# 2015 Fall BSTAT 3322: Business Statistics II Syllabus

Instructor: Dr. Craig W. Slinkman

Office: COBA 532

My office hours will be held in the Central Library on the second floor of the library. Mu location will be on the south side of the library. This is the side of the library that is closest to Mitchel Street.

In addition, office hours are available by appointment.

Days and Time
Monday: 19:00 – 21:30 Hours
Tuesday: 19:00 – 21:30 Hours

## Course description

**BSTAT 3322 BUSINESS STATISTICS II** (3-0) Application of statistical inference to problems in business and economics. Sampling theory, nonparametric*c methods, and forecasting. Special attention to statistical research. Prerequisite: BSTAT 3321.

## Section data

| Class | Class Title | Enrolled | Days & Times | Room | Class Dates |
|---|---|---|---|---|---|
| BSTAT 3322-002 (80842) | BUSINESS STATISTICS II (Lecture) | 55 | TuTh 5:30PM - 6:50PM | COBA154 | Aug 27, 2015-Dec 9, 2015 |

## Class requirements and grades

1. To learn data analysis and applied statistics you must do applied statistics.
2. In this course there are no exams.
3. All the graded material is the homework. Late homework is not accepted.
4. The homework with the minimum grade will be dropped.
5. There are potentially 14 homework assignments. The maximum number of questions on a homework is limited to 4.
6. The final homework which will be collected during final week counts twice.
7. A homework may have a potential bonus question which will add points to your homework score.
8. Since there are 14 homework assignment and one will be dropped and the final homework counts twice, then there are 14 possible grades. Each homework counts 100 points so there are 1400 possible points.

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9. Class attendance will be taken and constitutes 10% of your grade. One unexcused absence is allowed. Anyone who arrives after the first 10 minutes will be given an unexcused absence. The US Department of Education now requires this because of fraudulent student loans. So if I have to carry out this task I might as well count it in your grade.

10. There will be one pop quiz per week. The quiz material will either be based on an assigned YouTube video, the prior lecture, or a current homework assignment.

11. The equation for the computed class average, $\overline{\phantom{x}}$, if given by

$$AVG = 0.80Homework\% + 0.10PopQuiz\% + 0.10Attendence\%$$

### Letter grades

| Grade | Lower % | Upper % |
|---|---|---|
| | | |
| A | >89 | 100 |
| B | >79 | 89 |
| C | >59 | 79 |
| D | >49 | 59 |
| F | | |

## Required text books

There are no required text books for this course. Instead I have provided you with a set of instructional YouTube videos.

## Suggested books

We will be using the R-statistical software program. You should welcome this because many of you want to be successful and support you family and typical R-jobs pay well. A very useful book is

De Vires, Andrie and Joris Meys, 2000. ***R for Dummies,*** For Dummies a division of John Wiley, Chichester, West Sussex, England, ISBN 978-1-119-96284-7. This book can be purchased here.

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## Web Resources

| Resource | Html |
|---|---|
| Basic statistics notes | https://github.com/utaSlinkman/BusinessStatistics |
| Homework and data | https://github.com/utaSlinkman/utaBSTAT3322 |

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## Tentative class schedule

| Date | Topic | Reading/Viewing | Assignment |
|---|---|---|---|
| 8/27/2015 | 1. R and RStudio setup | R and Studio setup | |
| | 2. Introduction to RStudio | Introduction to RStudio | |
| 9/1/2015 | 1. Getting Started With R | Watch this lecture | |
| 9/3/2015 | 2. Introduction to R Programming: Creating Vectors, Matrices, and Other objects | Watch these notes | H1 due |
| | 3. Import Data, Copy Data from Excel to R | Watch these notes | |
| 9/8/2015 | 4. Importing Data and Working With Data in R | Watch this lecture | H2 due |
| 9/10/2015 | Professional graphics with ggplot2 | Watch this lecture | |
| | | Watch this lecture | |
| 9/15/2015 | RMarkdown | Watch this lecture | H3 due |
| 9/17/2015 | Confidence Intervals | Download notes from here | |
| 9/22/2015 | Confidence intervals | | H4 due |
| 9/24/2015 | Hypothesis tests | Download notes from here | |
| 9/29/2015 | Hypothesis tests | | H5 due |
| 10/1/2015 | Traditional statistical Inference with R | Download notes from here | |
| 10/6/2015 | Traditional statistical Inference with R | | H6 due |
| 10/8/2015 | Traditional statistical Inference with R | | |
| 10/13/2015 | Scatterplots | Watch this lecture | H7 due |
| 10/15/2015 | Smoothing | Wath this lecture | |
| 10/20/2015 | Simple linear regression -basics | Watch this lecture | H8 due |
| 10/22/2015 | Simple linear regression - inference | | |
| 10/27/2015 | Simple linear regression - prediction | | H9 due |
| 10/29/2015 | Simple linear regression diagnostics | | |
| 11/3/2015 | Multiple linear regression - basics | Watch this lecture | H9 due |
| 11/5/2015 | Multiple linear regression - inference | | |
| 11/10/2015 | multiple linear regression - prediction | | H10 due |
| 11/12/2015 | Polynomial regression | Watch this lecture | |
| 11/17/2015 | Interaction | | H11 due |
| 11/19/2015 | Factors (Classification) | | |
| 11/24/2015 | Factors (Classification) | | H12 due |
| 11/26/2015 | ***Thanksgiving Holiday*** | | |
| 12/1/2015 | Cross validation | Watch this lecture | |
| 12/3/2015 | Transformations | | H13 due |
| 12/8/2015 | Logistic regression | Watch this lecture | |
| 12/15/2015 | **Final exam** | | H14 due |