

Innovating for Defense Syllabus - Spring 2026

Instructor:

Erik Sander, Executive Director, UF Engineering Innovation Institute
Contact Information: 352-392-7047; esander@ufl.edu; WERT 380
Office hours: By appointment to Lori DeLuco (ldeluco@ufl.edu)

Teaching Assistant:

Elijah Holbrook: eholbrook1@ufl.edu

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.

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 3 & 4

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 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 learnings of the Innovating for Defense course detailed in the course Canvas site:

- Course Overview – Including all student expectations, learnings and tools.
- Module 1: The Mission Model Canvas: The map to carry out all course activities.
- Module 2: Beneficiaries: End-users that benefit from a solution, value they need; their specific tasks, critical pains, and realizable gains around the problem.
- Module 3: Value Propositions: Solution functions and benefits needed to address pains and gains in beneficiary workflows.

- Module 4: Mission Achievement Factors: Specific value and solution characteristics leaders in the decision chain need to adopt a solution.
- Module 5: Solution-Mission Fit: How a solution must satisfy End-Users and Decision-Makers; What absolutely needs to be part of your solution.
- Module 6: Buy-in and Support: People who must support the solution for it to be delivered to Beneficiaries; How they map to the defense structure.
- Module 7: Deployment: Specific processes can be used to deliver the solution to Beneficiaries
- Module 8: Key Activities: Critical activities that must be performed to create a solution.
- Module 9: Key Resources: Resources needed to fuel the execution of Key Activities.
- Module 10: Key Partnerships: Organizations that can accelerate the development and quality of your solution.
- Module 11: Mission Budget/Cost: How much the solution will cost to develop and deploy and how that matches to Mission Budget.
- Module 12: Final Presentation

Most class sessions follow the same format, including student presentations and/or discussion of the teams' learnings that week and updates on the progress the teams are making in their projects. Students will be introduced to upcoming Modules.

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.

This class is VERY hands on with significant interaction with the defense community. I4D students 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 which utilizes the scientific method. This requires students to iteratively:

1. Hypothesize how the problem and later the solution are impacting the beneficiary (e.g., warfighter) and their command structure
2. Test hypotheses by engaging by Zoom, TEAMS, etc., or face to face as feasible, in 50-100 interviews (or equivalent activities with instructor permission) with myriad stakeholders outside of the classroom (typically members of the defense community directly impacted by the problem),
3. Validate or invalidate through these interviews hypotheses to deeply understand the problem in the theater of engagement, required solutions, and End-User and

- Decision-Maker requirements to create a valid solution and path to Mission Achievement, and
4. Adjust the solution design; deployment strategy; key resources, activities, and partners; champions in and outside the command structure needed to engage; and mission cost vs. budget requirements to create a viable solution and path to Mission Achievement.

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. The student team's weekly stakeholder/beneficiary interviews become 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.

Students use weekly class time for teams to present and/or discuss the results of applying concepts to their defense problems. 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 interviews of typically DoD personnel, Government Contractors, etc.). The final required interview count is at the discretion of the instructor. Student Teams must document 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 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 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 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 which would typically include a 10-15 page (not including appendices) research paper combining all work students did during the semester, including but not limited to the major Problem Statement evolutions, Mission Model Canvases, Value Proposition Canvases, team's methodology (beneficiary discovery), Influence Map, Workflow Diagrams, Minimum Viable Products, Mission Achievement Factors, Mission Cost/Budget estimates, obstacles faced and how they were overcome, technical aspects of the problem, potential solution, path forward if applicable, etc.

This Assignment would also include a Record of Interviews along with the team Blog showing what was learned and how that affected their hypotheses and go-forward actions.

Final requirements are dictated by the Final Written Portfolio of Activities assignment on Canvas.

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 Final Written Portfolio of Activities	10%
Total	100%

Note: Per UF policy for mixed undergrad/grad courses, Graduate Students 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 / Percentages 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 / Percentage 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 and results in a reduction in an individual student's grade at the instructor's sole discretion as discussed above.

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.

Other

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