

1. Course Introduction and Student Introduction and Project Descriptions
2. Tech. Entrepreneurship Basics; Opportunity Global Feasibility Analysis
3. Launching the Company; Business Model Canvas (BMC)
4. BMC and Deep Dive Product-Market Fit; Effective Investor Presentations
5. Seed Stage Capital Round - BMC and Deep-Dive Product-Market Fit Investor Presentation
6. Go-to-Market Plan
7. Entrepreneurial Financials
8. Fundraising Strategies
9. Intellectual Property Basics and Business Strategy
10. Series A Capital Round - Go-to-Market Investor Presentations
11. Engineering Student Entrepreneurs
12. Scaling and Market Penetration; Liquidation and Value Harvesting
13. Final Investor Presentations

Attendance Policy, Class Expectations, and Make-Up Policy

Attendance is mandatory and all students are expected to fully participate in class activities during the semester, except in cases where absence or tardiness are excused per the policy below, or in cases where attendance for a class is not taken (e.g., Modules 1-2 and 13):

- Students who arrive for class on time, fully participate in weekly class discussions and activities, are not cited by the Instructor or Grader for disruption or not paying attention in class (e.g., excessive talking, reviewing or working on non-class materials or information including on cell phones, laptops, etc. during class time, not paying full attention to guest speakers), will receive 10 points credit for that weekly class attendance.

- Students who arrive up to 10 minutes late for class and participate for the rest of the class per above will receive 5 points credit for that weekly class attendance.
- Students who arrive over 10 minutes late for class or are cited by the Instructor or Grader for disruption or not paying attention in class will receive 0 points credit for that weekly class attendance, and may be asked to leave the classroom.
- It is the student's responsibility to check their weekly attendance grade and contest any perceived discrepancy by written message through Canvas to the Instructor and Grader within 24 hours of the posting of the grade in question. No challenges to a student's weekly attendance grade will be accepted after 24 hours.
- If the instructor sees a pattern during the semester of unexcused absences or tardiness for a particular student, the instructor reserves the right to lower an individual student's grade for any and all team assignments, or the final course grade, to a degree that the instructor in his/her sole discretion feels appropriate to reflect the lack of timely class attendance and participation.

For known excused absences or tardiness requests, such as interviews, special curricular activities, and religious holidays, etc., a valid notification must be submitted to the Attendance and Tardiness Excuse Requests 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. The university attendance policies for undergraduate and graduate students respectively are available at <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/> and <https://gradcatalog.ufl.edu/graduate/regulations/>.

Assignment Submission Policy

It is the student's sole responsibility to be aware of all assignment deadlines.

Except in rare circumstances at the sole discretion of the instructor subject to the policies of the undergraduate or graduate student catalog as appropriate 1) assignments must be submitted via Canvas by the stated deadline, 2) late submissions will not be accepted, 3) no credit will be given for partial or late assignment submissions, and 4) no-make-up assignments will be accepted.

Evaluation of Grades

The course will be organized around lectures, readings, class discussion and a team project. All students are required to work in teams. All students will organize into teams for the purpose of developing a venture idea from an Engineering Innovation Course Playbook (or other source with pre-approval of the instructor) into an early-stage business plan and presenting that plan.

Grades will be assigned as follows:

Assignment	Points Possible
Student and Project Background Information – Individual	0
Team Formation	0
Team Bylaws	0
Go-forward Execution Plan	0
BMC and Deep Dive Product-Market Fit Investor Presentation	100
Seed Stage Company Cap Table Submission	10
Seed Stage Capital Round - Company Response to Student Feedback	10
Go-to-Market Plan	100
Company Financials Analysis	100
Go-to-Market Investor Presentation	100
Series A Company Cap Table Submission	10
Series A Capital Round - Company Response to Student Feedback	10
Final Investor Presentation	100
Stakeholder Interviews	100
Written Business Plan Summary	100
Performance against Execution Plan (10) – Individual	100
Attendance – Individual	100
Experiential Learns (3) – Individual	60
Grad Students Only – Entrepreneurial Failure Analysis - Individual	100
Total	Undergrad 1,000 Grad 1,100

Note: Assignments are team-based unless indicated as “Individual” above.

Questions about grades on assignments must be submitted through Canvas to the instructor within one week of students receiving their grades for a specific assignment. After that deadline, grades are considered final and uncontestable.

All students will complete weekly evaluations of their own and each of their team members participation / contribution to team assignments during the semester. Comments will be used to assess each student’s contributions and if, in the sole discretion of the instructor, a student is not contributing equitably to his/her team, the instructor reserves the right to lower an individual student’s grade for any and all team assignments, or the final course grade, 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

More information on UF grading policy may be found at the undergraduate or graduate catalogue as appropriate:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

<https://gradcatalog.ufl.edu/graduate/regulations/>

Acceptable AI Use Policy

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

Be aware of the limits of 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.
- Numbers and facts you may get when using 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.
- 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 AI explaining how you used it and what prompts you used to get the results. Failure to do so will be considered a violation of the UF 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.

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

In-Class Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>) specifies a number of

behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

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, including the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information, and veteran status.

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
- Associate Dean of Student Affairs, 352-392-6000
- Associate Dean of Academic Affairs, 352-392-6000

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

Campus Resources:

- *U Matter, We Care:* If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit [U Matter, We Care website](#) to refer or report a concern and a team member will reach out to the student in distress.
- *Counseling and Wellness Center:* [Visit the Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.
- *Student Health Care Center:* Call 352-392-1161 for 24/7 information to help you find the care you need, or [visit the Student Health Care Center website](#).
- *University Police Department:* [Visit UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).
- *UF Health Shands Emergency Room / Trauma Center:* For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website](#).

- *GatorWell Health Promotion Services*: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit [GatorWell website](#) or call 352-273-4450.
- *E-learning technical support*: Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- *Career Connections Center*: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- *Library Support*: Receive assistance with respect to using the libraries or finding resources.
- *Teaching Center*: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.
- *Writing Studio*: 2215 Turlington, 352-846-1138. Help brainstorming, formatting, writing papers.
- Student Complaints Campus: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>; <https://care.dso.ufl.edu>.
- On-Line Students Complaints: <https://distance.ufl.edu/getting-help/>; [https://distance.ufl.edu/state- authorization-status/#student-complaint](https://distance.ufl.edu/state-authorization-status/#student-complaint).