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

OIDD 101 – Introduction to Operations and Information Management

Spring 2016

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	Roman Tschupp, roman.tschupp@gmail.com

Canvas: https://canvas.upenn.edu/courses/1268563

Lectures: Sec 001, Tuesday, 10:30-12:00, JMHH, G06
Sec 002, Tuesday, 1:30-3:00, JMHH, G06

Recitations: **All in JMHH**
Section 201, Thursday, 9-10:30, 380, Goel
Section 202, Wednesday, 3:00 - 4:30, 375, Squire
Section 203, Thursday, 9-10:30, F75, Lee
Section 204, Thursday, 10:30-12:00, 380, Goel
Section 205, Thursday, 10:30-12:00, F75, Lee
Section 206, Thursday, 12:00-1:30, 380, Goel
Section 207, Thursday, 1:30-3:00, F75, Drobnicki
Section 208, Thursday, 1:30-3:00, 380, Fu
Section 209, Thursday, 12-1:30, F75, Drobnicki
Section 210, Wednesday, 10:30 - 12:00, F75, Tschupp
Section 211, Wednesday, 12:00 - 1:30, F75, Tschupp
Section 212, Wednesday, 9-10:30, 375, Tschupp
Section 213, Wednesday, 12-1:30, 375, Squire
Section 214, Wednesday, 3:00 - 4:30, F75, Fu

Exam 1: Tuesday, March 1, 6-8 p.m., Location TBD
Exam 2: Monday, May 9, 3-5 p.m., Location TBD

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Christina Zajkowski, czaj@wharton.upenn.edu
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Office Hours

Gerard Cachon	Tuesday, 3:00 – 4:30	JMHH 543
Sergei Savin	Tuesday, 3:00 – 4:30	JMHH 570
Magda Drobnicki,	Tuesday, 4:30 – 6:00	JMHH 555
Youran Fu,	Monday, 12:00 - 1:30	JMHH 532.4
Dhruv Goel,	Tuesday, 12:00 - 1:30	JMHH 555
Candice Lee,	Monday, 12:00 - 1:30	JMHH 608
Sarah Squire,	Monday, 12:00 - 1:30	JMHH 608
Roman Tschupp,	Thursday, 9:00 - 10:30	JMHH 555

Teaching Assistant office hours:

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 AM					
10:00 AM			Allison	Tai	
			Allison	Tai	
11:00 AM	Josh		Allison	Tai	
	Josh		Allison	Tai	
12:00 PM	Vivian Vo	Mobi			
	Vivian Vo	Mobi			
1:00 PM	Vivian Vo	Namita			
	Vivian Vo	Namita	Josh	Casey	Matt
2:00 PM		Namita	Josh	Casey	Matt
		Namita			Matt
3:00 PM	Casey	Mobi			Matt
	Casey	Mobi	Vivian Jair		
4:00 PM	Hemal		Vivian Jair + Hemal		
	Hemal	Jake	Vivian Jair + Hemal		
5:00 PM		Jake	Vivian Jair		
		Jake			
6:00 PM		Jake			

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

You will attend one large (about 225 students) lecture per week (on Tuesday) and one small (30 to 38 students) recitation per week (on Wednesday or Thursday). Lectures are designed to introduce concepts and recitations are designed to reinforce those concepts. Each recitation begins with a "recitation problem" that you should be prepare to discuss (the problem is distributed in the previous lecture). In the second half of each recitation 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:
We will schedule weekly mentoring sessions that constitute small groups (5-15 fifteen students) working with an experienced upper-class student to solve practice problems related to the week's lecture materials. They are intended to supplement rather than replace lectures and recitation. Students will have the opportunity to sign-up for mentoring on a first-come-first-serve basis at the beginning of the semester. Mentoring is strictly <u>optional</u> so you do not have to sign-up. However, for those students who do sign-up, there is an expectation that you attend throughout the semester. This is so that we can manage the workload consistently and ensure fairness.

OIDD 101 - Spring 2016 - Mentoring Schedule

| | | | Location | |
Day	Time	Mentor	Week 1	Weeks 2+
Tuesday	4:30-5:30	Nischay	SHDH 107	SHDH 107
Tuesday	5:30-6:30	Nischay	SHDH 107	SHDH 107
Tuesday	4:30-5:30	William	SHDH 1203	SHDH 1203
Wednesday	3:00-4:00	Christina	JMHH 355	JMHH F92
Wednesday	4:00-5:00	Christina	JMHH 355	JMHH F92
Wednesday	4:30-5:30	William	JMHH G94	SHDH 109
Wednesday	5:00-6:00	Nitin	JMHH G92	JMHH F50
Wednesday	6:00-7:00	Nitin	JMHH G92	JMHH F50
Thursday	7:00-8:00	Ivy	JMHH F92	JMHH F92
Thursday	8:00-9:00	Ivy	JMHH F92	JMHH F92

Course Material

Textbook:
There is a Custom Coursebook for this course available at the Penn Bookstore for about $100. 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 same book was used in the Spring 2014 and 2015 course.

