BME 4931/6938: Bench to Market Commercialization
Fall 2025 Course Syllabus
University of Florida

Days, Times, and Locations:
T, periods 9 & 10, 4:05 pm – 6:00 pm, Black Hall 315
Th, period 9, 4:05 pm – 4:55 pm, Black Hall 315

Instructor and Office Hours:
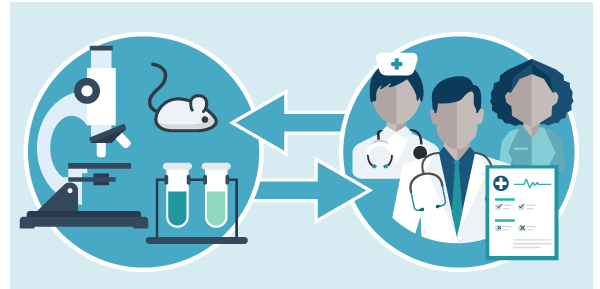Dr. Christine E. Schmidt (schmidt@bme.ufl.edu)
Office Hours: Wednesdays, 12:30 pm - 1:30 pm (via Zoom),
  https://ufl.zoom.us/j/98571182805?pwd=BEAdEc4dexYhkLdPSY97LIkZgXciLQ.1
  Passcode 800991 (see: "Zoom Conferences" on Canvas)
  or in person, by appointment. Other days/times by appointment.
Note: Any changes to office hours will be announced in class and/or via Canvas.

Course Co-Developer:
Anita Rao, Program Director, UF Innovate I Pathways and NSF I-Corps at UF, arao@ufl.edu

NSF I-Corps Guest Instructors/Mentors:
- Dr. Aaron Costin, Associate Professor and NSF I-Corps Instructor at UF, aaron.costin@ufl.edu
- Sara Martin Henderson, Georgia Tech Program Director & NSF I-Corps Instructor, sara.henderson@innovate.gatech.edu
- Dr. Matias Kirst, Distinguished Professor and NSF I-Corps Instructor and Mentor at UF, mkirst@ufl.edu
- Dr. Elizabeth Gadsby, Lecturer and NSF I-Corps Mentor at UF, egadsby@ufl.edu

Target Audience and Prerequisites:
This is a junior/senior-level undergraduate and graduate BME elective course, which is open to any UF student interested in biomedical innovation and commercialization. This course is designed to meet the needs of individuals wanting to pursue a career in biomedical research, industry, and/or entrepreneurship. General biomedical/life science background knowledge is instrumental. Speak with the instructor if not sure.

Course Description and Learning Objectives:
This course will introduce students to the basics of translating innovative technologies from the academic laboratory towards commercialization. Concepts explored will include biomedical technology development, invention disclosures, technology licensing, the Food and Drug Administration (FDA) regulatory pathways, customer discovery, the business model canvas, customer segments, value propositions, and approaches for commercialization. Class will consist of lectures by the professor, guest lectures, in-class discussions, in-class presentations, and team projects. The class will also incorporate formal NSF I-Corps training by qualified NSF I-Corps instructors, which will be valuable for students interested in start-up opportunities or industry positions.

By the end of this course, students will be able to:
- describe different types of intellectual property (IP) and processes for protecting IP
- understand commercialization pathways for UF research and inventions
- understand and describe the basic FDA approval processes for medical devices
- know the methodology and tools used in evidence-based entrepreneurship
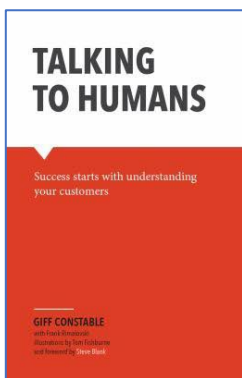- apply evidence-based entrepreneurship to real-world technologies

- conduct and synthesize customer/stakeholder interviews
- refine hypotheses and present validated learning
- describe the basic steps needed for a successful commercialization plan
- understand some of the challenges of product development and commercialization
- formulate a pitch presentation and written report

Course Learning Resources:

The course website is found through the University of Florida Canvas site (http://elearning.ufl.edu). All necessary materials and communications will occur via Canvas.

