Syllabus for Finance 4331

**Finance Modeling**

**Spring, 2025**

**Instructor:** Dr. Robert J. Ritchey

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Office Hours: MWF 11:00 – 12:30 and by appointment. Occasionally I will not be able to keep these office hours. Feel free to contact me outside these times at the above number or by email. When corresponding by email be sure to include your 3-digit class number in the subject field.

**Course Website:** [**http://rritchey.ba.ttu.edu/Excel%20Boot%20Camp/**](http://rritchey.ba.ttu.edu/Excel%20Boot%20Camp/)

**Class Times:**  FIN 4331-**001** 8:00 am - 8:50 am MWF

FIN 4331-**002** 9:00 am - 9:50 am MWF

FIN 4331-**003** 10:00 am - 10:50 am MWF

 Evening Exams in Room **105** (times listed are tentative):

All Sections: 7:00 pm - 10:00 pm M, FEB 3

All Sections: 7:00 pm - 10:00 pm M, FEB 17

All Sections: 7:00 pm - 10:00 pm M, MAR 24

All Sections: 7:00 pm - 10:00 pm M, APR 28

**Mediasite Recordings**

 Lectures for each section will cover very similar material.

Recordings of the lectures from section 002 will normally be available for viewing at [https://rawlscollege.mediasite.com/Mediasite/Channel/robert-ritchey/browse/null/most-recent/null/0/null](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Frawlscollege.mediasite.com%2FMediasite%2FChannel%2Frobert-ritchey%2Fbrowse%2Fnull%2Fmost-recent%2Fnull%2F0%2Fnull&data=05%7C01%7CR.Ritchey%40ttu.edu%7Cfe25cb5372374f5f188108db9e5b0636%7C178a51bf8b2049ffb65556245d5c173c%7C0%7C0%7C638277886012480601%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=93JIYDXYb%2FemeDfhxL4FUxlS6Ezw8GXAcgVWpgfXVi0%3D&reserved=0)

No videos will display until one selects a semester and then a class section. If you miss a class, please watch the video for that date.

**Course Resources** **Optional** **Text:** *Financial Modeling,* 4th or 5th edition, Simon Benninga, MIT Press. We will cover selected chapters and analyses using this book containing a multitude of spreadsheet examples. The book provides a good starting point for building more sophisticated spreadsheets in the workplace.

**Laptop Computer**. As part of your attendance grade, you must bring a fully functional laptop computer to each class. You will also need it to complete graded quizzes, tests, and assignments. The laptop must be configured to run **Microsoft Office 365 in the Windows operating system.** This software may be downloaded for free as a TTU student at[**https://eraider.ttu.edu/**](https://eraider.ttu.edu/)***. Be sure your Office software is the TTU version and up to date. Versions prior to 2024 may not have features necessary for this course.*** Your laptop should accept a standard **USB-A flash drive.**

Notice for Mac users: the Windows version of Excel in this course is required and sanctioned by Rawls College. The use of Mac/Apple laptops in this class is not recommended. If you have a Mac and want to use it in this course for exams and attendance credit you will need to install a Windows operating system on it as well as a current version of Windows Excel. Boot Camp may be an option for installing the Windows OS (see <https://support.apple.com/en-us/102622>. To help accomplish this, some technical assistance is available through the University help desk by calling 742-help. Note also that web-based solutions in which Excel resides on a server (and not on your computer) will not be allowed on exams since your internet connection must be disabled.

Exams and quizzes must be completed using Windows Excel to be acceptable for grading. Lectures will demonstrate Excel commands and keystrokes using only the Windows version. The Windows version of Excel is required as exam spreadsheets contain macros that do not work with Mac Excel, some Mac commands may be performed differently or in some cases may be unavailable, shortcut keys are different for Mac Excel, and, most importantly, the industry standard is the Windows version. **To receive full attendance credit, you must bring a laptop running Windows Excel to each class.**

 **Attendance**. Class attendance is mandatory, and roll will be taken for a grade. The Top Hat application will be used to take attendance and administer “pop” quizzes. You are responsible for all announcements made in class; some may amend the syllabus. Your attendance grade will depend on having a fully charged laptop with a stable updated Windows operating system and recent version of Windows Excel running to receive attendance credit for each class. **During class you are expected to be “on task” using your computer exclusively for applications directly related to that lecture.** You may lose attendance points for using your computer or cell phone for tasks other than those directly related to that day’s lecture.

