# University of California, Berkeley Walter A. Haas School of Business

## **EWMBA 204: Operations**

Fall 2024 Course Syllabus

(Last updated: 8/6/2024)

Lectures: Mondays (Blue) / Tuesdays (Gold) 6-9:30PM @ Chou N470

Discussions: Sundays 1-2PM at

Instructor: Professor Park Sinchaisri

Email:

Office Hours: By appointment

GSI for Blue: Ross Crockett, EWMBA'25 GSI for Gold: Veronica Peltz, FTMBA'25

Email: Email:

Office Hours: Thursdays 12-1PM Office Hours: Wednesdays 7:30-8:30PM

Note: If you have class questions, please contact your cohort's GSI who will serve as the main contact point and address issues directly or redirect them to another member of the teaching team. You can also submit anonymous feedback/questions: bit.ly/OpsWeekly24

## **Course Description and Overview**

Operations is the design and management of the processes that transform inputs into finished goods or services. Operations is one of the primary functions of a firm. While marketing induces the demand for products and finance provides the capital, operations *produces and delivers* the product (goods and services). It is responsible for matching supply with demand. This course introduces the concepts and analytic methods that are useful in understanding the management of a firm's operations.

We will cover topics in Operations that are relevant both for products and services. Our aim is to (1) familiarize you with the problems and issues confronting operations managers, and (2) provide you with language, concepts, insights, and tools to deal with these issues in order to gain competitive advantage through operations. We will cover a wide range of topics: process analysis, queueing theory, quality control, inventory and supply chain management, operations strategy, and emerging topics including platforms, the future of work, people operations, and sustainability. Examples will be drawn from a diverse set of services and products, from food to fashion, from hotels to healthcare, from e-commerce to ride-hailing.

Class sessions will have a mix of a lecture and discussion that will provide the foundational material on a topic, and a case discussion. The GSI-led discussion sessions will be <u>online and optional</u>, and take several different formats, including reviews of materials, problem-solving sessions, and informal sessions to help you in preparing the cases. A recording of the session will be posted to bCourses. Throughout the course, you will also gain hands-on exposure to the concepts from experiential simulation and in-class exercises.

**EWMBA 204: Operations Course Outline** (subject to change)

#	Date	Topic/Case (Optional Textbook Readings)	Assignment/Prep
1A	Mon 7/29 (Blue) Tue 7/30 (Gold)	Process I: Process Analysis Mortgage Exercise Mini Case: Pick-up Pizza (MSD 2.2, 2.6, 3.1-3.5)	Pre-Course Survey due 6PM one day before class Read Mortgage Processing at Haas Bank Read Pick-up Pizza Read Beleza Natural*
1B		Process II: Process Choice Case: Beleza Natural (MSD 2.6)	
D1	Sun 8/4	Review Process Analysis and Choice	
2A	Mon 8/5 (Blue)	Process III: Process Flow + Little's Law Case: National Cranberry Cooperative (NCC) (MSD 2.3, 3.6, 4.2-4.3)	CC1 + NCC report due 6PM one day before class
2B	Tue 8/6 (Gold)	Queue I: Variability + Waiting Time Mini Case: Rent the Runway (MSD 2.3, 9.1-9.6)	Read National Cranberry* Read Rent the Runway
D2	Sun 8/11	Review Flow, Little's Law, Waiting Time, Statistics	
ЗА	Mon 8/12 (Blue)	Queue II: Throughput Loss + Managing Queues (MSD 10.2-10.4)	CC2 due 6PM one day before class
3B	Tue 8/13	<b>Quality I:</b> Capability + Lean (MSD 8.1-8.5, 8.7-8.8, 7.1-7.2)	Read Statistics Review Read Toyota (optional)
D3	Sun 8/18	Review Queue II, Lean, Six Sigma, Midterm Prep	
4A	Mon 8/19 (Blue) Tue 8/20 (Gold)	Quality II: Statistical Process Control Case: Ritz-Carlton (MSD 7.3-7.7)	CC3 + Ritz-Carlton due 6PM one day before class
4B		Experiential Supply Chain Exercise Spieker Forum, Chou Hall 6 <sup>th</sup> Floor, bring laptop Guest Speaker: Shaan Parasnis (MBA'14) (Owner of Hotel Shattuck Plaza, Head of Product, GreenPen Al Labs, previously at Rad Al, Microsoft)	Read Ritz-Carlton* Read Preparing for the Experiential SC Exercise
D4	Sun 8/25	Review Statistical Process Control, Statistics	

