

## Statistical Forecasting

### Syllabus

P Bishop, 5/18/14

Welcome to Statistical Forecasting!

This course fulfills the Statistics requirement for students in the [Foresight](#) program within the College of Technology. It can also satisfy Statistics requirements in other programs with permission of the student's advisor.

The course is taught by [Dr. Peter Bishop](#) who directed the Foresight program for the last 30 years. Ms. [Laura Schlehuber](#), an actuary and an advanced student in the Foresight program, will be the teaching assistant.

The text is *Fundamentals of Forecasting Using Excel* by Kenneth Lawrence. It is an accessible approach to learning statistics that combines the basics of statistical theory with step-by-step instructions on using Excel to calculate those statistics. The emphasis will be on the calculations, but even more importantly, on the interpretation of those calculations—what they mean and what we know based on the calculations.

The course is online. Most of the course material and communication will be offered on the Canvas learning management system -- <https://canvas.instructure.com/courses/796839>. Quizzes and Draft and Final Reports will be taken and turned on [Blackboard](#). The Blackboard course will be available on Mon, June 2.

Students may also attend a help session offered by Dr. Bishop and Ms. Schlehuber on Thursdays beginning June 5 at 5:30 pm in Cameron 299 and online at the same time using the Adobe Connect teleconference platform. For online access, log onto <http://uh.adobeconnect.com/statistics> using Internet Explorer or Firefox. (*Chrome occasionally has difficulties.*)

Students are expected to be prepared for the help session by reading the chapter ahead of time and taking a short quiz on the terms and statements in the text. Students ask questions and bring up issues during the help session. Students then take another short quiz after the help session. Students choose a domain (a topic of interest) and collect time series datasets related that domain for their work throughout the course. They perform calculations each week on datasets in that domain. They turn in the calculations and a short "client memorandum" on what they know following those calculations. Students receive feedback on their calculations and memoranda, and they may revise either or both during the following week. The process repeats every week beginning with the second week (June 12).

At the end of the course, students combine their weekly reports into a final report to be turned in on Aug 4. That report receives a final round of feedback and a first assessment after which the student may turn in a final report on Aug 11. The course grade will be 40% for the quizzes and 60% for the final report. Students may also submit an optional learning essay for extra credit.

The following is the schedule for the course.

Week #	Week of	Topic	Reading
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<b>1</b>	June 2	Introduction Descriptive stats	Ch 1 Ch 2, Sec 2.1-2.4 <i>No pre-quiz this week</i>
<b>2</b>	June 9	Hypothesis testing	Ch 2, Sec 2.5
<b>3</b>	June 16	Time series analysis	Ch 3
<b>4</b>	June 23	Forecasting errors	Ch 4, Sec 4.1-4.2
<b>5</b>	June 30	Index numbers Inflation adjustment	Ch 5, Sec 5.4 Ch 5, Sec 5.5
<b>6</b>	July 7	Simple linear regression I	Ch 6, Sec 6.1-6.9, 6.11
<b>7</b>	July 14	Simple linear regression II	Ch 6, Sec 6.12-6.13
<b>8</b>	July 21	Multiple linear regression	Ch 7, Sec 7.1-7.12, 7.18
<b>9</b>	July 28	Diffusion models	Ch 9, Sec 9.1-9.4
<b>10</b>	Aug 4	Draft Forecasting Report due	
<b>11</b>	Aug 11	Final Forecasting Report due	

Contact Dr. Bishop at [pbishop@uh.edu](mailto:pbishop@uh.edu) or 281-433-4160 if you have any questions.

We look forward to working with you...