Eco 309 01W #20464
Eco 309 02W #20567
Eco 309 03W #23876

Economic Forecasting
Course Syllabus: Spring 2020

INSTRUCTOR INFORMATION

Instructor: Stanley Holmes, Ph.D.
Office Location: BA 102D
Office Hours: TTH 9:00 AM. to 11:00 PM, MW and from 2:00 PM to 3:00 P.M. CST by appointment
Office Phone: (940) 206-5096
University Email Address: Stanley.Holmes@TAMUC.edu
Preferred Form of Communication: Email or scheduled appointment
Communication Response Time: Within 24 Business Day Hours

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings
Textbook(s) Required

> **Text:** *Business Forecasting 9th Edition, Hanke & Wichern, ISBN* 978-0-132-30120-6 (No CDs are required)
> Electronic versions are fine

Software Required

> **Software:** Get the student version of the **Minitab19** software at Minitab website for 6 months at ttp://www.minitab.com/education/semesterrental/default.aspx). As a student you can get Minitab 19 free on-line and download it straight to your personally owned

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computer. You may use the product key that I will give you in class to do this. You will be required to provide a campus e-mail address (.edu) or other proof of your academic status.

Do not use Minitab Express in this course. It does not have the features and functionality required.

Make sure that you test the software before class begins. MAC users must follow instructions Minitab for Mac Users. I have included a link to the help topic on using Minitab on a Mac that has some of the programs that can be used if required https://support.minitab.com/en-us/installation/frequently-asked-questions/other/minitab-companion-on-mac/

You must also have a working copy of **Microsoft Excel** and **Microsoft Word** on your computer as well.

No other texts and/or materials are required.

Course Description

This course introduces the student to the economic forecasting approach through which economic theories and policy analysis can be stated and applied. Prerequisites: ECO 2301, 2302; ECO 302 must be taken and completed before taking this course.

The online D2L class sessions are from 6:45 P.M. to 8:30 P.M. Central Time every Monday and Wednesday of each week during the Spring Term.

This course is designed to investigate the techniques of the forecasting process as applied to business, finance and economics. Experience is gained in using four popular forecast methods, developing a causal variable hypothesis for forecasting, and in collecting and analyzing data. The resulting forecast will be used to develop a pro-forma strategic plan for the forecast period. Emphasis is given to communicating findings to senior managers in a concise written and verbal format.

In this course you will assume the role of a senior business analyst and planner with the following considerations:
1. Your assigned company and company data provide input to your primary role.
2. You report directly to the VP of Strategic Planning.

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3. Your primary responsibility is the development and presentation of a two-year strategic revenue and income forecast (a business as usual or pro-forma strategic plan) for your assigned company.
4. Your VP prefers to see all issues framed initially in terms of a hypothesis statement and periodic status reports on your progress. These status reports will be extra credit opportunities, but they must be submitted in a timely manner. Only include your best work for the status reports and not previous failed trials.
5. The VP does not expect lengthy, verbose, and repetitive documents or PPTs submitted.
6. The VP expects concise and supported analysis of the interim and final forecast models and results.
7. The VP is interested in the relationship between the revenue variable (objective variable Y company) and the causal variables (X) you select.
8. The exec does expect you to recommend or select the best forecast multiple regression model provide the forecast and results in the Class Project Report.
9. Along with the assigned company quarterly revenue forecast you are also expected to develop a pro-forma strategic plan income statement for each forecast quarter that demonstrates the financial impact of the company forecast.
10. You will present the forecast and strategic plan with your comments on the business implications of the plan.
11. You will follow the format outlined in the "Class Project" outline in Doc Sharing.
12. You may use any publicly available data or information in your analysis including the macroeconomic data provided in Doc Sharing but you must include the data and citations in your assignment submission.
13. Your contribution to the company is to provide a strategic plan and clearly present the business implications of the plan.
14. You may also include your best recommendations for improving company performance over the plan period.

Student Learning Outcomes

1. Students will demonstrate the ability to develop an eight-quarter revenue forecast and a pro-forma strategic plan for their assigned company using Minitab and Excel software. This involves the

evaluation of four popular alternative forecast methods and deriving the best forecast from among the methods.

2. Students will learn how to write concise summaries of each forecast model and results in a manner that senior managers will be able to understand.
3. Students will demonstrate the ability formulate causal hypotheses and to use and forecast appropriate secondary data to forecast business performance.
4. Students will write and submit a formal class project targeted to senior management that includes the results of each forecast model and a pro-forma strategic plan and all data and citations used in the analysis. An opportunity to conduct a verbal executive level presentation of forecast results will be done in an online Webinar.

