

PIBS 550 SYLLABUS

Fall 2019, Tuesdays 3:30-5pm

DATE	CLASS (90 minutes each)
Sept 3	1 Intro / Case Study (Research Tool)
Sept 10	2 Markets & Stakeholders
Sept 17	3 Commercialization Case Study (Medical Device)
Sept 24	4 Customer Discovery
Oct 1	5 How to Communicate Innovation
Oct 8	6 Intro to Intellectual Property
Oct 15	<i>study break - no class</i>
Oct 22	7 Survey of Regulatory Topics (FDA)
Oct 29	8 "De-Risking" Innovations
Nov 5	9 Planning & Development Milestones
Nov 12	10 Equity and Investments in Start-ups
Nov 19	11 Career Transitions from Academia to Industry
Nov 26	<i>no class</i>
Dec 3	12 Careers in Biomedical Innovation Panel
Dec 10	13 Innovation Showcase (student projects from PIBS750)

PIBS 750 SYLLABUS – **NOTE: PIBS 750 STUDENTS ALSO ATTEND ALL PIBS 550 SESSIONS**

Fall 2019, Wednesdays 3:30-5pm

DATE	CLASS (90 minutes each)
Sept 4	1 Project Intros / Getting to know each other
Sept 11	2 Stakeholders-Features-Benefits template & exercise
Sept 18	3 WORKSHOP: Stakeholders-Features-Benefits presentations
Sept 25	4 WORKSHOP: Stakeholders-Features-Benefits presentations
Oct 2	5 Pitch template & pitch development exercise
Oct 9	6 WORKSHOP: Pitch Presentations – 1st draft
Oct 16	<i>no class</i>
Oct 23	7 WORKSHOP: Pitch Presentations – 1st draft
Oct 30	8 WORKSHOP: Pitch Presentations – 1st draft
Nov 6	9 WORKSHOP: Pitch Presentations – 2nd draft
Nov 13	10 WORKSHOP: Pitch Presentations – 2nd draft
Nov 20	11 WORKSHOP: Pitch Presentations – 2nd draft
Nov 27	<i>holiday break - no class</i>
Dec 4	12 Dress Rehearsal
Dec 10	13a Innovation Showcase (pitch presentations given at PIBS550)
Dec 11	13b Celebration & Debrief (+pizza party)

PIBS 550: Biomedical Innovation & Entrepreneurship I

2 Credit Hours

Biomedical Innovation & Entrepreneurship I (PIBS 550) is a credit bearing course intended for graduate students* from science and engineering majors who are seeking insight for those who are seeking a career in the biomedical industry and exposure to the fundamentals of life science entrepreneurship.

** undergraduates may take PIBS 550 with prior approval of the instructor*

Objective(s): At the conclusion of the course, participants will be able to...

- Identify and describe critical life science technology commercialization concepts, such as value proposition, intellectual property, and FDA regulatory strategy
- Demonstrate familiarity with innovation and entrepreneurship skills, including customer discovery, market evaluation, development planning, and communicating innovation

Based on the FFMI Program Accelerating Commercialization Education (PACE) curriculum, PIBS 550 consists of lectures and Q&A that cover a wide range of life science commercialization concepts. At the conclusion of the course, students will have a clear understanding of commercialization pathways for research-based products that have the potential to impact human health.

This course is uniquely designed students looking for:

- A career in biomedical industry
- Insight into life science entrepreneurship
- A roadmap for technology commercialization or product development

Course Materials:

The course lectures will be made available through a learning management system and website.

Student Assessment:

PIBS550 is a letter graded course. Students will complete a quiz following each lecture to demonstrate attendance and understanding.

This course is a credit bearing expansion of a program developed by the Fast Forward Medical Institute for trainees in the UM Medical School to explore life science innovations—from the research bench to the patient bedside.

PIBS 750: Biomedical Innovation & Entrepreneurship II

3 Credit Hours

Biomedical Innovation & Entrepreneurship II (PIBS 750) is a credit bearing course that teaches innovation and entrepreneurship concepts based on the FFMI Program Accelerating Commercialization Education (PACE) curriculum. Offered exclusively for graduate level students from science and engineering programs, PIBS 750 is an experiential learning course that applies the concepts taught during Section 1 (PIBS550) to a group project. Enrolled students will work in small project teams to conceive and/or advance an innovation while building the skills and network of contacts to translate a nascent idea into a hardened, commercially viable product concept. The innovations developed in this course can be real or hypothetical, sourced from students or from outside of class (pending approval from the inventors and the course instructor).

NOTE: Students enrolled in PIBS 750 will also attend the seminars offered in PIBS 550

The FFMI *full*PACE program is uniquely designed for students seeking:

- A career in biomedical industry
- Insight into life science entrepreneurship
- An opportunity to create and explore an innovation
- Development of an existing innovation or idea

The objectives of PIBS 750 are to:

- Provide a structured approach to teaching biomedical innovation, entrepreneurship, and the commercialization
- Introduce and exercise skills for critical evaluation of the commercial potential of innovations in the life sciences and medicine
- Offer hands-on experience developing a compelling case for an innovation, including a presentation (pitch) appropriate for seeking funding and/or partnership

Course Materials:

Course materials, including lectures, handouts, and assignments will be made available through a learning management system and website. Students will be given access all materials and will be able interact with the instructor and classmates.

Student Assessment:

30% – Lecture Quizzes – Students will complete a brief quiz following each lecture (PIBS550) to demonstrate attendance and understanding.

40% – Attendance & Participation – Attendance and participation during the project coaching session is critical to the success of the individual student and group project; therefore, it is mandatory and students will be asked to sign in. Students will be asked to work in a small group to submit milestone assignments for their final presentation.

30% – Final Group Presentation – Final presentations will be given during a showcase event as part of the final Section 1 class. The project coaching sessions and group presentation assignments will be used as a guide to develop a successful presentation.

This course is a credit bearing expansion of a program developed by the Fast Forward Medical Institute for trainees in the UM Medical School to explore life science innovations— from the research bench to the patient bedside.