
DEPARTMENT OF BIOMEDICAL ENGINEERING
DESIGN PROJECT II – IBIO-3870

Credits and contact hours

	Credits	Contact hours (per week)	Sessions per week	Offer frequency
Course	3	3	2	Yearly
Complementary class				
Laboratory	0	1.5	1	

Instructor's or course coordinator's name: David Bigio Roitman

Main Textbooks:

- None

Specific course information

a. Brief description of the content of the course (catalog description)

This is a design course and it is based on a project. Students, through the logic of design thinking, will address and develop a solution to a health issue from a biomedical engineering perspective. This course is part of the Design Project 1 and 2. In this first semester, students will identify a health need and will develop a value proposition and solution proposition in order to address it. At the end of the semester, students must have conducted a killer experiment that will serve to evaluate the concept and so be able to continue their project the following semester.

b. Prerequisites

IBIO-2780 Design Project I; IBIO-2560 Signal Processing and Biomedical Instrumentation; IBIO-2260 Biomedical Systems Modelling and Simulation; IBIO 2650 Biomaterials; IIND-2401 Investment Decision Analysis.

c. Co-requisites

IBIO-2251 Transport Phenomena in Biological Systems Lab

d. Indicate whether a required, elective or selective elective course in the program

Required	Elective	Selective
X		

Specific goals for the course

a. Specific outcomes of instruction

At the end of this course, students will be able to:

- Observe and identify a health related unmet need.
- Propose alternative solution to the unmet need and develop the criteria to choose the most appropriate solution.
- Develop a comprehensive business plan around the proposed solution.
- Understand the health regulatory requirements in order to test and apply the proposed solution.
- Create and present in a clear manner a business plan.

b. Explicitly indicate which of the student outcomes (listed in Criterion 3 or any other outcomes) are addressed by the course

OUTCOME C: An ability to design a system component or process to meet desired needs

OUTCOME D: An ability to function on multi-disciplinary teams

OUTCOME F: An understanding of professional and ethical responsibility

OUTCOME G: An ability to communicate effectively

OUTCOME H: A broad education to understand the impact of engineering solutions in a global and societal context

OUTCOME I: Recognition of the need for, and ability to engage in life-long learning

OUTCOME J: Knowledge of contemporary issues

Brief list of topics to be covered

Topic	Suggested duration (weeks)
Course Introduction	1
Implementation	4
Standards and regulation	1
Assessment	1
Business Plan	4
Final Assessment	1