Text/Materials:

Links to **required videos** will be provided in class and via Canvas. These videos are restricted to class use and should not be shared outside of this class.
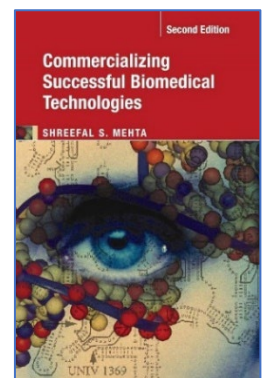
← *The following book is **required**:*
"Talking to Humans", Giff Constable
Available for free download: http://www.talkingtohumans.com/

→ *The following book is **optional**:*
"Commercializing Successful Biomedical Technologies", 2nd Ed, Shreefal S. Mehta, Cambridge University Press, ISBN # 9781316510063.
Available via UF Catalog: https://ufl-flvc.primo.exlibrisgroup.com/permalink/01FALSC_UFL/6ad6fc/alma99384238528406597

Grading Criteria:

In-Class Attendance and Participation	15%
Speaker Questions (drop lowest)	20%
NSF I-Corps Module:	25%
-Interviews, Oral Reports (3), Engagement, Peer Input, HW	
Project Written Report	20%
Project Pitch Presentation	20%
	100%

Grading Scale:

Grade	Percentage
A	90.00-100%
B+	87.50-89.99%
B	80.00-87.49%
C+	77.50-79.99%
C	70.00-77.49%
D+	67.50-69.99%
D	60.00-67.49%
F	< 60.00%

Speaker Questions:

Submission of questions for the speaker discussion must be submitted by 1:00 PM on the day of class for each guest speaker (indicated by "*" on lecture schedule). Questions should be based on *topic of discussion*, including online resources for speaker/topic and related posted reading materials. At least 3 distinct, thoughtful, and researched questions must be submitted for full credit.

Team Project:

A team project will be assigned, with more details to come. The project will require independent research outside of class and three in-class presentations to the class and instructors, as part of the NSF I-Corps customer discovery process. A final written report is required, as well as an oral final "pitch" presentation to the class. The final oral presentation will be graded based on presentation skills, quality of slides (content choice, layout), and ability to answer questions. Input from the NSF I-Corps instructor/mentors will be factored into grades.

PDF copies of slides for presentations are due 24 hours prior to class (due Mon at 4 pm for talks on Tuesdays).

Class Attendance and Excused Absences Policy:

Attendance is required for lectures and in-class presentations and is key for mastery of subject material. In-class participation is factored into the course final grade. Excused absences must be consistent with UF policies: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies and approval needs to be obtained prior to missed class (except for documented emergencies). Students are responsible for content covered during a missed class (i.e., responsible for securing notes from classmates and any documents from Canvas).

Grading Disputes:

Requests for regrading must be submitted to the professor within 1 week after the graded assignment has been returned. If regrading is desired, then the entire assignment is subject to regrading. If your work is not clear or the specific question involves subjectivity, then there is no justification for regrading.

In-Class Recording:

Students are allowed to record video or audio of class lectures provided by the professor; however, guest speakers _cannot_ be recorded _unless students seek explicit permission from the guest in advance._ Also, the purposes for which any 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.

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 course. A class lecture does not include student presentations, academic exercises involving solely student participation, assessments (quizzes), private conversations between students or between a student and the faculty or lecturer during class.

Publication without written permission of the instructor or guest speaker 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.

Use of ChatGPT or Other AI Tools:

AI tools can be used as a resource; if they are used, then the tool must be cited as a reference. In addition to citing the tool as a resource, students are required to provide a short description as to how the tool was used and how you validated accuracy of the information secured from the AI resource.

Software Use:

All faculty, staff, and students at 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 UF 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.

Students Requiring Accommodations:

Students requesting accommodations should first register with the Disability Resource Center (DRC; 352-392-8565, https://disability.ufl.edu) by providing appropriate documentation. Once registered, students will receive an accommodation letter, which must be presented to the instructor when requesting accommodations. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluations:

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results.

University Honesty Policy:

UF students are bound by The Honor Pledge. 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 possible sanctions. The first student to email the professor with the subject line 'I read the syllabus' will receive five bonus points on the first quiz. 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.

Commitment to a Safe and Inclusive Learning Environment:

The Herbert Wertheim College of Engineering (HWCOE) values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. 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
  • Dr. Pamela Dickrell, HWCOE Associate Dean for Student Affairs, 352-392-4524, pld@ufl.edu

Counseling and Wellness:

U Matter, We Care:
Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: https://counseling.ufl.edu and 392-1575.

Sexual Discrimination, Harassment, Assault, or Violence:
If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, titleix@ufl.edu

Sexual Assault Recovery Services (SARS): Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or http://www.police.ufl.edu/.

Academic Resources:

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu; https://elearning.ufl.edu/student-help/.

Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling; https://career.ufl.edu.

Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/.

Student Complaints Campus: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conductcode/; https://care.dso.ufl.edu.

On-Line Students Complaints: https://distance.ufl.edu/getting-help; https://distance.ufl.edu/state-authorizationstatus/#student-complaint.