 **Class Number**

 The grade section of Blackboard lists your unique “**class #**”. This number will range from 001 to 999. Remember this number as you will use it throughout the semester to identify yourself on tests, quizzes, assignments, and attendance. If an attendance sheet is used and you initial next to the wrong class number, you will lose credit for that day’s attendance. If you use the wrong class # number when submitting an assignment or test you will receive a grade deduction.

**Course Objectives (Knowledge and Skills Outcomes):**

**Course catalogue description :**

 **FIN 4331. Finance Modeling (3)**. Prerequisites: C or better in FIN 3322 and 3324. Exploration of Excel models for decision making in investments and financial management.

*Finance* *Modeling* covers standard financial models in the areas of corporate finance and financial management including financial mathematics, financial statements, valuation of stocks, bonds and options, cost of capital, capital structure, investments, asset pricing models and portfolio analysis. While Excel is often not the best tool for high-level, industrial-strength calculations, it is an excellent tool for understanding the computational intricacies involved in financial modeling. It is often the case that the fullest understanding of the models comes by calculating them and Excel is one of the best tools available for this. Further, job-search websites clearly show the ability to use Excel as one of the most important skills in the workplace today.

After completing the course students will be able to:

* Build Excel spreadsheets to model:
	+ the present value of various cash flow streams, including uneven streams, annuities and perpetuities
	+ pro forma financial statements including the balance sheet and income statement
	+ the value of stocks, bonds, and contingent claim assets (options)
	+ a firm’s component and average cost of capital
	+ the impact of operating and financial leverage on optimal capital structure
	+ the lease-purchase decision
	+ random variables and simulation of financial models
* Use the following capabilities of Excel to build financial models:
	+ Conditional formatting
	+ Built in financial functions
	+ Array functions
	+ What-if analysis
	+ Data Tables
	+ Solver (constrained optimization)
	+ Keystroke macros
	+ User defined functions
	+ Rand ( ) and If ( ) functions
	+ Text functions

**Course**

**Grading:** Class attendance is important to success in this course. If you miss a class, please watch the Mediasite video (see above link) and/or arrange with a classmate to get the announcements and lecture notes you miss.

**If you have a time conflict with a scheduled exam or quiz because of official University business or other acceptable reason, you must notify your instructor by email prior to the end of the second calendar week of the semester to arrange for a makeup. Requests for makeups after this date will result in a minimum one letter grade reduction for that grading element. The first and last page of this syllabus show test dates.**

Your final letter grade for this course will be based on exams, quizzes, assignments, and attendance. Tentative weights for each of these elements are given below. Tests will require you to have a computer running a stable Windows operating system and Windows Excel at the start of the test. Be sure that you boot up your laptop before class starts to make sure updates are complete and do not tie up your computer during the test. Remember to bring a charger in case your battery drains before you can complete the test. **Your computer must have the ability to open and save files on a USB thumb drive formatted in Windows.** You will be required to disable wireless connections during tests.

Each assignment may consist of a quiz and/or spreadsheet project. The final weight of each individual assignment in your overall course grade will be determined at the end of the course. Tentative weights are given below and in the Grade Calculator workbook on the course website.

**ATTENDANCE**. The attendance portion of your grade is “100%” if you participate in entirety all but two unexcused classes with Excel open on your laptop. (You have two “free” unexcused class misses.) Each unexcused missed class beyond the second reduces your attendance grade by 5%. Class absences that may be excused include official University business & athletics, student association trips, religious holidays, and military obligations. Medical or sickness absences are not excusable: these count against your two “free” misses.

Excused classes do NOT reduce your attendance grade provided you:

* Complete and **print** the *Excuse.xlsx* workbook, one for each missed class.
* Give the printed copy along with a 1-2-page typed and printed lecture summary to your instructor on the first day back to class. Do not email them.

Attendance will normally be taken with TopHat. Use your laptop to login to each class. Immediately after logging in to TopHat, verify that your attendance was recorded. If it is not recorded let your instructor know immediately. If TopHat is not used, a class attendance sheet may be passed around the classroom during class. **If you sign into TopHat you agree to stay for the entire class. If you must leave early for an important reason, email your instructor before or during class stating that you need to leave early.** After class email your instructor with an explanation as soon as possible. Failure to notify your instructor as indicated above will result in a substantial attendance penalty, including a possible zero for the attendance portion of your course grade. You may sign in to TopHat only when you are seated in class. The first time you are late to class a few minutes you may sign the late sheet immediately after class for attendance credit. Other late attendances will be considered absences.