SCM I: Economic Order Quantity + Newsvendor (Blue)   Tue 8/27 (Gold)   SCM II: Supply Chain Coordination (MSD 19.1-19.4)	eam					
Second   Cold						
Tue 9/3 (Blue & Gold Combined Class in N100)  Begin and Strategy I: Risk-Pooling Case: Zara (MSD 15.1-15.4, 17.1, 17.3)  Begin and Combined Class in N100  Tue 9/10  Tue 9/10  Tue 9/10  Tue 9/3  SCM IV: Quick Response & Revenue Management Case: Crocs (MSD 18.1-18.4, 15.3-15.4)  Tue 9/10  Tue day 9/3  Tue sday						
Gold Combined Class in N100)  Begin and Combined Class in N100)  Case: Crocs (MSD 18.1-18.4, 15.3-15.4)  Case: Zara (MSD 15.1-15.4, 17.1, 17.3)  Case: Zara (MSD 15.1-15.4, 17.1, 17.3)  The pare for Littlefield Simulation  Case: Crocs (MSD 18.1-18.4, 15.3-15.4)  Case: Zara (MSD 15.1-15.4, 17.1, 17.3)  Case: Zara (MSD 15.1-15.	Л					
Class in N100)  Class in N100)  Case: Crocs (MSD 18.1-18.4, 15.3-15.4)  Case: Crocs (MSD 18.1-18.4, 15.3-15.4)  Review Midterm solutions, Revenue Management  Mon 9/9 (Blue) Tue 9/10 (Gold)  The Mark (MSD 15.1-15.4, 17.1, 17.3)  Prepare for Littlefield Simulation  Case: Zara (MSD 15.1-15.4, 17.1, 17.3)  Prepare for Littlefield Simulation  Littlefield Simulation: Wednesday 9/11 6PM – Friday 9/13 8PM  D7 Sun 9/15 Review Quick Response, Risk Pooling  Strategy II: Platform Cases: Amazon + Upwork + Uber  Case: Amazon + Upwork + Uber  Read Crocs*  Read Crocs*  Read Crocs*  Read Crocs*  CC6 due 6PM one of before class  Read Zara*  Littlefield Simulation  Case: Zara (MSD 15.1-15.4, 17.1, 17.3)  Read Zara*						
Mon 9/9 (Blue) Tue 9/10 (Gold)  Read Zara*  CC6 due 6PM one of before class (MSD 15.1-15.4, 17.1, 17.3)  Prepare for Littlefield Simulation  Littlefield Simulation: Wednesday 9/11 6PM – Friday 9/13 8PM  D7 Sun 9/15  Review Quick Response, Risk Pooling  Strategy II: Platform Cases: Amazon + Upwork + Uber  CC6 due 6PM one of before class Read Zara*  Littlefield Simulation  CC6 due 6PM one of before class Read Zara*  Littlefield Strategy Strat						
7A (Blue) Tue 9/10 (Gold)  7B (Gold)  Prepare for Littlefield Simulation  Case: Zara (MSD 15.1-15.4, 17.1, 17.3)  Prepare for Littlefield Simulation  Littlefield Simulation: Wednesday 9/11 6PM – Friday 9/13 8PM  D7 Sun 9/15 Review Quick Response, Risk Pooling  Strategy II: Platform Cases: Amazon + Upwork + Uber  Littlefield Strategy Sun 9/15 due 1PM Sunday 9/15 Cases: Amazon + Upwork + Uber						
Littlefield Simulation: Wednesday 9/11 6PM – Friday 9/13 8PM  D7 Sun 9/15 Review Quick Response, Risk Pooling  Strategy II: Platform Cases: Amazon + Upwork + Uber  Littlefield Simulation  Littlefield Strategy Sdue 1PM Sunday 9/	lay					
D7 Sun 9/15 Review Quick Response, Risk Pooling  Strategy II: Platform Cases: Amazon + Upwork + Uber  Littlefield Strategy S due 1PM Sunday 9/						
Strategy II: Platform Cases: Amazon + Upwork + Uber  Littlefield Strategy S due 1PM Sunday 9/	Littlefield Simulation: Wednesday 9/11 6PM – Friday 9/13 8PM					
Cases: Amazon + Upwork + Uber   due 1PM Sunday 9/						
(Blue) Tue 9/17 (Gold)  Guest Speaker: Kit Cutler (Director of Supply Chain & Operations at Collaborative Robots, previously at Apple & Zoox)  Read Amazon* (opting Read Upwork* (opting Read Upwork* (opting Read Uber* (options))	onal)					
Littlefield Simulation Debrief						
D8 Sun 9/22 Review Platforms, Product Management						
9A Mon 9/23 (Blue) Cases: StubHub + Tessei Read StubHub* Read Tessei*						
9B Tue 9/24 (Gold) Course Wrap-Up + Final Exam Review Bring laptop to class						
D9 Sun 9/29 Review for Final Exam (2 hours)	ì					

