

University of Pennsylvania, Wharton School
Department of Operations, Information and Decisions

OIDD 101 – Introduction to Operations and Information Management

Fall 2016

Professors: Gerard Cachon, cachon@wharton.upenn.edu
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Canvas: <https://canvas.upenn.edu/courses/1332799>

Lectures: Sec 001, Tuesday-Thursday, 1:30-3:00, JMHH, F94
Sec 002, Tuesday-Thursday, 3:00-4:30, JMHH, F94

Exam 1: Wednesday, October 19, 7-9 p.m., JMHH G06
Exam 2: Tuesday, December 20, 3-5 p.m., Location TBD

TA: Ben Gendelman (genben@wharton.upenn.edu)
Amy Lin (amylin3@wharton.upenn.edu)

Mentor: Ben Gendelman (genben@wharton.upenn.edu)

Office Hours

Gerard Cachon	Tuesday, 3:00 – 4:30	JMHH 543
Sergei Savin	Tuesday, 3:00 – 4:30	JMHH 570
Ben Gendelman	Wednesday, 3:00 – 5:00	JMHH 608
Amy Lin	Friday, 10:00 – 12:00	JMHH 608

Mentoring Sessions

Ben Gendelman	Wednesday, 7:00 – 8:00	JMHH TBD
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Overview

In this course we explore a variety of common quantitative modeling problems that arise frequently in business settings, and discuss how they can be formally modeled and solved with a combination of business insight and computer-based tools. The key topics we cover include capacity management, service operations, inventory control, structured decision making, constrained optimization and simulation. Through this course you will learn to model complex business situations and you will master tools to improve business performance. The goal is to provide a set of foundational skills useful for future

coursework at Wharton as well as providing an overview of problems and techniques that characterize disciplines that comprise Operations and Information Management.

The course assumes no specific background beyond basic mathematics skills. Familiarity with the basic operations of Excel is helpful, but not required – we will provide tutorials for the needed Excel skills. Furthermore, no prior experience with programming or statistics is expected.

Course Format

The course is divided into 13 weeks (which don't necessarily match with a calendar week due to holidays). Each week has two class sessions. The first class session is a lecture designed to introduce concepts. The second class session, which we will refer to as the "recitation", reinforces the concepts introduced in the week's lecture. Those sessions are divided roughly into two halves: in the first half we will work through calculations first introduced in the lecture, and in the second half you complete a "recitation exercise" that is graded. To promote learning, you are free to ask questions regarding the exercise while you are working on it.

Mentoring:

There is a weekly mentoring session. During the mentoring session the mentor (an experience undergraduate student, Ben Gendelman) will work through several practice problems related to the week's lecture materials. Mentoring sessions are intended to supplement rather than replace attending course sessions. Mentoring is strictly optional. The mentoring problems/slides will be posted on canvas so that they are available to all students in the course.

Course Material

Textbook:

There is a Custom Coursebook for this course available at the Penn. The book covers the material in the class. As the lectures/slides also cover the course material, the book is not strictly required. However, it is a useful resource to provide additional support, reference reading and practice problems. The Fall 2016 book is different than books from previous versions of OIDD 101.

Online:

Canvas is a web-based application that houses online materials for enrolled students across Wharton. You can access our course by logging into our Canvas page listed at the front of this syllabus.

The course Canvas will be the definitive source for all assignments and deadlines. You will not have access to Canvas until you officially register for the course.

Lecture notes:

Lecture notes are posted on Canvas. If we were to print lecture notes for distribution in-class, every student would be charged on their Bursar's bill. Because not all students use physical notes, for cost and environmental reasons, we post notes on-line; you can choose whether or not to print the lecture notes yourself.

Software:

In this course we use Excel, and in particular two Excel add-ins: Solver and Crystal Ball. All software required for the course is available through the Wharton computing labs in Huntsman Hall.

Deliverables and Grades

The following weights apply to determine your final score % in the course:

Six graded assignments	.30
Recitation exercises	.10
Exam 1	.30
Exam 2	.30

Final grades will be awarded approximately in the following proportions: 3% A+, 15% A, 25% A-, 24% B+, 18% B, 9% B-, 6% C+ or lower. The average final grade in the course will approximately equal a B+.

Academic Integrity:

Students are expected to adhere to the principles of the [University's Code of Academic Integrity](#).

Assignments:

You are required to complete six graded assignments during this course. The questions on these assignments are similar in nature to the questions on the exams. To promote learning, you may collaborate and/or consult with other students registered this semester in OIDD 101 on these assignments. In other words, you are not cheating if you discuss your solutions to these assignments with other students in this course. However, each student must submit his or her own assignment.

