| Note: Changes in effect from March 30 are highlighted. | | |
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| UTD | **Course** | **STAT 6340.001: Statistical and Machine Learning** |
| | **Professor** | Pankaj Choudhary |
| | **Term** | Spring 2020 |
| | **Meetings** | MW 10:00-11:15 (CB3 1.302)<br>All lectures will be held online using Blackboard Collaborate, available via eLearning. |

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## Professor's Contact Information

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| **Office Phone** | 972-883-4436<br>Office is closed so this number will not work. Email me instead. |
| **Office Location** | FO 2.408 B |
| **Email Address** | pankaj@utdallas.edu |
| **Office Hours** | MW 11:15 – 12:00 noon or by appointment<br>These office hours will now be held online using Blackboard Collaborate, available via eLearning. |
| **Other Information** | eLearning at https://elearning.utdallas.edu/ will be used for posting course materials. |

## General Course Information

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| **Pre-requisites, Co-requisites, & Other Restrictions** | STAT 5353 or equivalent. |
| **Course Description** | Statistical and machine learning methods will be developed at an intermediate level. |
| **Learning Outcomes** | • Students will be able to analyze data using basic statistical and machine learning methods.<br>• Students will be able to use R software package for data analysis. |

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| **Required Texts & Materials** | *An Introduction to Statistical Learning with Applications in R*, James, Witten, Hastie, and Tibshirani, Springer, 2013. Visit the book's website http://www-bcf.usc.edu/~gareth/ISL/ to download a PDF of the book and other related materials. |
| **Suggested Texts, Readings, & Materials** | • Statistical and machine learning:<br>  • *The Elements of Statistical Learning,* 2nd edition, Hastie, Tibshirani, and Friedman, Springer, 2009 (visit https://web.stanford.edu/~hastie/ElemStatLearn for a PDF of the book and other related materials)<br>  • *Machine Learning: A Probabilistic Perspective,* Murphy, MIT Press, 2012<br>• R software system:<br>  • *An Introduction to R* (PDF available on eLearning)<br>  • *Advanced R* (HTML file available at http://adv-r.had.co.nz) |
| **Teaching Assistant** | Dipnil Chakraborty (Dipnil.Chakraborty@utdallas.edu, FO 1.204, desk: P)<br>Office hour: Tue and Thu, 2 - 3 pm or by appointment<br>These office hours will now be on Tue and Thu from 1:00-2:100 pm. They will be held online using Blackboard Collaborate, available via eLearning. |

**Academic Calendar**

| **Tentative Course Schedule** | |
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| | Book Chapters |
| 2 weeks | 1-3 [Note: Chapter 3 will not be taught in the class as it is part of the pre-requisite. However, you are required to read it as the materials from this chapter will be used in later chapters and also in projects. Two optional sessions will be held to go over this chapter. More details regarding the sessions will be announced in the class.] |
| 3 weeks | 4-5 |
| 3 weeks | 6-7 |

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| 3 weeks | 8-9 |
| 2 weeks | 10 |
| 2 weeks | Deep Learning (not covered in the book; if time permits) |
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| **Exam Schedule & Mini-project Due Dates** | |
| Project 1 | Jan 29 |
| Project 2 | Feb 12 |
| Test 1 | Feb 19 |
| Project 3 | Mar 4 |
| Project 4 | Mar 25 |
| Project 5 | Apr 8 |
| Project 6 | Apr 22 |
| Test 2 | Apr 29<br>Test 2 will now be given online via eLearning on May 6 from 11:00-12:15. |

**Course Policies**

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| **Grading (credit) Criteria** | Test 1: 25%<br>Test 2 (comprehensive): 35%<br>Six mini-projects: 40% (Additional details will be provided later)<br><br>• The tests will be based on a specified range of course content to be announced in the class. The use of a calculator is required.<br>• For each test, each student must bring a scantron score sheet, **FORM NO. F-1712-PAR-L**. The scantron sheets should be *clean* and *not bent or mutilated*. These are available in the book-store. The instructor will NOT be providing these.<br>• For each test, each student must bring a *No. 2 pencil* with a good eraser for use with the scantron sheet. The instructor will NOT be providing these.<br>• Incomplete grade is possible only in the case of a documented serious medical emergency near the end of the semester, with at least 70% of work completed at an on-going passing grade.<br>• Homework will be assigned but will not be collected or graded.<br>• The tests are closed-book, closed-notes.<br>• The projects may not have equal weight. A bonus project may be assigned.<br>The projects will need to submitted via on eLearning by specified date and time. |
| **Tentative Grading Scheme** | 93 or higher: A<br>[90, 93): A-<br>[87, 90): B+<br>[83, 87): B<br>[80, 83): B-<br>[75, 80): C+<br>[70, 75): C<br>Lower than 70: F |
| **Make-up Policy** | No make-up work will be given unless there is a serious medical emergency and appropriate documentation is provided in a timely manner. It may be possible take a test early for reasons such as travel. |
| **Extra Credit** | No extra credit work will be assigned. |
| **Late Work** | No late work will be accepted. It may be possible to submit the work early. |
| **Class Attendance** | Although attendance is not mandatory, you are encouraged not to miss any class as the course will move at a fast pace. The instructor will not make any accommodations for missing a class. |

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| **Electronic Devices** | The use of any electronic devices (except a calculator) is prohibited. In particular, cell phones, laptops, iPads, and the like must not be put on the desk. For any exception from this rule, ask the instructor for permission. On certain days (announced in advance), the instructor may encourage to bring a laptop. |
| **Comet Creed** | This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:<br>"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 for these policies. |

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