# **Online-Based Integrative Final Exam**

**Blue:** Exam: Monday 9/30 6-11:59PM + Operations for My Job: Tuesday 10/1 11:59PM **Gold:** Exam: Tuesday 10/1 6-11:59PM + Operations for My Job: Wednesday 10/2 11:59PM

<sup>\*</sup> denotes readings on Study.Net Course Reader

### **Assignments and Grading**

Your course grade will be determined by your performance on:

Class preparation and contribution 12%

Weekly concept checks (x 6) 12% (online + unlimited attempts)

Group case reports (x2) 12% (6% each)

Littlefield Simulation (Week 7) 14% (8% performance + 6% strategy slides)

Mid-Course Take-Home (Week 4) 16% Online Final Exam (Week 10) 34%

**Class contribution (12%)** grades will be determined based on the extent to which you demonstrate that you are prepared, the relevance and depth of your comments (their quality, not quantity), and the degree to which you listen carefully and respond to your peers. Although participating in lecture sessions is also of value, a primary means by which students will distinguish themselves in their "class contribution" is by thoroughly preparing cases and participating in case discussions in a way that brings insight to the rest of the class. Failure to attend class will have adversely affect the "class contribution" portion of your final grade. Use of an electronic device (e.g., phone, tablet, computer) for anything unrelated to the course during class time will materially and adversely affect your final course grade. You should expect to be "cold called<sup>1</sup>." In particular, you are expected to be well prepared for case discussions. In addition, students are encouraged to share with the class relevant connections between the material we cover and their own work experience. For example, if you want to volunteer to make a short presentation that relates your current/past work experience in Operations to some content of the course, please email Professor Sinchaisri and your Head GSI a short description of the topic you'd like to present.

There will be **6 weekly concept checks (12%)** designed to ensure that you understand basic analysis tools and are keeping up with the fundamental quantitative concepts for the first 6 weeks. To keep your workload manageable and to allow you to focus on building the basic intuition, these checks are intended not to be overly difficult but may challenge you to adapt the concepts in complex settings. You are allowed to collaborate with other students registered this semester in the course. However, each student must submit their own assignment on bCourses. You have <u>unlimited attempts</u> until the deadline; the <u>highest score</u> will be kept. Each concept check is due at 6PM one day before the following week's class. The breakdown of grades is as follows: CC1 (4) + CC2 (8) + CC3 (5) + CC4 (4) + CC5 (4) + CC6 (5) = 30 total points → 12% of final grade.

