Your learning is my primary concern in this course, so I may modify the schedule if, for instance, we discover we need to spend more time on a certain topic and less on another. So, you should know all the information given in this syllabus and check if the syllabus has been updated.

**Description of the Course:** This course is a comprehensive introduction to industrial and sales forecasting for economics and business students. Time series, casual, and qualitative methods of forecasting are studied. Emphasis is on developing the practical skills necessary to produce forecasts and to interpret, assess, and utilize forecasts produced by others. The forecasting techniques emphasized in the class are: decomposition, three models of exponential smoothing, regression and ARIMA.

**Prerequisite:** ECON 5100.

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1. Buying the first book is optional. The other two books are available online so you don’t need to buy them. Other materials would be available on the Canvas.


3. [https://otexts.com/fpp2/](https://otexts.com/fpp2/)

4. [https://bookdown.org/ccolonescu/RPoE4/](https://bookdown.org/ccolonescu/RPoE4/)
**Instructional methods**

Education research shows that your learning is greatest when you are actively involved in making sense of new concepts (“constructing knowledge”) and when you do this in social settings. This model is technically called “social constructivism.” We will use this model throughout the course, so you can expect to

- Be engaged in plenty of classroom activities to build on the readings you have done for each class;
- Work in small groups during class and for those groups to change on a regular basis;
- Ask your instructor for clarifications, rather than expecting lectures.

I hope you find this an engaging and enjoyable approach to learning.

**Evaluations**

**Homework Assignments, Exams and Grading**

**Assignments: (20% of your overall grade)**

There will be assignments almost every week (starting from the 2nd week) except exam weeks. Assignments will account for 20% of your overall grade. They will be posted on Canvas. Assignments should be submitted online (submit a word processed exported as PDF file and/or Codes (*.R) files through Canvas – **Note that Hand writing is not acceptable**). You may discuss the assignments with your colleagues, but you should write your answers individually.

**IMPORTANT!** I will not let anyone do the homework late because they “didn’t know it was due.” Also, as we all know, computers are not 100% reliable. Therefore, you should NOT wait until the last minute to do your homework. I cannot be sympathetic to the excuses such that “I would have had my homework done but my internet went out”. If you do the homework in advance, then you can avoid such problems. If, however, you have a documented approved excuse, then your homework grade will be re-weighted.

**Class Participation (15% of your overall grade)**

Class participation is based on your attendance (5%) and your scores in a series of quizzes (10%) based on the case studies and problems that we have during the lecture. These quizzes are NOT announced in advance. Thus, class attendance is compulsory. You must participate in all the quizzes during a lecture to prove your attendance.

To participate in the quizzes, you must at least have a laptop, tablet, iPad or any smartphone (Android or iOS) with browser and internet access. (You must bring your laptop for the programming part of the class.)

We use Kahoot platform for the quizzes which can be found at:


In the first lecture I'll explain how to use Kahoot platform. You have to create an account using your full name to keep the record of your attendance and the score of your responses.

Exams: (50% of your overall grade)

There will be a midterm exams and a comprehensive final exam. The midterm exam and the final exam account for 20% and 30% of your overall score, respectively.

All exams will be administered in strict observance of Seattle University’s Honor Code, without compromise or exception. Any violation of the University Honor Code will be reported to the Honor Code Council.

Exam dates:

Midterm Exam: Thursday, May 9, 2019

Final Exam: Thursday, June 13, 2019 (from 06:00PM to 07:50PM)

Group Project: (15% of your overall grade)

This course requires a group project consist of a paper and presentation of a data series of interest to the students using smoothing, regression, and ARIMA. (The data is collected by the students.) Students use cases to promote the understanding of when and how to utilize the technique. Also, we use software R/RStudio which supports the forecasting techniques as well as the testing.

At the end of the first week (April 7), I will divide the class into groups of three or four students. Each group should submit a short (Max 2 pages) description of the project of their choice by the end of the third week (April 21) along with the data. On May 23, each group will submit the complete first draft of the project that includes: abstract, introduction, literature review, description of data, empirical model, results and discussions, and conclusion along with the code (in R) and data (in Excel). I will give you my comments and feedback by May 27, so you can revise your project. Submission of the final version of your group project is due to June 3rd. The group project accounts for 15% of your overall grade. You should also prepare slides for a class presentation to present your project on the last class of the spring quarter (June 6).

Grading Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
<td>93-100</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
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<tr>
<td>B</td>
<td>87-89</td>
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<tr>
<td>B-</td>
<td>83-86</td>
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<tr>
<td>C</td>
<td>77-79</td>
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<tr>
<td>C-</td>
<td>73-76</td>
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<tr>
<td>D</td>
<td>67-69</td>
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<tr>
<td>D-</td>
<td>63-66</td>
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<tr>
<td>F</td>
<td>0-59</td>
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</table>
Statistical Software:

We mainly use R\(^5\) which is a free (open resource) statistical programming language available for Windows, Mac, and Linux.

