

Course Syllabus

Course Information

This course is offered collaboratively through the UW MBA Consortium. Campus specific course information is listed below:

Course Title: MBA 754 - Fundamental Methods of Forecasting

Course Section: 840

Credit Hours: 1.0

Course Term: Winter, 2025

Delivery Mode: Online

Course Dates: January 6, 2025--January 24, 2025

If you are considering dropping this course, having a conversation with your academic advisor is a good place to start. You should also let the instructor know what your plans are. Click the following links, based on your home campus, to learn more about dropping this course: [Consortium/UW-Eau Claire](#)Links to an external site. | [UW Oshkosh](#)Links to an external site. | [UW-Parkside](#)Links to an external site.

Instructor Information

Name: Dr. Fred Kolb

Home campus: UW-Eau Claire

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Course Description

The ability to forecast data which becomes available at regular intervals is very important in the business environment. With the power of modern computers, it is possible to carry out effective short term (one or two periods ahead) forecasts using methods studied in the context of a short course. The course will be very heavily weighted toward applied work rather than the mathematical theory behind the methods. Students will have a portfolio of forecasts at the end of the course to demonstrate competence.

Learning Outcomes

The skill set which this course is intended to provide to students focuses on procedures to recognize patterns in data and exploit those patterns to make short-term forecasts. In some cases the patterns are between variables such as advertising and sales. In other cases the patterns are based on the history of a single variable as its values emerge through time. In this second case attention might be given to sales of a product through

time without consideration of causal factors—instead, trend and seasonality being of high importance.

Excel software is used in this course in order to capture patterns and make use of those patterns to create forecasts. Other software does the same. Excel has been selected here because (1) it offers a low cost option, (2) has good graphics, (3) has an outstanding help feature which includes many examples, and (4) is very user friendly. Having all students use the same software makes it possible to provide step-by-step videos to make the learning as efficient as possible.

With the above in mind, students through completion of the assignments will:

- Use Excel to generate a scatter diagram with a fitted line, a correlation coefficient output, a regression output, a line graph, and a correlogram (by template).
- Use Excel to determine whether data is stationary or nonstationary
- Use Excel to apply moving averages, including weighted moving averages, measures of fit, and exponential smoothing models
- Use Excel to generate simple models that incorporate trend and seasonal adjustment, a simple linear regression model, including regression steps/output, a simple regression models with a transformation of an independent variable, and a multiple independent variables linear regression model.

Recommended Course Materials and Instructor's Objectives

Optional Textbook (as after course reference)

Title: *Business Forecasting*, 9th

Author: John E. Hanke and Dean W. Wichern. Prentice-Hall.

ISBN-13: 978-0-13-230120-6

This is an outstanding book because it is heavy in applied/solved examples. I have included the solutions manual for all the text problems. Unfortunately, it is no longer in print although it is available online. If after the course is over you think you might be doing forecasting in your work, then I strongly recommend that you get a copy (probably digital).

My goal is to provide you with a solid introduction to forecasting methods within a rather limited time frame of three weeks and to provide you with both the confidence and tools to enable you to continue developing your mastery of forecasting methods **after the course is complete.**

Access to a computer and high-speed Internet connection that is capable of accessing Canvas is a requirement of this course.

Please review the minimum technology requirements and recommendations in the **Online Course Resources** link in the left-hand Course Navigation menu. To set yourself up for success, pay special attention to the sections on *Your Responsibilities*, *Strategies for Success*, *Tech Tips*, and *Tech Support*.

Course Topical Outline

This course is organized into the following units:

- Assignment 1 Introduction to use of Excel for graphing, line fitting, and correlation
- Assignment 2 Introduction to use of Excel for trend lines and regression
- Assignment 3 Moving average model and measurement of accuracy
- Assignment 4 Methods to evaluate for stationarity
- Assignment 5 Augmented Dickey-Fuller test for stationarity
- Assignment 6 Weighted moving average method
- Assignment 7 Holt-Winters additive model
- Assignment 8 Decomposition method
- Assignment 9 Introduction to forecasting with a multiple regression model
- Assignment 10 Nonlinear regression methods
- Assignment 11 Forecasting a binary dependent variable
- Assignment 12 ARIMA method

Assignments and Activities

I have structured the course so that you can work **very independently** in terms of schedule. I know that there are significant demands on your time, and my hope is that the flexibility built into the course will enable you to meet the course obligations while you continue to meet your other obligations.

