

# SCM 315 – Business Decision Models

## Course Syllabus

Spring 2022

**Instructor:** Iman Parsa  
**Email:** [Iman.Parsa@asu.edu](mailto:Iman.Parsa@asu.edu)  
**Office:** Zoom  
**Office Hours:** By appointment ([via this link](#))

**Class Type:** **Hybrid**  
**In-person Lab:** Tuesday, 10:30 am to 11:45 am  
**Location:** Tempe Campus – BAC213  
**Online:** Weekly videos on Canvas  
**Dates:** 01/10/21 – 04/29/21

### Course Overview

The ability to analyze complex information and make high quality decisions is critical for managers. It is no longer enough to rely on intuition or common sense. Tools such as datamining, optimization, decision trees, and simulation enable us to analyze problems and provide high quality solutions. Therefore, we will learn how to apply such tools, and ensure that our solutions work in a wide variety of situations.

### Important Notes

This course is a hybrid course where you are required to watch one lecture's worth of videos on average per week, as well as attend one lab session in-person per week.<sup>1</sup> In general, videos will focus on additional software implementation examples. To best succeed in this course, you must treat watching videos the same as attending a traditional lecture. This means you must take notes, practice the material, and study the content in these videos. Failure to keep up to date with the videos will greatly hinder your ability to succeed.

It is important to remember that this course will progress very quickly as it covers many different topics. To not fall behind, you must stay up to date with all content (videos, exercises, assignments). Once students fall behind, it is often difficult to catch up.

### Covid-19

The course adheres to Office of University Provost's [guidelines](#), including face covering requirements.

In case you cannot attend class in person as a result of illness or possible exposure to infectious disease, you may participate in this class remotely via ASU Sync. To participate remotely, send an email to the instructor, at least 12 hours prior the class, to receive a Zoom link to attend class live.

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<sup>1</sup> The video lectures are the courtesy of Iryna Printezis, Brett Duarte, Christopher Wishon.

**Table of Contents**

COURSE WEBSITE..... 2

DROP/ADD DEADLINES ..... 2

PREREQUISITES..... 2

RESPONDUS BROWSER FOR EXAMS ..... 2

COURSE MATERIALS ..... 2

COURSE SOFTWARE ..... 2

GRADES ..... 2

QUIZZES ..... 3

HOMEWORK ASSIGNMENTS ..... 3

IN-VIDEO QUESTIONS ..... 3

VISUALIZATION PROJECT ..... 4

EXAMS ..... 4

ATTENDANCE, PARTICIPATION AND ABSENCE ..... 5

OTHER SYLLABUS ITEMS REQUIRED BY ASU AND/OR THE W. P. CAREY SCHOOL OF BUSINESS ..... 6

COURSE SCHEDULE ..... 8

## **Course Website**

The following is a list of things typically available on [the course website](#):

- Syllabus, Course Announcements
- Lecture Materials – Excel files, Slides, Practice exercises and solutions
- Quizzes, Homework assignments
- Exams
- Grades

It is the student's responsibility to check the course website daily for announcements and materials. For IT related issues and problems accessing Blackboard send a detailed question to [wpcarey.support@asu.edu](mailto:wpcarey.support@asu.edu).

## **Drop/Add Deadlines**

- Last day to enroll/drop: January 16
- Course withdrawal deadline: April 03

## **Prerequisites**

Fundamental knowledge in Global Supply Operations (SCM 300 or 303). You are expected to be proficient in word processing, slide presentations, and spreadsheet packages.

## **Respondus Browser for Exams**

Part of the exams will require students to use the updated version of Respondus Browser.

Make sure to read the [instructions](#) on how to install, update, and use the Respondus Browser for the exams. You need to take the Honor Code Acknowledgement to be able to take the exams. Try to take this as a practice for using Respondus early in the course to make sure you are familiar with it.

**Students are allowed to use a pen, scratch paper and a calculator in these portions of online exams.  
ELECTRONIC DEVICES ARE NOT ALLOWED DURING THE EXAM.**

## **Course Materials**

This course does not require a textbook. The recommended textbook is: *Business Analytics, Evans, McGraw Hill 2nd Edition*.

## **Course Software**

Access to a computer will be required to complete the course.

- Windows or Mac (macOS 10.14 or later) computer with internet access
- Microsoft Office 365 or Free Microsoft Office Online

This course requires two pieces of software which must be installed early in the course. Please refer to the "Course Software" section of Canvas for all instructions on accessing/installing the course software.

## **Grades**

The class has a maximum score of 1,000 points. Course grades are broken into five categories: 1) Quizzes, 2) Homework assignments, 3) In-video questions, 4) Visualization Project, and 5) Exams. Notice that in-video

questions have point caps. In other words, more points are possible than can actually be earned. Any points earned over the maximum possible in any category will not be added to your grade

Grade Component		Maximum Points
9 Quizzes	30 points each	270
5 Homework assignments	40 points each	200
In-video questions	30 points max.	30
Visualization project		100
2 Exams	200 points each	400
<b>Total</b>		<b>1,000</b>

### Grade ranges

<b>A +</b>	1000-975	<b>B +</b>	899.5-870	<b>C+</b>	799.5-770	<b>D</b>	699.5-600
<b>A</b>	974.5-930	<b>B</b>	869.5-830	<b>C</b>	769.5-700	<b>E</b>	600-0
<b>A -</b>	929.5-900	<b>B -</b>	829.5-800				

- These cut-offs are firm (i.e., 799.9 points is a C+ and will not round up to a B-).
- To pass the class, the University requires that students earn a grade of C or above.
- All graded work must be submitted electronically by the specified due date.
- Extra credit assignments are not allowed under any circumstances.

