

### 3 Medical Devices I: Product Development

This pack of lectures covers key aspects in the process of the conceptualization and creation of medtech product. Students will learn about biomedical engineering and how to design medical devices, as well as about the new materials used in the design. Special emphasis will be given to design and prototyping: why it is important when designing a product.

**Number of sessions:** 6

**Starting date:** 20<sup>th</sup> April 2017

**Whole Package Price:** 567 euros (with a 10% of discount added)

**Buy one or more sessions:** Price varies depending on the session

**Venue:** PCB - Barcelona Science Park, C/ Baldiri Reixac 4-8, 08028 Barcelona

#### 3.1. Challenges in Medical Robotics

**Lecturer:** Josep Amat

**Date:** 11<sup>th</sup> April 2018

**Time:** 14:00 – 16:00 h

**Price:** 100 euros

**Course outline:** This lecture explains what robotics is and the different types of medical robotics available. The lecturer will also discuss different trends, what is happening in the field of medical robotics, especially in terms of robotic surgery and AI (Artificial Intelligence), the challenges we will face in the future and which companies are currently working in the field.

#### 3.2. Biomedical Engineering

**Lecturer:** Pedro Gomis

**Date:** May 31, 2018

**Time:** 12:30 pm-14:30 pm

**Price:** 100 euros

**Course outline:** This session is an introduction to biomedical engineering, providing information about what it is and its various applications in these areas, giving real examples: biosensors, signal and image processing, bioinformatics, m-health, rehabilitation, cardiopulmonary systems, medical devices and wearable and implantable technologies, among others.

### 3.3. Product Design and Development

**Lecturer:** Salvador LLas Vargas

**Date:** TBC July 2018

**Time:** TBC

**Price:** 100 euros

**Course outline:** This session covers the main process involved in conceptualizing and developing a product, with a special focus on medtech products, and explains the phases of the product development cycle, which include defining requirements, research, design, implementation, and manufacturing, among others.

### 3.4. Life Sciences Patents

**Lecturer:** Robert Soliva

**Date:** TBC June 2018

**Time:** TBC

**Price:** 100 euros

**Course outline:** All you need to know about patenting is provided in this session. It will focus on life science patents, touching on product, know-how and software topics. You will learn what patents are, their structure, their main characteristics and applications, current legislation ecosystem, how they work financially and the key ideas to consider when making a patent application. Case studies and several examples will be provided.

### 3.5. New Materials

**Lecturer:** Román Pérez

**Date:** June 14, 2018

**Time:** 3 – 5 pm

**Price:** 100 euros

**Course outline:** The lecturer, an expert in biomaterials and biomechanics, will outline the main

contributions, uses and potentialities of biomaterials in certain fields of medicine based on his knowledge and experience and in orthopaedic, dental and cardiovascular fields.

### 3.6. Prototyping

**Lecturer:** Bernat Cuni

**Date:** TBC July 2018

**Time:** TBC

**Price:** 130 euros

**Course outline:** This lecture covers the basic issues to take into account when prototyping a product and explains why this is important. It also includes a description of existing tools and resources for prototyping.

### Promotions

We offer a 50% discount (for any category, but not accumulative) to students who are in their final academic year at university, or who are studying a Masters degree related to the following fields: business, engineering, life sciences or design. If interested, please send an e-mail to [lrogel@biocat.cat](mailto:lrogel@biocat.cat), with the subject "Short Programs Discount", providing your details and attaching a copy of your university registration. Promotions are limited and will be assigned on a first-come, first-served basis.

#### SMEs:

Companies participants in Boost4Health Project coordinated by Biocat at the Bioregion of Catalonia will have **free of charge registration** to training from Moebio Short Programs. The eligible SMEs will need to register to [Boost4Health.eu](http://Boost4Health.eu) and select their interest in receiving coaching. Then Biocat will provide the procedure to access the training and a registration code that will be valid until 3 business days prior to the starting of the activity. Those registrations made with the code without participating into B4H program will not be able to access the room.

### Cancellation Policy

To withdraw from a session you must send an e-mail to: [lrogel@biocat.cat](mailto:lrogel@biocat.cat). If cancellation is received more than one week (7 working days) before the date of the Short Program session, you will be reimbursed for 100% of the registration fee. If cancellation is received during the week prior to the date of the lesson, you will be reimbursed for 50% of the registration fee. If no notice is given, participants will not be reimbursed even if they do not attend the session.