I have constructed the course so that each week there are four assignments. It is OK with me if you use the preview week to get off to an early start and you may work ahead. But

please do not rush through the assignments with a loss of learning as the price of the rapid pace. The assignments are each worth 25 points for a total of 300 points

This course is a quick look to show you what is out there in forecasting. Then, AFTER the course, you can go back and focus on those methods which might fit your particular forecasting needs--including understanding forecasts presented to you. The assignments are tied to examples presented in narrated videos so a good strategy would be to watch the video on a device such as phone while following along in Excel and replicating what is done in the video. The homework assignment will be essentially the same but with a different set of data. The homework output you should arrive at is provided. I think that strategy is actually the most efficient--especially for a course in which students have widely differing backgrounds in statistical analysis.

Assignments have soft deadlines but a firm deadline of Sunday midnight of that week for weeks 1 and 2. **For week 3 the firm deadline is Friday for assignments 9, and 10, and Sunday for assignments 11 and 12.** It is fine if you work ahead and post your assignments earlier than due. I try to keep up with assignments turned in early, but my first priority is grading the assignments due at the nearest due date. The work you turn in should be your own.

- Assignments as noted above are worth 25 points.
- Completed assignments typically earn full points. If there are shortcomings in your assignments I will ask you to make improvements and you will earn full credit when those areas are corrected. Please always check your work against the model submission and make good use of the videos.
- In the past students have done fine work and the grades have reflected that. I'm expecting the same once again.

A comprehensive list of all course activities is listed in the calendar.

Final Letter Grades Scale

Final Letter Grades Scale

Percentage	Consortium	UW-Oshkosh
93-100%	A	A
90-92.9%	A-	A-
87-89.9%	B+	B+

83-86.9%	B	B
80-82.9%	B-	B-
77-79.9%	C+	C+
73-76.9%	C	C
70-72.9%	C-	C
67-69.9%	D+	F
63-66.9%	D	F
60-62.9%	D-	F
0-59.9%	F	F

Export Course Content

You may want to download the material to have access to beyond this course. You may download the course as HTML files or ePub files. Click the links below for those directions.

- [How do I view course content offline as an ePub file as a student? Links to an external site.](#)
- [How do I view course content offline as an HTML file as a student?Links to an external site.](#) (NOTE: these directions tell you to click on Modules, but you will click on **Home**)

Wait to download the course material until after you have completed the [UW MBA Consortium Student Code of Conduct Agreement](#); otherwise you will not have unlocked the course material.

Consortium's Excused Absence Policy and Late Work Policy

An absence will be considered excused or authorized according to the following institutional policies:

1. The student's home campus policy on excused absences will apply.
 - [UW OshkoshLinks to an external site.](#)
2. UW MBA Consortium students will follow the [UW-Eau Claire Authorized Absence Policy.Links to an external site.](#)

If your absence falls into the excused absence category, please contact me as soon as possible. I may request that you provide documentation, and I may need time to make alternative assessments available to you.

Academic Conduct

To foster a productive learning environment, all students are required to accept and adhere to the Student Code of Conduct agreement in order to participate in this course.

Academic Integrity Policy

All class materials are the intellectual property of the instructor and may not be shared outside of this course (e.g., to commercial "study sites") without my permission.