### Quizzes

Each quiz tests your comprehension of the material through multiple questions. These quizzes are designed to ensure that you are putting in the required effort with respect to the videos and required practice exercises. The quizzes are designed to require minimal studying as long as you are keeping up with the course material. It is advised to complete the quizzes once you feel comfortable with that week's material.

Each quiz is made up of 6 multiple choice questions. Each quiz is open for one week and students can take the Quizzes as many times as they wish. Only the score from students' best attempt will be recorded. Missed Quizzes cannot be retaken. Students must take the Quizzes alone. Quizzes are due at 11:59 pm AZ time the day they are due (see the Course Schedule for more details on content and due dates).

### Homework assignments

There are 5 homework assignments for this course. The homework assignments will require you to solve some problems at home and submit via Canvas. Students should work alone on their homework assignments and working together is not allowed. Homework assignments are due at 11:59 pm AZ time the day they are due (See the Course Schedule for more details on content and due dates).

### In-video questions

This is a hybrid style course. Therefore, you will be required to watch one lecture's worth of videos, on average, per week. Some of the assigned videos will contain 1- or 2-point questions to test your understanding of the material. Such videos will be marked by \* on the video list on the course website.

Please note that, while there are over 35 questions that you will get to answer throughout the semester, the maximum points you can earn towards your final grade is 30.

## Visualization Project

This is an individual project. For the project, you must make Tableau Dashboards featuring interactive elements on a topic of your choice. Please see Canvas for more information about the project requirements. The project is due on 7 February at 11:59 pm AZ time.

## Exams

There are two exams in this course: one midterm exam and one final exam. The final is comprehensive, i.e., it includes all the material covered in the course. Each exam has two parts. The first part consists of multiple questions and you are required to use Respondous LockDown browser, and can only use a scratch paper and a calculator. The second part of each exam requires using software and uploading files and answering multiple choice questions. The second part of each exam is open notes and you can use books, notes, and lecture videos.

### **Midterm – Part 1**

Modules 01-06

150 points (50 multiple choice questions, 3 points each)

75 minutes

### **Midterm – Part 2**

Data mining techniques: clustering, classification, association rule analysis

50 points

180 minutes

### **Final – Part 1** Covers Modules 01-13

150 points (50 multiple choice questions, 3 points each)

75 minutes

### **Final – Part 2**

Covers Modules 07-13

50 points

180 minutes

**Exam: Rules and Facts** - Exams comprise 40% of your overall grade. Exams scores are not curved. Exam scores cannot be dropped.

- **Cheating** is NOT allowed. Students must work alone during the entire exam. Students cannot share any course related materials during the exam. Cheaters will receive a ZERO on the exam and an XE in the course and will be dealt with according to the rules and regulations of [ASU academic integrity policy](#).
- **Make-up Exams** – Required absences or an illness on exam days must be discussed with the instructor, preferably BEFORE the exam. Accommodations will be made if necessary. Make-ups may be a different format, possibly more difficult for you. GENERALLY, only verified personal and family emergencies will be allowed. If you are sick the day of the exam, you do not need to contact me that day, but I will expect a documented excuse from a medical professional. Email me for more details.
- Final Exams – Early final exams are not an option. All exams must be taken during schedule exam time.

## **Attendance, Participation and Absence**

Attendance in in-person labs is not mandatory, and students do not have to provide an excuse for being absent. However, attendance is highly recommended since we will be covering an extensive amount of course material during labs.

Students will not receive a grade for participation but are expected to be engaged during class.

There are NO make-ups on missed Quizzes or Homework assignments, because of the generous amount of time available to complete them. Only under unique circumstances will it be possible to be considered for a points adjustment for missed homework assignments and Quizzes (for information about university sanctioned activities see [this webpage](#).)

## **Course communication**

### **Announcements**

Announcements and other important information will be posted on course website throughout the course. Make sure to check for updates regularly, and to enable email notifications for announcements.

### **Slack Classroom Workspace**

The Slack workspace of the course allows you to connect with other students and the instructor in the absence of in-person interactions. Students are encouraged to be active in the Slack workspace and communicate with their classmates. Although assignments and Quizzes are individual work, discussing the content of the course with classmates can be a great help in learning the material and finding answers to your questions.

There is a separate channel for questions from the instructor. Please use this channel for your non-personal questions related to the course structure, schedule, content, etc. This allows the students to see if their question has already been asked and answered. If a question remained unanswered within 24 hours, please email the instructor.

