The University of Pennsylvania
The Wharton School
Department of Operations, Information, and Decisions (OID)

Fall 2016

OID 611: Operations Management: Quality and Productivity

I. Faculty Contact Information

Faculty
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Teaching Assistants To be announced during first week of course Location: JMHH 607 Phone: 215-573-7771

II. Course Description

Matching supply with demand is an enormous challenge for firms: excess supply is too costly, inadequate supply irritates customers. In the course, we will explore how firms can better organize their operations so that they more effectively align their supply with the demand for their products and services. Throughout the course, we illustrate mathematical analysis applied to real operational challenges – we seek rigor and relevance. Our aim is to provide both tactical knowledge and high-level insights needed by general managers and management consultants. We will demonstrate that companies can use (and have used) the principles from this course to significantly enhance their competitiveness.

In OID 611, the emphasis is on the design of business processes to maximize productivity and to achieve world-class quality. The course details different kinds of business processes and explains how to measure key process parameters like capacity and lead time. The course also covers process improvement and examines classic ideas in quality management.

III. Course Policy

This syllabus provides details on course policy and the schedule for OID 611. Students should read this material carefully at the start of the course.

IV. Grading

Each student's final numerical score for each course is based on the following items and weights:

- homework assignments (20%),
- attendance and class participation (20%),
- final exam (60%)

We add up the points from these grading ingredients to compute a total score. We then use the standard Wharton MBA grade distribution to translate the points into the final grades.

Homework assignments:

- There are three homework assignments for the course. The assignments are based on last year's final exam.
- Every homework question carries the same weight.
- Assignments are due by 8:00 am of the due date. All assignments must be submitted electronically through Canvas.
- Each student must turn in his or her own assignment. We encourage students to attempt to complete the assignments on their own. However, to promote learning, students are allowed to discuss each assignment with other students in their cohort.
- Partial credit is not given. Please follow the format outlined in the homework.

Class attendance and participation:

- You are expected to attend class, be in class on time, and stay in class for the duration of the session.
- You are not supposed to use electronic devices other than for class.
- The OID faculty has seating charts and will monitor attendance, late arrivals, and disruptive behavior (leaving class, doing non-class related activities on electronic devices). This will be part of your class participation grade.
- From the perspective of the faculty, you do NOT have to check in with the MBA App. This App is between you and the graduate division.
- Physical presence is necessary but not sufficient to ensure a good class participation score. The class participation score is based on your contribution throughout the entire course. To contribute during case discussions, you must read cases carefully before coming to class and be prepared to discuss and defend your recommended actions.

Final exam:

- There is a final exam based on the contents of the course: analytical tools, case discussions, lectures, etc.
- The format of the final exam is open book and open notes.
- See point VI. below for details regarding computer usage during the final

V. Course Text, Readings and Handouts

All lectures will follow the textbook by Cachon and Terwiesch very closely. The relevant chapters for each session are listed later on in this document.

We have created a custom published text that includes the chapters of Cachon and Terwiesch that are relevant for OID 611. This custom published text is based on the third edition of the book. **Please go to the bookstore to get a copy of the book (NOT Wharton Reprographics).**

Cases are available via Study.net.

Note that all other course material (slides, etc) will be posted on Canvas. If you want to get a copy of the textbook from another source (2nd year student, Amazon, used book, etc), here is the reference:

Cachon, G. P. & Terwiesch, C. Matching supply with demand: An introduction to operations management 3rd Ed. Boston, MA: McGraw Hill.

The e-book version (example: Kindle) will not be permitted for use during the final exam, which is open book.

VI. Use of Electronic Devices

The following states our policy with respect to the usage of electronic devices during class time and during the final exam.

In class, students are allowed to use laptops and tablets only for work directly related to the class (no email, no other work).

In the final exam, you may not use an electronic device that can communicate with another device (e.g., phones, computers, tablets, etc.) You may use a traditional calculator (assuming it does not communicate with other devices).

All phones should be turned off / be muted.

VII. Ethics Matrix

	Materials							People				
OID 611 Operations Management: Quality and Productivity	Approved calculator	Laptop / other electronics	Summary sheet	Current book / class notes	Past notes / summaries	Past exams / assignments	Internet content / other outside materials	Learning team / approved work team	Other student(s) in same section	Student(s) in other sections (same term)	Wharton student not taking the class this term	Person outside of Wharton
Homework	A	A	A	A				W(1)	W	W		
Cases	A	A		A				W(2)	W	W		
Final Exam	A(3)		A	A								

A = Allowed material
Shaded Cell = Not allowed

W = Allowed to work together

D = Discussion of general concepts and procedures is allowed but no sharing of specific answers.

Shaded Cell = Not allowed

Other comments:

(1) Students are encouraged to test their understanding of the material by working on the homeworks individually. Once the student has diagnosed his/her skill level, communication is allowed
(2) Students are encouraged to collaborate on the end-of-chapter problems
(3) Computers and devices with network capability are prohibited. Only calculators are allowed.

The information above covers many common situations but will not cover every circumstance. Remember:
The Wharton MBA Code of Ethics that you accepted requires, among other things, that you represent yourself and your work honestly, don't try to gain unfair advantage over other students, follow the instructor's guidelines and respect confidentiality of your work and the work of others.

Should you have questions, please contact your ethics liaison or professor.

Session #	Date*	Topic and Readings
1	M, 10/24 T, 10/25	Introduction Text: "Introduction", "The Process View"
2	W, 10/26 R, 10/27	Process Flow Analysis Exercise: Subway Text: "Understanding the Supply Process", "Estimating and Reducing Labor Costs"
3	M, 10/31 T, 11/1	The Operations – Finance Link Text: "Link between Operations and Finance"; Multiple flow units
4	W, 11/2 R, 11/3	Process Flow Analysis Case: National Cranberry
	11/7	**Due Date for Homework 1 (by 8:00 a.m.)**
5	M, 11/7 T, 11/8	Lean Operations Exercise: Electronics Assembly Text: "Lean Operations"
6	W, 11/9 R, 11/10	Lean Operations in Services Case: Capital One
7	M, 11/14 T, 11/15	Managing Variability: Waiting Time Problems Text: "Variability and its Impact on Process Performance: Waiting Time Problems (except section 3)"
8	W, 11/16 R, 11/17	Managing Variability: Waiting Time Problems Case: Call Center
	11/21	**Due Date for Homework 2 (by 8:00 a.m.)**
9	M, 11/28 T, 11/29	Managing Variability: Throughput Losses Text: "Variability and its Impact on Process Performance: Throughput Losses"
10	W, 11/30 R, 12/1	Quality Management Case: Toyota Production System
11	M, 12/5 T, 12/6	Quality Management, Six Sigma Text: "Quality Management, SPC, and Six Sigma"
12	W, 12/7 R, 12/8	Review session
	12/9	**Due Date for Homework 3 (by 8:00 a.m.)**
	12/22	**Final Exam 9-11am (Room TBD)**

(*) the two dates of each session refer to the MW and TR class schedules.