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| utdbw83x35 | **Course** | **FERM 6320** |
| **Course Title** | **Statistical Methods for Financial Analytics** |
| **Professor** | Brian Lois |
| **Term** | Spring 2019 |
| **Meetings** | Mondays 7:00 pm – 10:00 pm |

**Professor’s Contact Information**

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| **Cell Phone** | 920-660-8830 |
| **Office Location** | FERM Adjunct room |
| **Email Address** | bxl171630@utdallas.edu |
| **Office Hours** | By appointment: before class on Mondays or lunchtime any weekday |
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**General Course Information**

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| **Course Description** | This course develops the fundamental statistical concepts and tools used in the analysis of financial data. |
| **Required Text** | *The Data Science Design Manual* by Steven S. Skiena  ISBN: 9783319554433 |
| **Suggested Texts** | *Mathematical Statistics for Applied Econometrics*  by Charles B. Moss  ISBN: 1466594098  *Python for Data Analysis* by Wes McKinney 2nd Edition  ISBN: 1491957662 |

**Assignments & Academic Calendar**

Given that this is the first time I am teaching FERM 6320, the following schedule is a rough outline and subject to change.

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| Week | Week of | Topics | Skiena Ch. | Moss Ch. | Due Tuesday |
| 1 | January 14 | Intro, probability | 2 | 2, 3 |  |
|  | January 21 | MLK Day |  |  |  |
| 2 | January 28 | Probability continued | 2 | 2, 3 | Homework 1 |
| 3 | February 4 | Distributions: Bernoulli, binomial, normal, exponential family | 5 | 5 | Homework 2 |
| 4 | February 11 | Hypothesis testing, ANOVA, design of experiments | 5 | 5 | Homework 3 |
| 5 | February 18 | Data manipulation, analysis, and visualization | 3, 6 |  | Homework 4 |
| 6 | February 25 | Intro to predictive modeling |  |  | Homework 5 |
| 7 | March 4 | Optimization, Linear Algebra | 7 | 10 | Project Description |
| 8 | March 11 | Linear and Logistic Regression | 9 | 11 |  |
|  | March 18 | Spring Break |  |  |  |
| 9 | March 25 | Evaluating classifier performance | 7 |  | Homework 6 |
| 10 | April 1 | In Class Exam |  |  |  |
| 11 | April 8 | Decision trees | 11 |  | Data analysis |
| 12 | April 15 | Bagging, boosting | 11 |  |  |
| 13 | April 22 | Neural networks | 11 |  |  |
| 14 | April 29 | Office hours for final project |  |  |  |
| 15 | May 6 | Project Presentations |  |  |  |

**Course Policies**

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| **Grading (credit) Criteria** | **Final Project 50%; Homework 30%; In Class Exam 10%; Attendance & Participation 10%** |
| **Make-up Exams** | **Make-up exams will only be given in extreme circumstances** |
| **Late Work** | **Late work will not be accepted; however, because emergencies do happen I will drop one homework score for everyone.** |
| **Class Attendance** | **Attendance is mandatory. You are responsible for all announcements made during class.** |
| **Comet Creed** | *“As a Comet, I pledge honesty, integrity, and service in all that I do.”* |
| **UT Dallas Syllabus Policies and Procedures** | *The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus.*  *Please go to* [*http://go.utdallas.edu/syllabus-policies*](http://go.utdallas.edu/syllabus-policies) *for these policies.* |

***The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.***