

# Creating Life Science Products BTC1850H



## Interdisciplinary Teams Focused on Product Development

This is an interdisciplinary graduate course which draws together students to focus on a singular product problem. A diverse cross section of students will be drawn from biomedical engineering, law, business, biotechnology, computer science, biology and design disciplines (e.g. OCAD University).

The course will meet twice monthly and will be conducted through the fall and winter terms. This added time gives students more opportunity to seek out customers and experts relevant to their product idea. Projects can seek to enhance existing products or propose new products.

### Dedicated Course Website - linking industry experts to students.

Coming soon - This web site will display active projects in the course and allow communication between student teams and potential industry experts who may wish to partner with students on their idea. By invitation only, select experts from industry who have partnership interests will choose projects of interest to them conducted by cross functional student teams.

## Class Format

Student teams may form companies, file provisional patents and or trademarks in developing their products. The course consists of lectures, in class team work exercises, and discussion components to move projects forward. Evaluations will be based on participation (15%), final exam (20%), milestones in the major project (25%), the major project report (30%) & presentation (10%). Classes will be largely discussion based. Students will learn to work with different disciplines in the process of tackling a problem to create a product opportunity. This is the focus of the course.

### Course Topics Fall 2013/Winter 2014

September 16	Medical Product Differentiation
September 30	Treatment Algorithms & Market Segmentation
October 14	Medical Device Regulation
October 28	Smartphone Apps & Software Regulation
November 11	Team Product Discussions: Market Segmentation
November 25	Team Product Discussion II: Market Segmentation
December 9th	Healthcare Value Proposition & Reimbursement
January 13th	Team Product Discussions: Competitor Analysis
January 27th	Life Science Patent Overview
February 10th	Team Product Discussions: Regulatory Pathway
February 24th	Life Science Trademark Overview
March 10th	Informal Team Presentations: Product Development Feasibility
March 24th	Formal Presentations: Team Products

**LIFE SCIENCE**  
CONNECTING STUDENTS AND MENTORS/PARTNERS

HOME PROJECTS MENTORS & PARTNERS CONTACT US

### GETTING A LEG UP ON THE PROSTHETIC MARKET

**TEAM MEMBERS**

- Mohamed Ahmed
- Tavleen Bath
- Chris Davidson
- Matt Wrobel

**PROJECT STATUS**

Completed March 24th, 2013

**PROJECT TIMELINE**

START CURRENT END

**MENTOR INTEREST**

Mentor Name  
Lorem ipsum dolor sit amet

Mentor Name  
Lorem ipsum dolor sit amet

Mentor Name  
Lorem ipsum dolor sit amet

MARK AS INTERESTED

**LCKnee**

Cost: ~\$100

Stance-Phase Lock (SASPL) technology

Walk: 80 m / min  
Fast Walk: 103 m / min

Targets low- middle class

**Competitor Hydraulic / Pneumatic**

Cost: ~\$5000 - \$50,000

Stance-Phase Lock (SASPL) technology

Walk: 63 m / min  
Fast Walk: 86 m / min

Targets mostly upper class

**OBJECTIVE**

Drive revenue for Bloomview Research Institute by proposing a US launch for the LCKnee.

**DECISION CRITERIA**

- Cost less than \$500,000
- Ease of Access
- ROI: > 15% after 1st year

**WHAT ARE PROSTHETICS?**

Artificial appliances used to replace or restore human body parts in order to regain the lost functionality of the missing part.

**CAUSES OF AMPUTATION**

- Peripheral Arterial Disease

### What do users want?

- Maintenance Dose Calculator
- Calendar: INR & Diet Tracking
- Trend Analysis

Select: Date

Input: INR, Dose, Diet

Input: Vitamin K -rich foods

**Vitamin K Log**

Today

Turnip greens 1 serving >

Lettuce 1/2 serving >

Favourites List

Search foods

- Asparagus 180 g-1cup
- Beet greens 144g-1cup
- ✓ Bread crumbs 120g-1cup
- Broccoli 156g-1cup
- Brussel sprouts 156g-1cup

### Blood thinner App

One example of a product proposal from a graduate student team in the past. Creating simple revenue generating products in healthcare is a theme shared by all projects. Many disciplines are needed for such projects including design.

### Course Instructor

Dr. Jayson Parker is a teaching-stream faculty member in the Department of Biology at the University of Toronto Mississauga. He is appointed in the role of Medical Biotechnology Analyst at the University of Toronto. He lectures in the Master of Biotechnology Program, Faculty of Law and the Institute of Biomaterials and Biomedical Engineering.

He is currently a medical/scientific advisor to the hedge fund Burlington Capital Inc, which has \$25 million in assets under management and the Canadian Innovation Centre. He is also a board member for Life Sciences Ontario. Most recently, he was a medical liaison for Schering Plough's biologic infliximab (Remicade) and for Novo Nordisk's biologic rVlla (Novoseven/Niastase). He has been a "buy side" stock analyst covering the life sciences for Investor's Group and the Director of Medical Science Equities at AIC limited (now Portland), both prominent mutual fund companies.

His research activities cover clinical trial failure rates, medical device regulation, patent law and machine learning. He is currently involved in 3 start-ups with former students from his courses in the health IT space.

**Course location & time:** Held downtown Toronto on the University of Toronto campus, every other Monday evening 6:30 PM - 9:30 PM.

**Registration** - For details contact Mr. Adrian Berg in the Mbiotech program: [adrian.berg@utoronto.ca](mailto:adrian.berg@utoronto.ca). You will cannot enroll by using ROSI.

Graduate students from **OCAD** should complete an "Ontario Visiting Graduate Student Application" and submit such to the Graduate Office at OCAD.