Partial credit is not given on assignments or exams. Assignments and exams contain numerous questions and in most cases the calculations needed for a question are independent of the calculations needed for another question.

Late assignments are not accepted. All assignments are due by 11:30 p.m. of the assigned due date (see the course summary). You submit your assignment electronically via Canvas.

Recitation Exercises:

You must attend the class sessions you are registered in. If you do not attend the section you are registered in, then you receive zero credit for the recitation exercise.

There are 12 recitations and 13 recitation exercises. The first recitation exercise, R0, is based on the course syllabus and is submitted via Canvas. Your recitation grade is the average of your top 11 recitation exercises (out of 13). Thus, you can miss up to two for any reason without penalty.

Exams:

There are two, non-cumulative examinations. You may use during either exam *one* 8.5"x11" sheet of paper that contains your name and whatever notes you wish to write on either side. You may hand write your notes or have them printed. You may only bring one sheet of paper – it is not acceptable to bring two pieces of paper stapled together even if you write on only the outside of each sheet. You are required to submit your note sheet along with your exam. You may not use during the exam any other notes, books, slides, handouts, etc – your only source of reference material is your one 8.5"x11" sheet of paper.

You may use a calculator (which includes graphing or programmable calculators) during the exam. However, you may not use a computer, smart phone, iPod or any electronic device that runs Excel or can communicate with another electronic device.

Both exams are common exams - all sections take their exam at the same time.

If you have an exam or regularly scheduled course that conflicts with an OIDD 101 exam, then you should submit a request for an alternative time via a Canvas (non-graded) quiz. You should submit your request no later than two weeks before the exam. In general, you will take the OIDD 101 exam in the two hours after the scheduled time for the exam, and if that is not possible, you will take it during the two hours prior to the scheduled time.

If you cannot attend an exam for any other reason, then you must provide documentation as to why you are not be able to attend (or were not able to attend). In general, excused absences are given only for serious health issues. If you are granted an excused absence from exam 1, then you will need to make up the exam (around November 1), or, if that is not possible, when exam 1 is offered in Spring 2017. If you are granted an excused absence from exam 2, then you will take a make-up exam during the university's scheduled make-up exam, January 12, 2017.

Support Questions and Assistance

The mentoring sessions provide a regular meeting for the discussion of the weekly course content. In addition to mentoring sessions there are regular Teaching Assistant (TA) that office hours. A TA office hours schedule will be posted on Canvas shortly after the beginning of the semester.

Concerns with Grading

If you have a question about your grade, please contact in writing (e.g., an email) the appropriate Professor (Cachon for the first half, Savin for the second). Your entire document will be reviewed. You may submit a request to review your assignment, exercise or exam only within the two-week period after the assignment/exercise was due or the exam was taken.

Waivers and Prior Experience

Many of you have significant experience with computer technologies. A potentially dangerous strategy is to assume that because you are technologically literate, you know everything you need to know about business modeling and quantitative analysis. While our goal is to make this class as accessible as possible to all students, it is very difficult to do well if you rely only on prior knowledge and/or doing the readings on your own.

As a rule, we do not grant waivers of OIDD 101 except for M&T students and dual degree students who are receiving a degree from Engineering in addition to Wharton.

Schedule Summary

Week	Lecture	Recitations	Topic	Assignments and recitations	Canvas submissions
1	30-Aug	1-Sep	Process performance metrics Read Chapters 2, 11 and 3.1-3.2		
2	6-Sep	8-Sep	Process improvement - capacity management Read Chapters 3.3-3.5, and 4	R0	6-Sep
3	13-Sep	15-Sep	Multiple flow units + setup costs Read Chapters 5, and 12	A1	13-Sep
4	20-Sep	22-Sep	Process interruptions - setup times Read Chapter 7		
5	27-Sep	29-Sep	Queuing dynamics and management Read Chapter 16	A2	27-Sep
6	4-Oct	11-Oct	Structured decision making	A3	13-Sep
Oct 19 - EXAM 1 - 7:00 - 9:00 - JMHH G06					
7	25-Oct	27-Oct	Modeling business decisions		
8	1-Nov	3-Nov	Linear modeling examples		
9	8-Nov	10-Nov	Sensitivity analysis	A4	8-Nov
10	15-Nov	17-Nov	Integer models		
11	22-Nov	29-Nov	Decision modeling under uncertainty	A5	22-Nov
12	1-Dec	6-Dec	Simulation examples		
13	8-Dec		Comparing alternative decisions using simulation	A6	8-Dec
Dec 20 - Exam 2 - 3:00 - 5:00					