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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%** |
| **Academic Honesty** | **All work submitted must be your own. You may discuss verbally with classmates and others, but no written or electronic notes may be retained from these conversations. You may not copy from others or online. Any material, such as code, used that is not your own must be referenced as such.** |
| **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.***