There will be **2 group case reports (12%)**. Prior to the case discussion, you may work with a team of <u>up to SIX people</u> to prepare a short case report on your analysis and

\_

<sup>&</sup>lt;sup>1</sup> This practice is not meant to be adversarial. Instead, its purpose is to encourage you (1) to develop the business-relevant skill of being able to think on your feet and be articulate and (2) to prepare in advance for class and be engaged in the class discussion. If exceptional circumstances leave you unprepared for a case discussion, let the instructor know before class begins.

recommendations. These cases will prepare you for new materials to be discussed during class. The instructions are provided in the detailed course plan in this syllabus as well as on bCourses. You do not have to stick with the same team for all reports. You can also work individually. Grading is for completion and reasonable justification; there are more than one way to analyze each case. Since the cases will be discussed in class, the reports are due at 6PM one day before the respective class.

Deadlines for group case reports

Case	Due date (at 6PM one day before class)
National Cranberry Cooperative	Week 2: Sun 8/4 (Blue) Mon 8/5 (Gold)
Ritz-Carlton	Week 4: Sun 8/18 (Blue) Mon 8/19 (Gold)

The final group assignment is **Littlefield Simulation (14%)**, which is an internet-accessed simulation that runs continuously for **2 days and 2 hours (50 hours total)** from **Wednesday, September 11, 6PM** to **Friday, September 13, 8PM**. In this simulation, you will work as a <u>team of SIX</u> to manage (virtually) the operations of an organization. Each group will submit PowerPoint slides on their strategy and discuss them in class (instructions available on bCourses). <u>The Littlefield simulation is time intensive</u>, so you should plan to devote additional time to the course during the simulation. In addition, it is essential to do quality pre-work before the simulation begins; groups should plan to allocate time for this pre-work analysis accordingly. We will introduce Littlefield Simulation and provide access to the simulation in Week 6. Session 8B is dedicated for you to strategize.

Key dates for Littlefield Simulation

Register your team of 6 on bCourses	The weekend before access	
Access to simulation available	One week before simulation starts	
Simulation starts	Wednesday 9/11 6PM	
Simulation ends	Friday 9/13 8PM	
Submit 4-slide Strategy Deck	Sunday 9/15 1PM	
In-class debrief	Class 8B: M 9/16 (Blue) T 9/17 (Gold)	

<u>Mid-Course Take-Home (16%)</u> will be a take-home exam, available online at the end of the 4B session: Monday, August 18 (Blue) or Tuesday, August 19 (Gold), 2024. The deadline to submit your work is: Saturday, August 23 (Blue) or Sunday, August 24 (Gold), 2024 at 1PM.

- The exam is designed to be completed within three hours, but you can take as much time as you would like until the deadline. In other words, there is no time limit during the exam-taking window (e.g., you have full 111.5 hours).
- You can choose to either (i) request a printed exam to be distributed after 4B (or print your own), work on the printed exam, and then scan them as a single PDF file, or (ii) annotate the PDF on your tablet and export it as a single PDF file. Submit your work on bCourses by the deadline.
- The exam covers materials discussed through 4A (Week 4), including the qualitative discussion of the *Ritz-Carlton* case, but excluding Statistical Process Control.

