

**Innovating for Defense Section of
Engineering Entrepreneurship (EGN4641 and EGN6640)
Fall 2025**

Instructor:

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Course Description:

Innovating for Defense (I4D) is a credit-bearing university class that uses the proven, successful Lean Launchpad methodologies. I4D student teams utilize these methodologies to address critical Department of Defense (DoD) and Intelligence Community (IC) problems that have been submitted by various sponsoring organizations.

Learning Objectives:

Through active engagement with and successful completion of this course, students will be able to:

- Demonstrate an understanding of and the ability to apply the I4D method, rooted in Lean LaunchPad principles.
- Develop a strong understanding of the national security and defense domain.
- Develop and apply the following future workforce skills: Complex problem-solving, Critical thinking, Persuasive communications and presentations, Creativity, Collaboration and teamwork, Judgment and decision-making, Cognitive flexibility, Building professional networks.
- Develop and apply the following research skills: Prototyping, Market research, Qualitative interviews, Qualitative data analysis, White Paper drafting, Implementing a research plan.

Course Pre-Requisites/Co-Requisites:

None

Course Objectives:

- Create a generation of empowered and skilled university students eager to solve national security and defense problems.
- Build ecosystems around generating real solutions to national security and defense problems.
- Increase student familiarity with the work of the United States Defense and Intelligence Communities.
- Provide hands-on entrepreneurial thinking and action training using Lean LaunchPad methodologies to solve real-world problems.

Material and Supply Fees:

Not applicable

Required Texts:

- Decker, Jeff; Blank, Steve; & Felter, Joseph (2024). *The Hacking for Defense Manual*. Independently published. ISBN-13: 979-8334614857.

Supplementary Reading (Voluntary):

- Osterwalder, A., & Pigneur, Y. (2010). *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers (The Strategyzer series)*. John Wiley and Sons.

Course Electronic Materials:

- Electronic materials and tools are made available to the student on the course Canvas site under Resources. Students should review and make use of these.
- One person from each team should register for Canvanizer (<https://canvanizer.com>) which will be used to create and update your Mission Model Canvas during the semester. While a free demo version is available, the instructor strongly suggests each team register for one Canvanizer Startup account per team (currently \$25 one-time payment per team) as this will save many hours of Canvas preparation time. One team account can be used by all members collaboratively so each member will not need their own account to work together on your Canvases during the semester

Course Schedule and Structure:

Monday, Periods 5 & 6

Location: WERT 360

Students are expected to hit the ground running and to adjust schedules to avoid conflicts with the class. Students should begin the course having read background material on all problem statements. Students must come to the course prepared, having reviewed the entire syllabus, and must read or view the material and lectures as assigned and/or in the course Canvas page.

The course schedule will be updated in Canvas and is subject to change and students should regularly check the course Canvas page for updates to the schedule.

The course material has been divided into 10 Modules. The intention is that the instructor may spend more or less time on a given Module as appropriate for a specific class while following a standard chronology and progression.

The key Modules and chronology of the Innovating for Defense course are detailed in the course Canvas site and are:

- Course Overview
- Module 1: Mission Model Canvas
- Module 2: Beneficiaries

- Module 3: Value Propositions
- Module 4: Mission Achievement
- Module 5: Solution-Mission Fit
- Module 6: Buy-in & Support
- Module 7: Deployment
- Module 8: Key Activities
- Module 9: Key Resources
- Module 10: Key Partners
- Module 11: Mission Budget/Cost
- Module 12: Final Presentations

Most class sessions follow the same format. The first portion of the class session is devoted to student presentations and/or discussion that reflect the information presented in the previous week/class lecture and updates on the progress the teams are making in their projects to reflect the previous weeks learnings. During the second portion of class, students will be introduced to a new topic from the Innovating for Defense curriculum.

The Course uses the “flipped classroom model” utilizing the Engineering Innovation Institute state-of-the-art Innovation Studio (WERT360). The Innovation Studio is a Flipped Classroom enabling an education model to introduce students to course content lecture material between scheduled class meeting times. Classroom time is used to deepen the students’ understanding of the student teams’ problem through problem-solving activities and discussions facilitated by the instructor. The student team’s “problem” is a scoped national security and/or defense problem statement written by the government problem sponsor and validated before being presented to the student. The problems are real DoD / IC challenges – not theoretical exercises.

