

# SYLLABUS

Winter 2020

## Business Forecasting

ECN 5480

Section 01 / CRN 260937

Credit Hours = 3

**Instructor:** Ablaye Camara, Ph.D.

**Office:** McNichols Campus  
Briggs Building, Room 325

**Phone:** 313-993-1098

**Email:** [camaraab@udmercy.edu](mailto:camaraab@udmercy.edu)

**Office Hours:**  
4:00 pm to 6:00 pm on Tuesday.  
By appointment.

**Class Time  
& Location:** Class meets on Tuesday in  
Commerce and Finance Building  
Room 010 from 6:40 pm to 9:10  
pm.

### Prerequisites

ECN 5150 (Minimum Grade of C, May not be taken concurrently)

### Required Texts

No texts required for this course.

Students will use available software to learn the forecasting methods covered in this class.

Notes for the methods will be provided by the instructor at no cost to the students.

# Course Description

Forecasting is the process of making predictions about the future by using, studying, and analyzing past and present data. A variable of interest is estimated to mitigate the risk associated with an uncertain future. This course studies the nature, techniques and problems of business forecasting. It analyzes the indicators of business activities by using multiple techniques including the use software to solve business problems.

## Course Objectives

- ✓ That the students master the framework of business forecasting.
- ✓ That students can choose and collect the appropriate data.
- ✓ That students master the use of Excel or SPSS in analyzing the data.
- ✓ That the students apply the forecasting methods (moving averages, exponential smoothing, simple regression, multiple regression) to evaluate variables of interest.
- ✓ That students use the result to make suggestions in the business and economic contexts.

## Specific Learning Outcomes

- ▷ Identify, collect, and organize relevant data useful for forecasting.
- ▷ Identify data characteristics and issues (Trend, Seasonal, and cyclical) and apply the proper solutions for good forecasting.
- ▷ Identify the appropriate forecasting methods (regression, time series, smoothing, etc..) for any given data.
- ▷ Forecast using all moving-average methods including by using one of the available software.
- ▷ Forecast using Holt's forecasting using the combination of excel and the solver.
- ▷ Forecast using Winter's exponential smoothing
- ▷ Forecast using regression.
- ▷ Use linear programming to help solve business issues such as transportation, location, investment decisions, etc.
- ▷ Identify and use the proper software packages for the analysis.
- ▷ Demonstrate the basic understanding of the different forecasting methods.
- ▷ Interpret the results and write a basic report useful for management for decision making.

# Course Requirements

- ✓ 12 Computer Lab work worth 20% of the final Grade
- ✓ 3 Problem Sets (worth 20% of the final grade)
- ✓ 3 Tests (worth 60% of final grade)

## Attendance, Communication, Lectures

### Attendance:

Although attendance is not graded, it is crucial that students attend class sessions for best assimilation. Students should also log onto Blackboard to access the course and participate in its online activities. In addition, students are required to submit all assignments in a timely manner.

### Communication:

All important messages such as class session, events or cancellation will be communicated through Blackboard and the university email addresses. Should you want to, you can have your email forwarded directly to your preferred email address.

### Lectures, Exams and Papers:

Class materials will be covered through a series of lectures, discussions, models, and problem solving that will require the participation of every student.

There will be periodic problem sets and exams depending on the amount of materials covered during class periods. A forthcoming problem set or exam will be announced at least a week in advance.

**Please make sure to frequently check your Blackboard account for new announcements.**

# Project

## Problem Sets

- Students will complete 1 project. The project this semester will be made of a series of three (3) problem sets. These problem sets will have to be submitted on Blackboard within the indicated deadlines.
  - **ABSOLUTELY, NO LATE WORK!!!**
  - Although you are not required doing so, it is important to show your work while solving these problem-sets. Problem sets that are comprised of just answers will be graded solely on the accuracy of the answers. Correct answers will be awarded full grades while wrong answers will be penalized with a zero. However, partial grades can be awarded to those who show their work even if they make mistakes and errors in the processes.
  - Note: The solution-sets (including hand written ones) need to be submitted using word, excel, or pdf file.
- All problem Sets will graded within three days of their completion. The solutions will be made available so the students can use it as a reference as they prepare for the following exam.

**Problem sets are worth  
20% of the Total Grade.**

# Tests

Students must complete two midterm exams and one final exam.

They are Test 1, Test 2 and Test 3.

**Note 1:** if online, tests will run from **Friday 12:05 am through Sundays 11:55 pm** of their due weeks. Make sure to complete them by the deadlines. Otherwise, tests are completed in class.

**Note 2:** Chapters, articles, lectures and other information that will be featured on the tests and quizzes will be announced at least three days before their debuts.