COURSE REQUIREMENTS

Minimal Technical Skills Needed

Students will need to have basic business statistics analytical skills acquired in Eco 302 Business Statistics. Students will need basic excel skills including copying material and transforming and displaying data with basic math, graphical and sorting functions. Many of the same skills used in excel will also apply to Minitab used in the course. Students must have basic Microsoft Word skills to format, check and produce high quality written reports. The students must also be able to use PowerPoint to create executive level presentations with graphics.

Instructional Methods

Instruction will be provided in two general areas. The first focus is instruction on the use of analytical tools including Mintab 19 and excel. The goal of this instruction to promote student's working knowledge of popular forecast methods and tools. The second area of instruction addresses the creation, communication and use of a company revenue forecast. This includes how best to convey reliability, accuracy and forecast reasonableness to company executive management.

Student Responsibilities or Tips for Success in the Course

- Students are expected to attend and participate in all class sessions on time and be prepared to speak to the class, get questions answered and to demonstrate issues encountered.

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- Students are expected to turn in all assignments and reports as Word documents appropriately spell and grammar checked <u>on time</u>. Late assignments or assignments not submitted as Word documents will not be graded.
- Read the text and go over the slides available on each forecast method to provide additional information you will need to be successful in the course.
- Practice and learn the functions in Mintab. We will focus on using the time series plotting function, several of the other time series functions as well as the Minitab calculator function.
- Practice building power points in excel. Keep the type size to at least 24 and practice copying and pasting Minitab graphics into excel power points.
- Students are expected to take the two exams within the time allotted and submit them before the exam close dates.
- The important thing is to speak to me about any problems that you have encountered relative to this course. Do not disappear on me. I will try my best to help you succeed in this course.

GRADING

Grades will be based on a hypothesis test (10 points) 1 mid-term exam (30 points), company forecast and pro-forma strategic plan project (30 points) and a final (30 points) exam. These are shown in bold type in the Course Outline shown below. Plan well in advance for the exams: there will be no early exams and no make-up exams. An exam that is missed will be considered an F, <u>unless</u> I am notified <u>prior</u> to the exam and the excuse is a legitimate medical one or officially approved. Note that computer issues are not a valid reason for missing an exam. Regardless of the excuse, if you miss two tests or do not submit a class project you will automatically fail the class. Assignments will be announced in the class; it is your responsibility to keep up with the assignments. Late assignments will not be accepted.
Final grades in this course will be based on the following scale:

A = 90-100 Points
B = 80-89 Points
C = 70-79 Points
D = 60-69 Points
F = 59 Points or Below

There will be ample opportunity for extra credit work. Each extra credit assignment has point value stated in the assignment description. Up to 20 extra credit points may be available in the course dependent on the speed

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that the material is covered. All extra credit work must be in by the assignment due dates to receive a grade.

Assessments

The points earned in this course will determine the final grade received. Each assignment has a description of the work required and the maximum number of points to be earned. Each assignment and exam will be evaluated relative to how well directions were followed and the quality of the work described in the assignment.

The relationship between the assessments and course-level student learning outcomes is explained below.   Note that the executive level class project report is used to broadly assess all learning outcomes.

1. Students will demonstrate the ability to develop an eight-quarter revenue forecast and a pro-forma strategic plan for their assigned company using Minitab and Excel software. This involves the evaluation of four popular alternative forecast methods and deriving the best forecast from among the methods. Successful forecasting macro variables with three of the four forecast methods is worth 10 extra credit points. This outcome will be assessed with the two course exams and the final project report each worth 30 points for a total of 100 basic course points.
2. Students will learn how to write concise summaries of each forecast model and results in a manner that senior managers will be able to understand. This is assessed in the formal executive level forecast report that is worth up to 10 extra credit course points.
3. Students will demonstrate the ability formulate causal hypotheses and to use and forecast appropriate secondary data to forecast business performance. This is assessed in a formal hypothesis statement and test assigned and submitted early in the course and worth a maximum of 10 points.
4. Students will write and submit a formal class project targeted to senior management that includes the results of each forecast model and a pro-forma strategic plan and all data and citations used in the analysis. This is assessed in a formal class project report to executives worth a maximum of 30 points toward the end of the course. An opportunity to conduct a verbal executive level presentation of forecast results will be provided each student in class. The presentation is worth up to 5 extra credit points and is the final assignment in the course.