I4D students primarily learn by doing rather than just listening to lectures, etc. The course teaches students to apply skills while working on a real-world problem. The program does this by:

- Teaching the Lean LaunchPad entrepreneurship methodology in the form of online lectures, podcasts, articles, blogs, and videos.
- Applying the model to the team’s government problem by each team engaging in 50-100 interviews (or equivalent activities with instructor permission) with myriad stakeholders outside of the classroom. The final required interview count is at the discretion of the instructor.
- Using class time for teams to present and/or discuss the results of applying concepts to their defense problem. Instruction is in the form of feedback from the instructor and peers to provide course corrections, either in their understanding of the model concept or to their problem specifically.

By using the flipped classroom model, student presentations are focused on feedback and discussion. This in-class discussion draws generalizable learning points from the specifics of each live case. These learning points are summarized and tied together to form the backbone of the pedagogical framework. Meaning, the Lean LaunchPad method draws its general framework from the specific experiences of the students. Discovery (the

student team's weekly stakeholder/beneficiary interviews) becomes the core learning process in this approach. I4D emphasizes experiential learning as the paradigm to engage the students in testing the hypotheses of their models.

I4D enables a continuous feedback loop between the instructor and students as a way to simulate the intensity of a start-up and encourage and challenge students to test their own hypotheses verbally. It is a crucial part of the course. The continuous feedback loop is an open, direct conversation between the instructor and student teams in front of the class. The instructor initiates feedback by asking student teams to elaborate on their methods. The instructor then follows up with questions that will contribute to the development of their solution. The discussion is not a one-sided weekly verbal assessment. Instead, the feedback is an interactive discovery of the student team's thinking and a way to guide without being prescriptive or directive.

Assignments

Four types of Assignments will determine the students' course grade:

1. Team Beneficiary Interviews – Each Student Team must arrange and conduct 50-100 Beneficiary (typically DoD personnel, Government Contractor, etc.). The final required interview count is at the discretion of the instructor. Interviews over the course of the semester to test Hypotheses (e.g., Value Proposition, Beneficiary Need) to support student learnings in the Modules. Student Teams must document these Interviews via a blog or similar writeup to capture the Name, Organization, Title, and email address of the person(s) being interviewed, the interview date, the means of the interview (e.g., Zoom; Face to Face; Note that Email discussion strings are acceptable as 10% or less of all interviews), the specific Hypothesis(es) being tested, the major questions or lines of inquiry to confirm, deny, or modify the Hypothesis(es), the primary findings and how those might impact the Team's future action, and other potential Beneficiaries to whom the Team was referred for Interviews. The Beneficiary Interviews will be graded by the number and quality of all interviews.

Only with the specific permission of the instructor, other activities (e.g., Module-specific secondary research) may be substituted for some interviews in cases where, despite documented best efforts by the team, meeting the weekly interview targets can't be accomplished for a reason outside of the team's control (e.g., non-responsiveness of potential interviewees after multiple team attempts to arrange interviews). In this case, the team must present the situation to the instructor including team efforts to obtain the necessary weekly interviews and obtain specific approval for such a substitution, which is solely at the instructor's discretion.

2. Team Weekly or Bi-Weekly Lessons Learned Presentations/Discussions in class. The Team Lessons Learned Presentation/Discussion will be graded by completeness while following the given format in the Module and the quality of information, presentation, and responsiveness to questions/suggestions from the

instructor and other students.

3. Team Final Presentation to the class and external stakeholders (e.g., DoD Project Sponsors) of the Student Journey, Project Progression, and Lessons Learned.
4. Team Final Written Portfolio of Activities including:
 - *All Mission Model Canvas versions* the team presented during the semester given as a multi-page PDF document highlighting how the Mission Model Canvas changed each week and what caused the changes.
 - *Influence Map* - a one-page graphic charting the decision-makers, gatekeepers, supporters, and saboteurs around a problem drawing from the student teams' beneficiary discovery and the understanding they gain about the degree and location of influence surrounding the problem (often, this insight is new and valuable to the government problem sponsor)
 - *Minimum Viable Product (MVP)* - Developed by students as a result of applying Lean LaunchPad principles over the semester. For some teams, it is an actual prototype, of which past students formed a company to bring their product to market. For other teams, it's a solution that needs further work by the problem sponsor or a service or process that addresses/solves the problem; The MVP should accompany a 1-2 page write-up of the product, process, or prototype (if applicable).
 - *Research Paper* – A 10-15 page written document combining all work students did during the semester, including the problem statement, team's methodology (beneficiary discovery), obstacles faced and how they were overcome, technical aspects of the problem and potential solution, and path forward if applicable.
 - *Record of Interviews* - Students are required to keep records of everyone interviewed along with their Blog showing what was learned and how that affected their hypotheses and go-forward actions. Student teams must submit a Record of Interviews in an Excel table format (one interviewee per row) to include in the columns the name, organization, title, date interviewed, email address, and major learning for each interview. If secondary research or other activities are substituted for a limited number of interviews with instructor permission per the above, a record of the specific activity, reference and major learning should be substituted the interview(s) in the Excel table.