**Note 3:** As we all know, technology can be faulty at times. If you encounter any problem during these activities please contact me, the IT department @ 313-993-1500, or IDS @ 313-578-0580 as soon as possible.

**Tests are worth 60% of the Total Grade.**

# Grading Schema and Miscellany

A	95.0 100
A-	90.0 94.9
B+	85.0 89.9
B	80.0 84.9
B-	75.0 79.9
C+	70.0 74.9
C	65.0 69.9
C-	60.0 64.9
D+	55.0 55.9
D	50.0 54.9
F	49.9 or lower

## Course Evaluations:

Student course evaluations are a highly valued in the College of Liberal Arts and Education. Feedback from students serves as an important source of information that enables instructors to improve upon the quality of the course in terms of its content and delivery. Students are strongly encouraged to complete the online course evaluations for this course and all courses for which they are formally registered. The online evaluation form for this course will be made available during the week preceding final examinations each term. Students who are enrolled in the course will receive an email from the university near the end of the term that provides instructions on how to complete the evaluation.

Students who complete the evaluation and email the instructor with evidence of having done so will be given 5 extra credit points that will be added to their Test 3 grades.

## Subject-to-Change Statement:

The instructor reserves the right to change or modify any aspect of the course or class schedule at any time. Students will be notified of any changes by the instructor.

## Questions, Complaints or Concerns about the Course:

If you have any questions, complains or concerns about the course, then please let the instructor know via email. If you are not satisfied with the instructor's response, then you are encouraged to contact the Associate Dean of the College of Liberal Arts & Education. Her name is Dr. Victoria Mantzopoulos. Her phone number is 313-993-3254 and her email address is [armstrov@udmercy.edu](mailto:armstrov@udmercy.edu). You are also welcome to contact the Dean of the College of Liberal Arts & Education. His name is Dean Mark Denham. His phone number is 313-993-3250 and his email address is [denhamma@udmercy.edu](mailto:denhamma@udmercy.edu)

# University of Detroit Mercy Policies Related to Student Behavior

## University of Detroit Mercy Policy on Plagiarism and Academic Integrity:

As members of an academic community engaged in the pursuit of truth and with a special concern for values, students are expected to conform to a high standard of honesty and integrity in their academic work. The fundamental assumption under which the University operates is that work submitted by a student is a product of his/her own efforts.

Among the most serious academic offenses is plagiarism, submitting the style of another author or source without acknowledgment or formal documentation. Plagiarism occurs when specific phrases or entire passages, whether a sentence, paragraph or longer excerpt, are incorporated into one's own writing without quotation marks or documentation. One also plagiarizes by paraphrasing the work of another, that is, retaining another writer's ideas and structure without documentation.

Students are advised always to set off another writer's exact words by quotation marks, with appropriate references. Students avoid plagiarism by concentrating on their own words and ideas and by fully crediting others' words and ideas when they find their way into the writing. Whenever in doubt, cite the source.

Students that purchase essays from other students or agencies or who copy from one another or from prohibited sources, commit the most serious type of academic dishonesty. The consequences of plagiarism, or any act of academic dishonesty, may range from failure on an assignment or in a course to dismissal from the University.

## Title IX:

University of Detroit Mercy is committed to fostering a safe and productive learning environment for all students. Detroit Mercy's Policy Prohibiting Sex and Gender-based Discrimination applies to sex and gender-based harassment, sexual exploitation, sexual assault, attempted sexual assault, intimate partner violence/dating violence, stalking, cyberstalking, and retaliation.

Concerns or complaints regarding potential sex and gender-based harassment, sexual exploitation, sexual assault or attempted sexual assault, intimate partner violence/dating violence, stalking, and retaliation may be conveyed or reported to Marjorie Lang, Title IX Coordinator, by contacting her at [langma@udmercy.edu](mailto:langma@udmercy.edu) or 313-993-1802. Ms. Lang's office is located on the 5th floor of the Fisher Administration Center on the McNichols campus. You may view the University's Policy Prohibiting Sex and Gender-based Discrimination at <http://www.udmercy.edu/academics/academic-affairs/titleix/>.

## Religious Observances:

It is the policy of the University of Detroit Mercy to respect the faith and religious obligations of each student. Students with exams and classes that conflict with their religious observances should notify the instructor at the beginning of the semester in order to work out a mutually agreeable alternative. Please note that, regardless of whether an absence is "excused" or "unexcused," the student is responsible for all missed course content and activities.

# Detroit Mercy Support Services

## Academic Support Services:

**Student Success Center Staff:** 313-993-1143

Susan Trudeau, Director

Felicia Mitrovich, Assistant Director

## Tutoring:

SSC offers free tutoring in most freshman and some upper-division courses, including math, chemistry, biology, languages, philosophy, history, and English. One-on-one and small group appointments are available in the Learning Center on the third floor of the Library. The Learning Center is open from 8:30 am- 9:00 pm Monday – Thursdays, 8:30 am - 5:00 pm Fridays, and 10:00 am - 3:00 p.m. on Saturdays. Call 313-993-1143 for an appointment; limited walk-ins are also available.

