HCMG 890
ADVANCED STUDY PROJECT SEMINAR: MEDICAL DEVICES

Spring 2015
TH: 3:00-6:00 pm Location: JMHH F36

Faculty:

Jeffrey A. Solomon, MD MBA
Assistant Professor
University of Pennsylvania School of Medicine
University of Pennsylvania School of Veterinary Medicine
The Wharton School of Business

Office: 1 Silverstein Pavilion, HUP
Email: solomon@infinitimedical.com
Office Hours: By appointment

Robert Town, PhD
Associate Professor
The Wharton School of Business

Office: 305 Colonial Penn Center
Email: rtown@wharton.penn.edu
Office Hours: By appointment
Phone: 215-746-3171

Teaching Assistants:

David Lindsay -- mailto:lindsay@mail.med.upenn.edu
Yan Yan -- mailto:yan1@mail.med.upenn.edu

COURSE OVERVIEW

Successful medical devices are an amalgamation of creative and innovative thinking, clinical expertise, and engineering know-how that endures intense regulatory and reimbursement scrutiny. This course will provide a foundation for understanding the nuances of the medical device industry. It will cover topics ranging from device design and discovery, regulatory issues, marketing, reimbursement, management and strategy. Classroom activities will be supplemented with optional tours of hospitals, research and manufacturing facilities, and hands-on demonstrations of devices. Though the course is intended primarily for MBA students, it will be open to medical and engineering students as well as to hospital house staff.
**COURSE REQUIREMENTS:**

1. Class attendance is mandatory – Students are allowed one unexcused absence during the semester. Job interviews are not an excused absence.

2. Class participation

3. Weekly online polls on reading. A response to the weekly web poll is due by 3pm the day of the class. There is no poll for the 1st class on September 9th, Midterm Case Write-up Week (Oct 24th), Thanksgiving week and the last day of class on Dec 9th. Students are allowed to skip one poll during the semester.

4. Short presentation (approx. 15 min) on a device topic. Could be a report/analyses on work experiences, new technologies, strategic issues or important policies. The presentation will be made on the last day of class. Depending on class size this may also be a group assignment but the groups must be different than the Midterm and Final groups. More information will be given out on this during the course.

5. Midterm Case Write-up. This is a group assignment. Due Monday, October 24th at 4:00pm.

6. Final Case Write-up. Also a group assignment. Due on Friday, Dec 20th, at 5pm.

**Percentage of Grade**

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<thead>
<tr>
<th>Requirement</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>1. Class attendance</td>
<td>10%</td>
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<tr>
<td>2. Class participation</td>
<td>10%</td>
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<td>3. Weekly online polls on reading</td>
<td>10%</td>
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<tr>
<td>4. Short presentation</td>
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<tr>
<td>5. Midterm Case Write-up</td>
<td>25%</td>
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<tr>
<td>6. Final Case Write-up</td>
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**READINGS**

This class will afford students the unique opportunity to interact directly with industry leaders. In order for class discussion to optimize the use of discussion time, for many classes there will be readings from the assigned textbook. It is expected that all readings will be done prior to the pertinent class and that students will arrive able to discuss the topic in an informed manner. Additional readings will often be added in advance of particular classes. Except for the textbook readings, all readings will be posted on Canvas — there is no bulkpack. Certain readings are marked as “required” in the filename. The textbook is available electronically through the UPenn library.

**Required Text:**

Class Schedule

Week 1 – January 15

- Welcome and Introduction to Medical Devices – Robert Town, PhD, Wharton
- Entrepreneurship and Medical Devices -- Jeff Solomon, MD, Wharton and Infiniti Medical

Readings: Biodesign, Chpt. 1

Week 2 – January 22

- Device sector from the Wall Street Perspective – Kurt Kruger (Navigant) and Raj Denhoy (Jefferies)
- Emerging Trends – Adrienne Lovink/Tyler Fletcher – DRG Consulting (drg-consulting.com)

Readings: Biodesign, Chpt. 2

Week 3 – January 29

- Pre- and post- market FDA regulations – Dina Justice (Terumo Medical Corp -- http://www.terumomedical.com)

Readings: Biodesign, Chpt. 4.2, 5.4

Week 4 – February 5

- Cost-effectiveness Analysis – Robert Town, PhD
- Innovation Management -- Forgarty Institute Speaker

Readings: Biodesign, Chpt. 4.4, 5.9

1 The class schedule is tentative and subject to change as speakers schedules can change with little notice.
Week 5 -- February 12

- Intellectual Property and Medical Devices – Jeremy Bond, JD (Sanofi)
- Reimbursement Strategy – Jeff Voigt (Medical Device Consultants)

Readings: *Biodesign*, Chpt. 4.1, 4.3, 5.1, 5.8 (useful for midterm)

Week 6 – February 19

- Clinical Strategy – Mary Russell, MD (Ascent Translational Sciences)

Readings: *Biodesign*, Chpt. 5.3

Week 7 -- February 26

- Distribution Strategies (Jim Rushworth) -- (Terumo [http://www.terumomedical.com])
- Devices and Venture Capital – Bill Harrington (Osage Partners -- [http://osagepartners.com])

Midterm Due

Week 8 – March 5

- Bionics -- Kevin Franch (BiOM -- [http://www.biom.com])
- Vascular Devices– Ben Jackson, MD, Hospital of the Univ. of Pennsylvania

Readings: None

Spring Break!!!!!! – No Class March 12

Week 9 – March 19

- How to Pitch to VC -- Jordon Halperin (Infiniti Medical)
- Current Trends in Life Science Transactions: Negotiating Deal Terms and Risk Allocation -- Philip Ottinger (Wilson, Saconi, Goodrich and Rosadi)

Readings: *Biodesign*, Chpt. 6.2, 6.3

Week 10 – March 26

- Interventional Cardiology – Howard Hermann, MD, Hospital of the Univ. of Pennsylvania
- Marketing Medical Devices – Todd Canfield, (J&J)
Readings: *Biodesign*, Chpt. 5.7

**Week 11 – April 2**

- Coverage Strategy – Lindsay Bockstedt, PhD (Medtronic)
- Ardian case study and other med device start-up lessons -- Karun Naga, JD, MBA

Readings: Review Coverage Strategies in *Biodesign*, Chpt. 4.3, 5.6

**Week 12 – April 9**

- Medical Device Companies - Capital Market Perspective -- Misha Lozovik (Convecto Capital Management)
- Jeff Solomon, MBA, MD, Wharton and Infiniti Medical

**Week 13 – April 16**

- Student Presentations!

**Week 14 – April 23**


Final Due: May 2nd, 5:00pm