Unless I specify otherwise, all work that you turn in to me should be an individual effort. The sentence structure, wording, and content for your assignments and discussions must be your original work. Academically dishonest behaviors include (but may not be limited to) the following:

- Intentionally or unintentionally presenting someone else's ideas or words as your own, either as a direct quote or paraphrased or summarized material, without the proper citation. You can cite your sources in APA format.
- Submitting work that is identical to or so similar to that of another's in its wording, sentence structure, and content that it cannot be considered original.
- Plagiarizing yourself by submitting work for evaluation in this course that was previously graded or otherwise evaluated in another course. You can cite your previous work. If you want to use your previous work, contact me first.
- Making up data or citations.
- Consulting resources to complete a graded course assessment other than those allowed in the assessment directions. If you are unsure what is considered as an authorized resource, consult with your instructor.
- Helping someone else engage in academically dishonest behavior, including posting course materials online.
- Violating copyright laws. In some cases, citing a source is not sufficient; you also have to obtain permission from the original source for the materials you use. Likewise, if you use any materials from this course outside this course, you may need permission to use them (e.g., in your company's training manuals, publications, or style guides).

Any investigation into any form of academic misconduct will result in a report to the dean of students and in student academic disciplinary sanctions as established by the UW System Board of Regents ([UWS Chapter 14Links to an external site.](#)). Disciplinary procedures from the student's home campus dictate the disciplinary action against students who engage in academic misconduct.

Generative AI Use

To create a shared understanding regarding the use of generative AI in this course, this course's policy on the "[Generative AI Use](#)" page is available in the Course Information module. Keep in mind that other instructors may have different expectations based on their course outcomes, so be sure you always check before you use generative AI in your classes.

Please note that the UW MBA Consortium owns the copyright to all course and program materials. You may not share program or course materials in any way in any generative AI platform. Likewise, this course will not require you to share program or course content or your work in a generative AI platform. You are encouraged to ask any questions you have regarding the policy.

Accommodation for Students with Disabilities

In order to ensure that all of our students have equitable access to our online course materials, we strive to meet the guidelines set by Section 508 of the Rehabilitation Act, which requires the public to provide reasonable accommodations to individuals with disabilities when posting web-based materials. Canvas is [compliant with W3C's Web Accessibility InitiativeLinks to an external site.](#) and with [Section 508Links to an external site.](#) guidelines. Additionally, Canvas was certified as a [substantially conformant LMSLinks to an external site.](#) by WebAIM, a third party authority in web accessibility. If you find that course materials are not posted in a format that meets your needs, or you need testing accommodations, please contact Online Course Support at BIZHelp@uwec.edu and we will work with you to find a reasonable accommodation.

In Summary

We have excellent resources, a plan that has worked in the past, and a talented group of students. I forecast success!

Course Summary:

Date	Details	Due
Mon Jan 6, 2025	Calendar Event Complete the Student Code of Conduct	12am
Tue Jan 7, 2025	Discussion Topic Introduce Yourself--And As An Incentive, If You Do, You Will NOT Be Entered Into A Contest To Win A Photo Of Fred Standing By A Swiss Cow!!!	due by 11:59pm
	Assignment Setting Up Canvas To Succeed In this Class	due by 11:59pm
Wed Jan 8, 2025	Assignment Assignment 1: Submit	due by 11:59pm
Thu Jan 9, 2025	Assignment Assignment 2: Submit	due by 11:59pm
Fri Jan 10, 2025	Assignment Assignment 3: Submit	due by 11:59pm
Sat Jan 11, 2025	Assignment Assignment 4: Submit	due by 11:59pm
Wed Jan 15, 2025	Assignment Assignment 5: Submit	due by 11:59pm
Thu Jan 16, 2025	Assignment Assignment 6: Submit	due by 11:59pm
Fri Jan 17, 2025	Assignment Assignment 7: Submit	due by 11:59pm
Sat Jan 18, 2025	Assignment Assignment 8: Submit	due by 11:59pm

Date	Details	Due
Wed Jan 22, 2025	Assignment Assignment 9: Submit	due by 11:59pm
Thu Jan 23, 2025	Assignment Assignment 10: Submit	due by 11:59pm
	Page Final Course Evaluation	to do: 11:59pm
Fri Jan 24, 2025	Assignment Assignment 11: Submit	due by 11:59pm
	Assignment Assignment 12: Submit	due by 11:59pm
	Assignment Final Grade	