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TECHNOLOGY REQUIREMENTS

Browser support

D2L is committed to performing key application testing when new browser versions are released. New and updated functionality is also tested against the latest version of supported browsers. However, due to the frequency of some browser releases, D2L cannot guarantee that each browser version will perform as expected. If you encounter any issues with any of the browser versions listed in the tables below, contact D2L Support, who will determine the best course of action for resolution. Reported issues are prioritized by supported browsers and then maintenance browsers.

Supported browsers are the latest or most recent browser versions that are tested against new versions of D2L products. Customers can report problems and receive support for issues. For an optimal experience, D2L recommends using supported browsers with D2L products.

Maintenance browsers are older browser versions that are not tested extensively against new versions of D2L products. Customers can still report problems and receive support for critical issues; however, D2L does not guarantee all issues will be addressed. A maintenance browser becomes officially unsupported after one year.

Note the following:

- Ensure that your browser has JavaScript and Cookies enabled.
- For desktop systems, you must have Adobe Flash Player 10.1 or greater.
- The Brightspace Support features are now optimized for production environments when using the Google Chrome browser, Apple Safari browser, Microsoft Edge browser, Microsoft Internet Explorer browser, and Mozilla Firefox browsers.

Desktop Support

Browser	Supported Browser Version(s)	Maintenance Browser Version(s)
Microsoft® Edge	Latest	N/A
Microsoft® Internet Explorer®	N/A	11
Mozilla® Firefox®	Latest, ESR	N/A
Google® Chrome™	Latest	N/A

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Browser	Supported Browser Version(s)	Maintenance Browser Version(s)
Apple® Safari®	Latest	N/A

Tablet and Mobile Support

Device	Operating System	Browser	Supported Browser Version(s)
Android™	Android 4.4+	Chrome	Latest
Apple	iOS®	Safari, Chrome	The current major version of iOS (the latest minor or **point** release of that major version) and the previous major version of iOS (the latest minor or **point** release of that major version). For example, as of June 7, 2017, D2Lsupports iOS 10.3.2 and iOS 9.3.5, but not iOS 10.2.1, 9.0.2, or any other version. Chrome: Latest version for the iOS browser.
Windows	Windows 10	Edge, Chrome, Firefox	Latest of all browsers, and Firefox ESR.

- You will need regular access to a computer with a broadband Internet connection. The minimum computer requirements are:
    - 512 MB of RAM, 1 GB or more preferred
    - Broadband connection required courses are heavily video intensive
    - Video display capable of high-color 16-bit display 1024 x 768 or higher resolution

- You must have a:
    - Sound card, which is usually integrated into your desktop or laptop computer
    - Speakers or headphones.
    - *For courses utilizing video-conferencing tools and/or an online proctoring solution, a webcam and microphone are required.

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- Both versions of Java (32 bit and 64 bit) must be installed and up to date on your machine. At a minimum Java 7, update 51, is required to support the learning management system. The most current version of Java can be downloaded at: JAVA web site http://www.java.com/en/download/manual.jsp

- Current anti-virus software must be installed and kept up to date.

Running the browser check will ensure your internet browser is supported.
     Pop-ups are allowed.
     JavaScript is enabled.
     Cookies are enabled.

- YouSeeU in D2L requires and internet speed of at least 8 mbps to run recorded class replays successfully. Keep in mind that some wireless and WiFi environments especially if shared by several devices may have lower download speed. If you are having replay issue run a speed test at http://www.speedtest.net/ to see your download speed. If the speed is lower than 8 mbps give the application extra time to download and try the replay again.

- You will need some additional free software (plug-ins) for enhanced web browsing. Ensure that you download the free versions of the following software:
  - Adobe Reader https://get.adobe.com/reader/
  - Adobe Flash Player *(version 17 or later)* https://get.adobe.com/flashplayer/
  - Adobe Shockwave Player https://get.adobe.com/shockwave/
  - Apple Quick Time http://www.apple.com/quicktime/download/

- At a minimum, you must have Microsoft Office 2013, 2010, 2007 or Open Office. Microsoft Office is the standard office productivity software utilized by faculty, students, and staff. Microsoft Word is the standard word processing software, Microsoft Excel is the standard spreadsheet software, and Microsoft PowerPoint is the standard presentation software. Copying and pasting, along with attaching/uploading documents for assignment submission, will also be required. If you do not have Microsoft Office, you can check with the bookstore to see if they have any student copies.