### **Email**

For personal inquiries, such as question or problems with grading, please contact the instructor via email. Always include **SCM315** in the subject of your email. If you did not receive a response within 24 hours, send a reminder.

## **Other Syllabus items required by ASU and/or the W. P. Carey School of Business**

### **Teaching Philosophy, Course Goals, and Learning Outcomes**

1. Develop your ability to approach problems using a systematic, analytical process.
2. Improve your ability to simplify complicated situations using math models.
3. Improve your overall quantitative and spreadsheet skills.
4. Understand the role of a decision analyst within a decision context and how to present results.
5. By the end of the course you are expected to be able to
  - structure problems in Excel,
  - use Excel and other tools to visually describe data patterns,
  - formulate optimization problems in Excel,
  - understand how to interpret Excel output to do sensitivity analysis,
  - structure problems with uncertainty in a decision tree,
  - solve decision tree problems and conduct sensitivity analysis,
  - structure problems with uncertainty using Monte Carlo Simulation,
  - solve problems using stochastic optimization.

### **W. P. Carey School of Business Learning Goals**

The Undergraduate Program of the W.P. Carey School of Business has established the following learning goals for its graduates:

- 1. Critical Thinking**
- 2. Communication**
- 3. Discipline Specific Knowledge**
4. Ethical Awareness and Reasoning
5. Global Awareness

Items in bold have significant coverage in this course.

### **Title IX statement**

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/faqs>.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. [ASU Counseling Services](#) is available if you wish to discuss any concerns confidentially and privately.

### **Offensive Classroom Content**

If students find course material offensive they should discuss these matters with SCM Interim Chair Dr. Thomas Kull.

### **Threatening Situations and Threatening Behavior**

The university takes threatening behavior very seriously and these situations will be handled in accordance with the [Student Services Manual, SSM 102-02](#)

### **Academic Integrity and Ethical Behavior**

[University Academic Integrity Website](#)

[W. P. Carey School Undergraduate Honor Code](#)

**Religious Accommodations**

Accommodations will be made for students with religious holidays. [Here](#) is the calendar of official religious holidays. Each holiday noted with two asterisks denote an observance for which work is not allowed by followers of that religion. For these holidays, students should meet with instructor to discuss alternative accommodations. Since Quizzes and Labs have such long due date windows, typically, allowances will not be made for those assignments.

**Missed Classes Due to University-Sanctioned Activities**

As per the university [Academic Affairs Manual](#), accommodations will be made for students that can provide proof of their need to miss class for University-sanctioned events. Please note, the instructor may also excuse career-oriented activities, but the student must discuss these events with the instructor and gain approval.

**Free Tutoring at the W. P. Carey Student Success Center**

The W.P. Carey Student Success Center is available free to all students and offers tutoring in business and business math courses. Going to tutoring regularly will help you maintain and improve your level of study and gain the skills necessary for academic success. Tutoring does not replace class lecture or interaction with your instructor. Available courses include: SCM 300, 303, 345. [Information on Location and Hours](#).

\*\*\* To schedule an online writing or graduate writing appointment, students can visit our [website](#) or call 480-965-9072.

**COPYRIGHT MATERIAL**

Course content, including lectures, are copyrighted material and students may not sell notes taken during the conduct of the course (see ACD 304–06, “Commercial Note Taking Services” for more information).

Having Internet issues? Check system health at: [syshealth.asu.edu](http://syshealth.asu.edu) OR [twitter.com/asuoutages](https://twitter.com/asuoutages)



**Course Schedule**

S	Date	Topic	Assignments	
1	1/11	Introduction to Business Decision Modeling and Excel	Quiz1	Homework1
2	1/18		Quiz2	
3	1/25	Tableau Visualizations	Visualization Project (Due 7 Feb)	
4	2/1			
5	2/8	Data Mining. Analyzing Databases	Quiz3	Homework2
6	2/15		Quiz4	
2/22		<b>Midterm Exam</b>		
7	3/1	Introduction to Linear Programming: Finding Optimal Solution	Quiz5	
3/8		<b>Spring Break</b>		
8	3/15	Linear Programming: Sensitivity Analysis	Quiz6	Homework3
9	3/22	Linear Programming: Binary and Integer Optimization	Quiz7	
10	3/29	Dealing with Uncertainty: Decision Trees		Homework4
11	4/5	Decision Trees: Sensitivity Analysis	Quiz8	
12	4/12	Modeling Under Uncertainty: Predictive Modeling	Quiz9	Homework5
13	4/19	Modeling Under Uncertainty: Linear Programming		
4/26		<b>No Class</b>		
TBD		<b>Final Exam</b>		

**Quizzes**

Quiz	Open	Due	Quiz	Open	Due
1	1/11	1/17	6	3/15	3/21
2	1/18	1/24	7	3/22	4/4
3	2/8	2/14	8	4/5	4/11
4	2/15	2/21	9	4/12	4/25
5	3/1	3/14			

**Homework assignments**

Homework	Open	Due
1	1/11	1/24
2	2/8	2/21
3	3/15	3/28
4	3/29	4/11
5	4/12	4/25

*This schedule is subject to change. Any changes will be announced during class and/or on Canvas and/or Email.*