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

To determine your final score percentage, calculate your score percentage for each of the four categories above and then use the weights above to evaluate the final score percentage. For example, say you receive 56 out of 60 on the assignments, 105 out of 110 on recitation exercises, 26 out of 30 on Exam 1, and 28 out of 30 on Exam 2. Your final score would then be

$$100 * [0.3 * (56/60) + 0.1 * (105/110) + 0.3 * (26/30) + 0.3 * (28/30)] = 91.5454$$

(Final scores are not rounded.) To encourage everyone to learn the material to the fullest and to promote cooperation among students, final letter grades are assigned using absolute thresholds rather than a curve (Note, "[91 – 97)" means "equal to 91 and greater, but strictly less than 97"):

Final Score %	Final Letter Grade	% of Spring 2015 class receiving this grade
[97 – 100]	A+	5
[91 – 97)	A	12
[88 – 91)	A-	18
[84 – 88)	B+	25
[80 – 84)	B	20
[74 – 80)	B-	10
[66 – 74)	C+	7
[60 – 66)	C	3
[40 – 60)	C-	<1
[30 – 40)	D	<1
[0 – 30)	F	<1

(The grade distribution from last year is provided only as a sample of one outcome. This year's distribution is likely to be different.)

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 <u>may</u> 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). Assignments 1, 2, 4, 5, and 6 are due on Tuesdays. Assignment 3 is due on a Saturday. You submit your assignment electronically via Canvas.

Recitation Exercises:
You must attend your registered recitation section (and only the recitation section for which you are registered). If you do not attend your recitation section, you receive zero credit for the recitation exercise (which must be submitted at the end of the recitation section).

There are 12 recitations and 13 recitation exercises. The first recitation exercise, R0, is due Monday, February 1, 11:30 p.m. It 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 either by taking a makeup exam after Spring Break or by taking the 1st exam from OIDD 101 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 period in early September 2016.

Support Questions and Assistance

The mentoring sessions provide a regular meeting for the discussion of the weekly course content. In addition to mentoring sessions we also have course Teaching Assistants (TAs) that hold regular office hours and can answer questions by e-mail about the course material or assignments. An office hours schedule will be posted on Canvas shortly after the beginning of the semester.

Concerns with Grading

Feel free to discuss the answers to any assignment with TAs, Mentors or Instructors. If you have a question about your grade, please contact in writing (e.g., an email) the appropriate person: Instructors for recitation exercises, or Professors for assignments and exams. 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.

Discussion Board

Given that we have a very large class, we find that an effective way to ask questions and have them answered is via the course discussion board which can be found on Canvas. As a courtesy to others, do not post a question unless you have read through the posted questions – your question may have already been asked and answered. But if you have a new question regarding a lecture or an assignment or an administrative procedure, then feel free to post the question on the discussion board. (Obviously, questions that pertain

only to you should be directed to the appropriate person, but many questions are of potentially broad interest and therefore suitable for the discussion board.)

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 (if you are dual degree, see your instructor for options).

Schedule Summary

Week	Lecture	Recitations	Topic	Assignments and recitations	Canvas submissions
0	-	-	**No lecture or recitations the week of 1/12**		
1	Jan 19	Jan 20-21	Process performance metrics Read Chp 2.1-2.4; Chp 3.1-3.4		
2	Jan 26	Jan 27-28	Process improvement - capacity management Read Chp 3.5-3.6; Chp 4.1-4.6 (We do not cover "cost of direct labor" calculations)		
3	Feb 2	Feb 3-4	Process improvement - setup times Read Chp 7.1-7.4	R0 A1	Mon, Feb 1 Tue, Feb 2
4	Feb 9	Feb 10-11	Process improvement - setup costs Read Chp 7.5-7.09		
5	Feb 16	Feb 17-18	Queuing dynamics and management Read Chp 8.1-8.6; 8.9-8.12	A2	Tue, Feb 17
6	Feb 23	Feb 24-25	Structured decision analysis		
7	-	-	**No lecture or recitations the week of 3/1** **Mar 1 - EXAM 1 - 6:00 - 8:00**	A3	Sat, Feb 27
8	Mar 15	Mar 16-18	Modeling business decisions		
9	Mar 22	Mar 23-25	Linear modeling examples		
10	Mar 29	Mar 30-Apr	Sensitivity analysis	A4	Tue, Mar 29
11	Apr 5	Apr 6-8	Integer models		
12	Apr 12	Apr 13-15	Decision modeling under uncertainty	A5	Tue, Apr 12
13	Apr 19	Apr 20-22	Simulation examples		
14	Apr 26	-	Comparing alternative decisions using simulation	A6	Tue, Apr 26
	-	-	**May 9 - Exam 2 - 3:00 - 5:00**		