Lectures and Laptop Policy:

You will need to bring your own laptop. *If you cannot bring your own laptop and you need to use Albers laptops please let me know as soon as possible.*

Academic Resources:

My goal is to create a learning environment in which you can be incredibly successful. I will work hard to create and improve the learning environment throughout the quarter based on my own observations of the course and your feedback on what would help you learn more. In return, I ask and encourage you to make the most of this learning opportunity. Please take advantage of the academic support services available to you at the university. Even if you have had excellent study skills in the past, it is easy to slip into suboptimal habits and these services can help you excel in your studies.

**LIBRARY AND LEARNING COMMONS\(^6\)**

**WRITING CENTER**

The Writing Center employs undergraduate writing consultants who assist students at all stages of the writing process. Consultants will help students begin writing tasks, organize and develop first drafts, and revise and edit later drafts. To schedule an appointment, call 206-296-6239.

**LEARNING ASSISTANCE PROGRAMS**

Learning Assistance Programs provide peer tutoring, facilitated study groups, and learning strategy development through scheduled workshops and individual meetings with a learning specialist. To schedule an appointment, call 206-398-4450.

**MATH LAB**

The Math Lab is a drop-in service available to students enrolled in lower division mathematics courses. Students can stop by the lab to work with a tutor who will assist them with their particular mathematics assignments. Visit us on the 2nd floor.

**RESEARCH SERVICES**

Research Services are available to students at any stage in the research process. Students can receive help in person, by chat, phone, or email, or by scheduling a research consultation. To learn more, or for immediate assistance, call 206-296-6230.

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\(^5\) [https://www.r-project.org/](https://www.r-project.org/)

\(^6\) [http://www.seattleu.edu/learningcommons/](http://www.seattleu.edu/learningcommons/)
MEDIA PRODUCTION CENTER

Lemieux Library's Media Production Center, located on the first floor of the library, offers the tools, training, and space for students, clubs, faculty, and staff to create their own original multimedia productions.

Academic Integrity Policy:

Seattle University is committed to the principle that academic honesty and integrity are important values in the educational process. Academic dishonesty in any form is a serious offense against the academic community. Acts of academic dishonesty will be addressed according to the Seattle University Academic Honesty Policy. The policy can be found at the address below:

https://www.seattleu.edu/academic-integrity/resources-for-students/

If you are not sure whether a particular action is acceptable according to the Academic Honesty Policy, you should check with your instructor before engaging in it.

Resources for Disability

If you have, or think you may have, a disability (including an ‘invisible disability’ such as a learning disability, a chronic health problem, or a mental health condition) that interferes with your performance as a student in this class, you are encouraged to arrange support services and/or accommodations through Disabilities Services staff in the Learning Center, Loyola 100, (206) 296-5740. Disability-based adjustments to course expectations can be arranged only through this process.

Policy for Missed Classes and Exams:

Class: If you expect to be absent or to be late, please e-mail me beforehand (or as soon as possible). If for any reason you do miss a class, be sure to obtain notes from one of your peers to catch up. If, after going over those notes and checking the readings for the class, you still have questions, please arrange to meet me during office hours to discuss. Remember to bring those notes with you so that we can work on your specific, focused questions.

Exam: There will not be any make-up midterm exams*. Anyone who missed an exam without being excused will get a score of zero for that exam. The only acceptable reasons for missing an exam are serious illness and family emergency. To be excused, you need to get your reason for missing the exam approved either by the Dean of Student’s Office (for family emergency) or Health Center (for physical illness). If you have appropriately approved excused absence from an exam, then I will either give you a make-up exam or weigh your other exams more heavily, depending on the circumstances and my best judgment.

ACADEMIC POLICIES ON THE REGISTRAR WEBSITE

Be sure that you understand the following university academic policies, posted on the Registrar’s website:

- ACADEMIC INTEGRITY POLICY
- ACADEMIC GRADING GRIEVANCE POLICY

https://www.seattleu.edu/redhawk-axis/academic-policies/
Hints for a Successful Quarter: It is almost common to hear students say “I understand everything you say in class, so I know the material. Why did I get such a bad grade on the exam?” The answer is simple; the class objective is for you to learn how to solve quantitative methods problems, not to understand someone else’s solution. Quantitative problems almost always sound simple when someone who understands it explains it to you – the key is to be able to explain it on your own and practice.

Course Outline

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
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<tbody>
<tr>
<td>1st - 5th Weeks</td>
<td>• Introduction and Statistical Review</td>
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<tr>
<td></td>
<td>• Regression and Trend</td>
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<td></td>
<td>• Time Series Decomposition</td>
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<td>• Exponential Smoothing</td>
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<tr>
<td>May 9, 2019</td>
<td>Midterm Exam</td>
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<tr>
<td>7th – 10th Weeks</td>
<td>• Unit Roots and Stationarity</td>
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<td></td>
<td>• ARMIA</td>
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<td></td>
<td>• Dynamic regression model</td>
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<td></td>
<td>• Combined Forecast</td>
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<tr>
<td>June 13, 2019 (from 06:00PM to 07:50PM)</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>