

**Seattle University**  
**Albers School of Business and Economics**  
**Dept of Economics**  
**ECON3100-03 Quantitative Methods and Applications**  
**Fall 2019**  
**TTh 8:00am-10:05am PIGT 102**

**Instructor:** Teresa Ling, Ph.D.  
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**Office Hrs:** Monday/Wednesday 8:10-9:10am  
or any time you find me in my office or email me to set up an appointment

**Objectives:** This course continues the development of student's quantitative skills. Topics include simple and multiple regressions, analysis of variance, and an introduction to linear programming models. Students will be required to apply the techniques learnt in modeling and solving business situations with the help of computer packages EXCEL, SAS, and to be able to communicate results to manager effectively.

**Prerequisite:** An introductory course in statistics, ECON 2100 or equivalent.

**Textbooks:** Anderson, Sweeney & Williams, *Statistics for Business and Economics*, 10<sup>th</sup>/ed, Thomson/South-Western, 2008  
A copy of this textbook is on reserve at the Library.  
If you have Anderson/Sweeney/Williams, "Essentials of Statistics for Business and Economics" 5<sup>th</sup> Edition, it will be fine too.

<b>Grading:</b>	4 Quizzes on Homework Assignments	20%
	Cases (due 10/24 & 12/5); Peer Review (due 11/5)	25%
	Midterm Exam (11/7)	25%
	Final Exam (12/10)	30%

**No Make-Up Quizzes and No late works accepted without prior approval from the instructor.**

You are guaranteed to be awarded an A grade for this course if you get at least 95% overall; at least a B grade if over 84%, and at least a C grade if over 68%.

## Academic Resources

- Library and Learning Commons (<http://www.seattleu.edu/learningcommons/>)  
(This includes: Learning Assistance Programs, Research [Library] Services, Writing Center, Math Lab)
- Academic Integrity Tutorial (found on Canvas and SU Online)

## Academic Policies on Registrar website (<https://www.seattleu.edu/redhawk-axis/academic-policies/>)

- Academic Integrity Policy
- Academic Grading Grievance Policy
- Professional Conduct Policy (only for those professional programs to which it applies)

## Notice for students concerning Disabilities

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 located in **Loyola 100, (206) 296-5740**.

Disability-based adjustments to course expectations can be arranged only through this process.

## Notice Regarding Religious Accommodations

It is the policy of Seattle University to reasonably accommodate students who, due to the observance of religious holidays, expect to be absent or endure a significant hardship during certain days of their academic course or program. Please see, *Policy on Religious Accommodations for Students*

(<https://www.seattleu.edu/media/policies/Policy-on-Religious-Accommodations-for-Students---FINAL.PDF>).”

## Office of Institutional Equity

Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in educational programs or activities that receive Federal financial assistance. This prohibition includes sexual misconduct, which encompasses sexual harassment and sexual violence. Seattle U remains committed to providing a safe and equitable learning, living, and working environment. Seattle U offers emergency, medical, and other support resources, as well as assistance with safety and support measures, to community members who have experienced or been impacted by sexual misconduct.

Seattle U requires all faculty and staff to notify the University’s Title IX Coordinator if they become aware of any incident of sexual misconduct experienced by a student.

For more information, please visit <https://www.seattleu.edu/equity/>. If you have any questions or concerns, you may also directly contact the Title IX Coordinator in the Office of Institutional Equity (email: [oiie@seattleu.edu](mailto:oiie@seattleu.edu); phone: 206.296.2824) University Resources and Policies