- The exam will be both quantitative and qualitative. The qualitative portion will draw on the cases, lectures, readings, and in-class discussions. You will be responsible for details in the cases that point to and illustrate the course concepts (the purpose here is to have the exams reflect the class discussion, and to reward those who prepared for and participated in those discussions).
- The exam is done <u>individually</u> and is an opportunity for you to assess your understanding of the material at the mid-point of the course. <u>You must show your work to receive full credit for each question.</u>

## **Final Exam (34%)** will consist of two parts:

- Part A: Operations for My Job (12%) is a take-home assignment due Tuesday,
   October 1 (Blue) or Wednesday, October 2 (Gold), 2024 at 11:59PM
  - o Reflect on how what you learned in Operations can be applied to your job. Describe the context and challenge(s) your company/you are facing and apply tools/concepts from at least three different sessions to address them. Please use the current/upcoming challenges rather than challenges that have already been solved. Think of this assignment as a short case report on your company (also a way to help your job). Bonus points for creative but realistic use of the concepts/tools.
  - You can also choose an organization you are passionate about and can describe their context/challenges well. You do not have to also be in an operations role to use tools from operations.
- Part B: Integrative Exam (22%) will be online-based on the day of class in Week 10:
   Monday, September 30 (Blue) or Tuesday, October 1 (Gold), 2024. The online
   exam-taking window will start at 6PM and close at 11:59PM.
  - The exam is designed for three hours.
  - o The exam integrates all concepts we have covered in the class with emphasis on materials since Statistical Process Control in 4A. The format is similar to the Mid-Course Take-Home, consisting of quantitative, qualitative, and multiple-choice questions. The qualitative portion will draw on the cases, lectures, readings, and in-class discussions. You will be responsible for details in the cases that point to and illustrate the course concepts (the purpose here is to have the exams reflect the class discussion, and to reward those who prepared for and participated in those discussions).
  - o The exam is done <u>individually</u>. <u>You must show your work to receive full credit</u> for each question. Submit your work as a single PDF on bCourses.

<u>Late assignments are not accepted, even for partial credit.</u> You must submit your assignments electronically via bCourses. Submitting group work requires that the students contributed roughly equally to the assignment. In preparing for class (e.g., cases) or exams or in completing written assignments, you may not benefit from notes, discussions with course participants, or any other material from any previous offering of this, or a similar, course.

## **Haas EWMBA Academic Integrity**

The Haas School of Business has a zero tolerance policy for academic dishonesty. In preparing for class or exams or in completing assignments, you may not benefit from notes, discussions with course participants, or any other material from any previous offering of this, or a similar, course. The Code of Conduct for the EWMBA program can be accessed at https://haas.berkeley.edu/ewmba/academics/code-of-conduct/

It will be a violation of academic integrity if you base your assignments on solutions you have found on the Internet or which you have obtained from classmates in prior years. I reserve the right to fail you for the course if I become aware of such a violation.

## **UC Berkeley Academic Accommodations Policy**

UC Berkeley is committed to creating a learning environment that meets the needs of its diverse student body including students with disabilities. If you anticipate or experience any barriers to learning in this course, please feel welcome to discuss your concerns with me.

If you have a disability, or think you may have a disability, you can work with the Disabled Students' Program (DSP) to request an official accommodation. The Disabled Students' Program (DSP) is the campus office responsible for authorizing disability-related academic accommodations, in cooperation with the students themselves and their instructors. You can find more information about DSP, including contact information and the application process here: dsp.berkeley.edu. If you have already been approved for accommodations through DSP, please meet with me so we can develop an implementation plan together." More information at <a href="https://evcp.berkeley.edu/programs-resources/academic-accommodations-hub#accommodations">https://evcp.berkeley.edu/programs-resources/academic-accommodations-hub#accommodations</a>. Students who need academic accommodations or have questions about their accommodations should contact DSP, located at 260 César Chávez Student Center. Students may call 642-0518 (voice), 642-6376 (TTY), or e-mail <a href="mailto:dsp@berkelely.edu">dsp@berkelely.edu</a>

#### **Course Materials**

bCourses will be the source for all class materials and assignments. Lecture slides, Course Reader (Study.Net), as well as discussion materials and additional materials, will be posted on bCourses. The cases for our in-class discussion are available in an electronic form on the Course Reader. All other readings will be handed out in class and/or posted to bCourses.