**Tentative dates & weights for the graded course elements:**

|  |  |  |
| --- | --- | --- |
| FIN 4331 | Tentative Date | Tentative %Weight |
| Assignment 1: SOLVER | 3-Feb | 6 |
| Quiz 1: Financial Math | 17-Feb | 12 |
| Assignment 2: Stock Value | 3-Mar | 9 |
| Exam I (Midterm) | 24-Mar | 15 |
| Assignment 3: Data Tables | 31-Mar | 8 |
| Assignment 4: Proformas | 14-Apr | 8 |
| Exam II (Final) | 28-Apr | 20 |
| Assignment 5: Simulation | 5-May | 12 |
| Attendance |   | 10 |

 If your course average is at least 90% your course letter grade is “A.” For 80-89.99% your grade is “B.” For 70-79.99% your grade is “C.” For 60-69.99 your grade is “D.” For less than 60% your grade is “F.”

Since the number of assignments, exams and quizzes is tentative and as the semester evolves there may be fewer or more than planned, the weights shown above may be significantly revised. In that case your letter grade for the course will be determined by an adjusted algorithm to be explained near the end of the semester.

**Makeup**

**Work:**

**Missed Exam or Quiz:** If you miss a test or quiz **with** an excused absence, you must email your instructor 2-3 days before the test *in addition to any earlier emails* to request a makeup exam or quiz. Be sure to state the reason for missing and include a schedule of possible times you can do makeup, if required.

**Testing:**

Please pay close attention to the testing dates listed on the first and last page of this syllabus. It is important that you arrive on time for all tests to facilitate seating. If you are unable to take any of these at the times listed, *you must notify your instructor prior to the end of the second week of the semester to arrange for a makeup*. Due to unanticipated circumstances test dates may be amended later during the semester.

**Policies:**

Texas Tech Policies Concerning Academic Honesty, Special Accommodations for Students with Disabilities, and Student Absences for Observance of Religious Holy Days may be found on Blackboard.

Here is a link to these policies: <https://www.depts.ttu.edu/tlpdc/RequiredSyllabusStatements.php>

**Assignments:**

You will be completing and submitting spreadsheet assignments for grading. Each graded take-home assignment should be treated as a take-home exam to be completed by you alone. Since the grade you are given assumes that you did the work without help, you must complete each assignment without the assistance of any other person. **Collaboration or collusion with others in completing an assignment is strictly prohibited and if violated may result in a grade of “zero” for that assignment as well as for the entire assignment portion of your grade. Any form of copying part of another person’s spreadsheet is prohibited.** Remember though that you *are* permitted to use any part of spreadsheets posted to the web by your instructor during the semester or to access *generic* instructions for using Excel commands from the web or other reference sources such as *Lynda*. The assignment grades you receive are tentative and may be amended later in the semester if it is determined that you violated the academic integrity policy or if you did not follow instructions related to collaboration or copying.

Note that the policy on collaboration or collusion does NOT apply to situations not directly related to preparation of an assignment that is to be turned in for a grade. It is appropriate (and recommended!) that you prepare for class, exams, and quizzes **with** others so long as you are not sharing information specific to or directly related to completing a graded assignment prior to its due date. You **are** permitted and advised to work in groups to share and review course notes and items that were covered in class. As an example, you **may** share with others or receive instructions on how to use the Data Table command, Solver, conditional formatting, functions, Data Validation, etc. in Excel if the example(s) used is (are) NOT the one in the graded assignment. Only after the assignment is due and submitted is it okay to get together to discuss the assignment solution. Examples of collaboration (strictly disallowed): **After** an assignment **to be turned in** is posted to the web (1) you arrive a few minutes early to class and ask another student about what they have done on the assignment, (2) during lunch you get together with classmates to discuss the assignment, (3) you help another student by showing them how to enter a formula on an assignment worksheet (4) you find a copy of the solution to an assignment on the web and use parts of it to complete your workbook.

**Course Schedule (Tentative dates and weights for assignments are in *Grade Calculator.xlsx* on the course website):**

**Part I**

Excel basics

User-defined functions

Excel advanced tools

Financial math

**Test Monday Evening, 7-10 PM, FEB 3**

Room 105.

**Test Monday Evening, 7-10 PM, FEB 17**

Room 105.

**Part II**

Financial statement models

Valuation models

Constrained optimization techniques

**Exam I Monday Evening, 7-10 PM, MAR 24**

Room 105. This exam covers material presented to date.

**Part III**

Capital budgeting models

Cost of capital models

Capital structure models

**Part IV**

Random variables & simulation

Comprehensive model of firm value

Option pricing models

Keystroke macros

**Exam II Monday Evening, 7-10 PM, APR 28**

Room 105. This exam covers all material presented to date.