Grading Policy:

This course is team-based and 100% of individual student grades is derived from team progress, the final presentation, and the Final Written Portfolio.

If in the sole discretion of the instructor, a student is not contributing equitably to his/her team, the instructor reserves the right to raise or 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 sole discretion feels appropriate to reflect contribution, or lack thereof, of the individual student to team assignment(s).

Grading criteria are broken down as follows:

Assignment Category	Percent Grade Weighing Scale
Beneficiary Interviews	40%
Team Weekly / Bi-Weekly Lessons Learned Presentations/Discussions	40%
Team Final Presentation	10%
Team Written Portfolio of Activities	10%
Total	100%

Note: Per UF policy for mixed undergrad/grad courses, Graduate Students taking EGN6640 will have one additional non-graded assignment to be announced by the instructor (e.g., taking a lead role in organizing the team or outcomes, deeper research into the scientific requirements of the technical solution to satisfy to the project need).

Final course grades will be determined by:

1. Dividing the Total Number of Points that the student has earned across the semester for each Assignment Category above (e.g., Beneficiary Interviews, Team Weekly / Bi-Weekly Lessons Learned Presentations/Discussions) by the Total Points Possible for that Assignment Category,
2. Applying the weighting scale for Assignment Categories as given above to arrive at a semester Percent Grade, and
3. Applying the following Grading Scale below to reach a Letter Grade.

Percent	Grade		Percent	Grade
93.4 - 100	A		73.4 - 76.6	C
90.0 - 93.3	A-		70.0 - 73.3	C-
86.7 - 89.9	B+		66.7 - 69.9	D+
83.4 - 86.6	B		63.4 - 66.6	D
80.0 - 83.3	B-		60.0 - 63.3	D-
76.7 - 79.9	C+		0 - 59.9	E

Attendance Policy, Class Expectations, and Make-Up Policy:

Attendance at all class sessions is mandatory as this class is team-based and highly interactive.

Students must arrive to class on time (for clarity, at the start of the designated class period with no “time cushion” provided) and to participate in class through completion. Students must come to class prepared, including completion of all assigned readings and/or viewings, to actively participate in class discussions and activities. Excessive student use of electronic devices during class sessions for non-class purposes, at the instructor’s discretion, is prohibited and can result in loss of assignment points. Violation

of any of these may be counted as an unexcused absence at the sole discretion of the instructor.

Requirements for class attendance and make-up exams, assignments, and other work in the course are consistent with university policies. [See UF Academic Regulations and Policies for more information regarding the University Attendance Policies.](#)

Except in rare circumstances at the sole discretion of the instructor and subject to the UF policies above, 1) assignments are to be submitted via Canvas by the stated deadline, 2) late submissions will not be accepted, 3) no credit will be given for late assignments and, 4) no-make-up assignments will be accepted.

AI Use Policy

You are a student at this institution because you live in a free society that values intellectual freedom and the open exchange of ideas. You are here to learn, grow, and develop your own critical voice—not to copy or substitute others' work for your own understanding.

Students may use generative AI tools (such as ChatGPT, Claude, etc.) to enhance their learning and writing process, but must do so transparently, ethically, and responsibly. AI should serve as a collaborative tool to support brainstorming, idea generation, research assistance, grammar checking, and feedback on drafts, rather than as a replacement for critical thinking, original analysis, or authentic voice.

All AI use must be properly disclosed and cited, with students providing clear documentation of which tools were used, how they were employed, and what prompts generated the assistance. Students remain fully responsible for the accuracy, quality, and integrity of their submitted work, including any AI-generated content, and must be prepared to verify information, correct inaccuracies, and defend their own ideas.

Be aware of AI's significant limitations - AI frequently generates incorrect facts, numbers, and even fabricated citations that must be independently verified, while also potentially producing biased or incomplete information. Should the UF Student Conduct process find a student guilty of using AI to generate substantial portions of assignments, complete entire projects, or bypass the core learning objectives, this will constitute academic misconduct and will result in penalties ranging from assignment failure to course failure, depending on the severity of the violation.

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
- Dr. Pam Dickrell, Associate Dean of Student Affairs, 352-392-2177, pld@eng.ufl.edu
- Associate Dean of Academic Affairs TBD, 352-392-0943

Other applicable Academic Policies, Academic Resources, and Campus Health and Wellness Resources are available at: <https://go.ufl.edu/syllabuspolicies>.