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu**.**

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each

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student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT
Brightspace Support

Need Help?
Student Support

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778 or click on the **Live Chat** or click on the words "click here" to submit an issue via email.

System Maintenance

Please note that on the 4th Sunday of each month there will be System Maintenance which means the system will not be available 12 pm-6 am CST.

Interaction with Instructor Statement

The instructor will respond to emails and calls within 24hrs of a normal workday. Assignments and exams will be returned as soon as possible.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

Students are expected to attend all class sessions. If this is not possible then students are responsible for reviewing all recorded class session promptly and well before the next scheduled class session. All assignments must be submitted by the due date and time to receive a grade. I will comment on assignments turned in late but they will not receive a grade. Exams must be completed and submitted by the due date.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

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University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx).
http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: [Netiquette](http://www.albion.com/netiquette/corerules.html)
http://www.albion.com/netiquette/corerules.html

TAMUC Attendance

For more information about the attendance policy please visit the [Attendance](http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx) webpage and [Procedure 13.99.99.R0.01](http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf).
http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf)

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

[Graduate Student Academic Dishonesty 13.99.99.R0.10](http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf)

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

ADA Statement

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other

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things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce
Gee Library- Room 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu

Website: Office of Student Disability Resources and Services

http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

COURSE OUTLINE / CALENDAR

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Week of January 13 Introduction to Forecasting Text Chpts 1, 2, & 3

        Review of Basic Statistical Concepts in Doc Sharing, Course Methodology from Data to Plan.

        Assignment 1 Preliminary Functional Form Hypothesis (2 EC Points) - Due by midnight January 19.

Week of January 21 Data Patterns and Forecasting Techniques

        Basic Procedure in Forecast Model Building

        Regression in Basic Hypothesis Testing.

Week of January 27 Text Chapters 4 and 5 Decomposition, Exponential Smoothing, Moving Averages and Smoothing Methods and Time-Series and Their Components

Week of February 10 Text Chapter 9 Box-Jenkins (ARIMA) Type Forecasting Models in Doc Sharing

        Functional Form Hypothesis and Test (10 Points) - Due February 16.

Week of February 17 **X variable Univariate Forecasts (10 EC points) - Due February 23.**

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Choosing the best Univariate X Variable Forecast

Review of Univariate Forecast Methods for Exam

Week of February 24   **1st EXAM— Expo Smoothing, Decomposition & ARIMA (30 points) - Due March 1.**

Text Chapters 1 through 5 and 9.

Simple Linear Regression & Assumptions

Week of March 2   Multiple Regression Analysis/Time Series Regression in Doc Sharing, Text 6,7 and 8

Week of March 16   Building the Best Regression Model for Company Revenue, Data Transformations

Data Transformations, Data Leads and Lags

Week of March 23   Class Project Review and Use of Dummy Variables

Week of March 30   **Preliminary Regression Forecast and Plan (5 EC points) - Due April 5.**

Week of April 6   Pro-Forma Strategic Plan and Analysis

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Week of April 15	Discuss Class Project Outline and Project Graded Points
Week of April 20	New Product Forecasting and S-Curves Combining Forecasts with Regression **Completed Class Project (30 points) - Due April 26.**
Week of April 27	Panel Data and Exam Review Discussion on how to present forecasts to executives and improve your business careers
Week of May 4	**Class Project Presentations (EC 5 points) - Due May 7.** **2nd EXAM -- Regression (30 points) - Due May 7**

NOTE: This outline is subject to change! Check your e-mail multiple times every day, check our class eCollege website and attend the class regularly.

EXAMS: Each exam will be online and can be found on our class eCollege website. Each exam is subject to a time limit. You will have to submit your answers to exam problems by the specified deadline. Late work will not be accepted. Exams will typically open three days prior to closing at midnight on the due date in the above calendar.

PROJECT AND ASSIGNMENTS: You will have to upload your assignments and project to the relevant assignment submission folder on e-College by midnight of the specified due date. Each submission should include a summary page of what you had done, how you have done it and interpretations of the results. Plots and output without interpretation will be considered incomplete and will not be graded. Please submit each project and assignment in as a single Word document, source cite and LABEL each variable.

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CLASS AND OFFICE HOURS: I can typically be reached one hour before class by appointment to address questions you may have. Try not to miss class lectures. If you do make sure you watch replays of each class session and check the notes of a student that did attend. I do not repeat the lectures or sessions. If you have any questions contact me for further explanations via email. Be sure to include your class section in the email.