<b>Date</b>	<b>Topics/Assignment</b>
9/26 Th	<p><b>Review of Basic Statistics, ASW Ch. 6- Ch. 9</b>  <b>Read Overview from Canvas before today's class</b>  Homework Assignment# 1: Exercises 6.40, 6.43, 7.43, 7.46, 8.45, 8.52, 9.60, 9.63.</p>
10/1 Tu	<p>Continue Review of Basic Statistics  The YouTube videos in the Review of Basic Statistics module in CANVAS would be helpful. Should have completed the <b>Introduce Yourself</b> assignment by now.  Work on Homework Assignment #1</p>
10/3 Th	<p><b>Simple Linear Regression, ASW Ch.14</b>  14.1 Simple Linear Regression Model  14.2 Least Squares Method  14.3 Coefficient of Determination  Homework Assignment #2: Exercises 14.6, 14.9, 14.13, 14.18.</p>
10/8 Tu	<p>Continue Simple Linear Regression, ASW Ch.14  14.4 Model Assumptions  14.5 Testing for Significance  Homework Assignment #3: Exercises 14.66, 14.61, 14.63, 14.47</p>
10/10 Th	<p><b>Quiz #1</b> on Homework Assignment #1 (review chapters 6, 7, 8 &amp; 9)  Continue Simple Linear Regression, ASW Ch. 14  14.6 Using the Estimated Regression Equation for Estimation and Prediction  14.8 Residual Analysis: Validating Model Assumptions  <b>Discuss Case 1</b> (finalize grouping for Case 1: 3 or 4 students per group) due October 24</p>
10/15 Tu	<p><b>Data Visualization (Online session)</b>  Need to complete the YouTube videos on EXCEL for Regression output</p>
10/17 Th	<p><b>Review of Simple Regression</b></p>
10/22 Tu	<p><b>Quiz 2</b> on Homework Assignment #2 and #3 (Simple Regression)  <b>Multiple Regression, ASW Ch. 15</b>  15.1 Multiple Regression Model,  15.2 Least Squares Method,  15.3 Multiple Coefficient of Determination  Homework Assignment #4: Exercises 15.5, 15.9, 15.15, 15.23</p>
10/24 Th	<p><b>One hardcopy of Case 1 report per team due today at 8:00am in class</b>  Continue Multiple Regressions  15.4 Model Assumptions    15.5 Testing for Significance  15.6 Using the Estimated Regression Equation for Estimation and Predication  Homework Assignment #5: Exercises 15.23, 15.25, 15.29, 15.30, 15.57</p>

- 10/29 Tu **Peer Review for Case 1 reports assigned.** Individual Peer Review reports due 11/5  
**Qualitative Independent Variables & Interaction Variables**  
 Homework Assignment #6 Supplemental Exercises on Qualitative Variables
- 10/31 Th **Quiz #3** on Assignment #4 & #5 materials (Multiple Regression)  
 Continue Qualitative Independent Variables
- 11/5 Tu **Case 1 Peer Review due today at the start of class** (printed copies from each student)  
 Continue Qualitative Independent Variables  
**Review for Midterm Exam** (Review Chapters, Simple & Multiple Regression Models)
- 11/7 Th **Midterm Exam** (Review Chapters, Simple Regression & Multiple Regression)
- 11/8 Fri **Last Day to Withdraw from Fall quarter classes with a W**
- 11/12 Tu **Analysis of Variance (ANOVA)**  
 Homework Assignment #7 Supplemental Exercises on ANOVA
- 11/14 Th Continue ANOVA  
**Linear Programming Models –Formulations**  
 Homework Assignment #7 Supplemental LP Exercises
- 11/19 Tu **Linear Programming Sensitivity Analysis Using Graphical Method and EXCEL Solvers**  
**Discuss Case 2 –finalize grouping (3 to 4 students in a group)**
- 11/21 Th Review of Sensitivity Analysis using Graphical Solution and EXCEL Solver
- 11/26 Tu Work on Case 2 in class
- 11/28 Th **Thanksgiving Holiday** (no class)  
 Be Thankful for all the graces you received thus far
- 12/3 Tu Review of Linear Programming formulation and sensitivity analysis  
 Work on Case 2 in class.
- 12/5 Th **Quiz #4 on Linear Programming Exercises**  
**Hard Copy of Case 2 report due today at the start of class**  
**Review for final exam (Multiple Regression, ANOVA & Linear Programming)**
- 12/10 Tu FINAL EXAM (in PIGT 102) 8:00am-9:50am**