All students are encouraged to take advantage of this free tutoring service. Faculty may also recommend tutorial support for all students, especially for those students who may be experiencing difficulty in their coursework. Studies have shown that students who attend ten or more tutorial sessions can greatly improve their grades in a course.

## Athlete Study Table:

All freshman athletes and selected upper classmen are required to complete at least five hours of study time in the Learning Center. SSC provides the academic support for athletes in the evenings, Monday through Thursday from 6:00 to 9:00 pm and Sunday 5 -7 pm.

## Placement Testing:

Testing in English, math, chemistry, foreign languages and reading is available in the Learning Center by appointment for all new and applicable transfer students. The results of the placement tests are given to the student's advisor to assist in proper course selection.

\*\*This statement appears in the University Catalog

Be sure to check the following **OFFICE OF THE REGISTRAR** for important dates

<http://www.udmercy.edu/registrar/academic-calendar/index.htm>

## Disability Support Services and Accommodations:

If you need an accommodation because of a disability, have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please contact:

Laura Bagdady, Assistant Director, Student Disability & Accessibility Support Services  
Student Success Center, McNichols Campus Library, Room 319

Email: [bagdadlm@udmercy.edu](mailto:bagdadlm@udmercy.edu)

Phone: 313-993-1158

It is very important for students to be proactive with regard to requesting their disability accommodations every semester. While it is never required that you disclose your disability to your professors, all students at the university are encouraged to talk to their professors to discuss their needs and concerns. However, you must be registered with Disability Support Services, and your faculty must receive official notification from the DSS office before they can make arrangements for your accommodations.

# Order of Presentations

Week	Dates	Topics and Assignments
1	Jan 7	Review of the Basics of Business Forecasting The Forecast Process, data Considerations, and Model selection
2	Jan 14	Forecasting Stationary Data: Moving Averages and Weighted Moving Averages
3	Jan 21	Forecasting Stationary Data Simple Exponential Smoothing Adaptive Exponential Smoothing
4	Jan 28	Stationary Data with Additive Seasonality Stationary Data with Multiplicative Seasonality All Stationary Data: Minimizing the MSE using the solver Problem Set 1 is Due
5	Feb 4	Test 1
6	Feb 11	Forecasting Trend Data: Double moving Average. Holt's Exponential Smoothing Minimizing MSE using software
7	Feb 18	Forecasting Trend Data Holt-Winter's Additive Seasonality Holt-Winter's Multiplicative Seasonality Minimizing MSE using software
8	Feb 25	Forecasting Trend data Multiple Regression using excel and SPSS
9	Mar 4	<b>Mid-Winter/Spring Break</b> <i>No Class</i>
10	Mar 11	Linear Programming (2) Cost Minimization: Transportation, production etc Problem Set 2 Due <small>ECN 5480</small>

# Order of Presentations

Week	Dates	Topics and Assignments
11	Mar 18	<i>Test 2</i>
12	Mar 25	Linear Programming (2) Cost Minimization: Transportation, Production etc.
13	Apr 1	Linear Programming (3) Location Problem
14	Apr 8	Linear Programming (4) Investment Decisions
15	Apr 15	Review of All Forecasting Methods Problem Set 3 Due
16	Apr 22	<b>FINAL EXAM WEEK</b> —Final Exam (Date: TBA)

# Detroit Mercy Mission Statement

**University of Detroit Mercy Mission Statement:** "The University of Detroit Mercy, a Catholic university in the Jesuit and Mercy traditions, exists to provide excellent, student-centered, undergraduate and graduate education in an urban context. A University of Detroit Mercy education seeks to integrate the intellectual, spiritual, ethical, and social development of our students."

In light of this mission, I find it absolutely crucial to let all students know that both my and their responsibilities are to be taken seriously in all domains of the class for these are critical to maintaining the integrity of the class, course and institution.

**Students, therefore, are required:**

- *To read the materials before and after lectures.*
- *To frequently check Blackboard for announcements, important dates and deadlines.*
- *To contact the instructor by email, Blackboard or phone if need be.*
- *To absolutely submit assignments including tests and quizzes in a proper and timely manner. No late assignments will be accepted.*
- *To attend lectures which can be, depending on the technology available, PowerPoint presentations, live instant messaging, live voice messaging online or simple lecture notes posted along with the PowerPoint.*
- *To use his/her own ideas in discussion boards. If not, proper quotations ought to be used in order to give credit to the original authors.*
- *To keep a proper and respectful attitude in the classroom (physical or virtual)*