There is no required textbook. If you would like supplementary reading addressing the tools and concepts in the course, one optional book is recommended:

- Matching Supply with Demand ("MSD") by Gerard Cachon and Christian Terwiesch. McGraw-Hill, 5<sup>th</sup> Edition, 2023
  - o There are 3 copies of ebook versions of this textbook available for 7 day checkout here: <a href="https://ebookcentral-proquest-com.libproxy.berkeley.edu/lib/berkeley-ebooks/detail.action?docID=7168671">https://ebookcentral-proquest-com.libproxy.berkeley.edu/lib/berkeley-ebooks/detail.action?docID=7168671</a>

#### **Modes of Communication**

Email is generally an efficient means of communication to inform the teaching team of material you think may be of interest to the class (e.g., your work experience, or a link to a video or recent article), or to ask an administrative question that is personal and not addressed in the syllabus (most administrative issues are addressed in the syllabus, so please check first). **Make sure you put [EWMBA204] in your email subject.** 

We set up a Slack server for our class as our *preferred* communication channel to foster collaboration and centralize all questions and answers regarding the materials, logistics, and assignments. We find that, as a mode of communication, email tends to be an inefficient way to resolve subtle questions about concepts or problems. The teaching team is happy (and, in fact, eager) to address any questions you may have of this type, but encourages you to ask in person (see our office hours) or via Slack, as this is much more efficient than the route of typing out lengthy emails and going back and forth.

#### **Class Attendance**

Please attend class with the cohort for which you are registered. Following guidance from the program office, switching cohorts is not allowed. If you must miss a class due to an emergency or unavoidable conflict:

- Make sure to submit any deliverables by the due date for your cohort regardless.
- A video recording of the class will be made available by the end of the week.
- Please notify the GSI in advance that you are missing class.

#### **Classroom Norms**

Business school classes take place in an environment that supports learning and encourages the exchange of ideas. Behavior that distracts students and the instructor negatively affects the learning environment. Arriving to class late, leaving class early, or walking in and out of class during a class session is distracting to students and the instructor. Avoiding these behaviors shows respect to your fellow students and the learning environment.

We will follow the following classroom norms established by Haas:

• Tech-free: Keep phones in bags and on silent. **Refrain from using laptops**, unless for approved purposes. Tablets or other electronic note-taking devices are allowed, but should lie flat, be kept in airplane mode, and only used for note-taking in a manner that is not distracting or disruptive. If you violate this policy, you face, at a very minimum, a substantial penalization in the class participation portion of your grade; more substantial measures and grade penalizations can be applied at the discretion of the instructor. In some lectures, we will have "work with your neighbor" exercises. The use of electronics is allowed for the purpose of calculations during these exercises.

- Prompt: Arrive on time at the beginning of class and after breaks. If arriving late without prior approval, enter during a break in order to minimize disruption.
- Present: Do not leave class unless a personal emergency arises. For online sessions, please try to keep your camera on, raise hand when you would like to speak, mute when not speaking, and be respectful and constructive in the chat.
- Inclusive: Step up / step back in class discussions to ensure that a wide variety of voices, perspectives, and experiences are heard. Encourage your classmates to do the same.



#### Other Administrative Information

It will be difficult to receive a good grade in the course without regular attendance. It is also expected that you be prepared for every class. To help the instructor and GSI learn your names as quickly as possible, we ask that you use your name cards regularly. Your seat on the first day of class will determine your seat for the semester.

All courses in Chou Hall tiered classrooms are automatically recorded and posted to your course's Media Library. Students do not need to submit recording requests. For more details, visit the program's video recording <u>policy</u>.

Group work is encouraged for purposes of general class preparation and for the written assignments. You should not, however, benefit from anyone who has already participated in a faculty-led discussion of the case at Haas or any other school, or from other materials, even if they are publicly available. Much of the value of preparing cases is in the process itself, even if your group ultimately selects a less-preferred alternative or approach. Plagiarism and other forms of cheating will not be tolerated.