



Syllabus: FINANCE 6503/3503, Spring 2022 Computer Applications In Finance

About the Instructor



Contact Information

Dr. Liuqing Mai
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E-mail: mailiu@umsl.edu
Campus Office: ABH 231
Office hours: Monday & Wednesday 1:00pm-2:00pm CST
(Besides office hours, email is the best way to reach me. I will usually reply your email within 24 hours on weekdays and 48 hours on weekends)

Class Meetings

Monday & Wednesday 11:00am-12:15pm CST, Room ABH 106
See <https://www.umsl.edu/staysafe/policies.html> for safety policies and guidelines on campus.

Welcome

Welcome to FINANCE 6503/3503 Computer Application In Finance! This course is intended for students who want to become finance professionals, knowledgeable individual investors, or both. Spreadsheet proficiency is one of the most sought-after skills in the world of finance. Upon completion of this course, students will master various Excel skills and have the ability to model real-world financial problems in spreadsheet and the ability to use the models to assist in making financial decisions. It is also my hope that through this course, students will develop competitive technical and financial technology skills, which will give them an edge in the job market.

Course Overview

This course focuses on the application of Excel in finance. It is lab-based and project-oriented, and provides hands-on experience. Students will learn step-by-step how to build financial models to solve practical, real-world problems. Financial topics covered include but not limited to loan amortization,



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financial statement analysis, capital budgeting, firm and project valuation, financial planning, risk analysis, and capital structure. Excel skills covered range from basics such as pivot tables and charts to more sophisticated tools including form controls, solver, ANOVA, macro, statistical hypothesis testing, data analytics and data visualization.

Instructor Bio

I am an Associate Teaching Professor of Finance, at University of Missouri – St. Louis (UMSL). I have my Ph.D. in Finance from the University of Mississippi (2007), Master of Arts in Economics also from University of Mississippi (2002). I joined the faculty in the department of Finance and Legal Studies of the College of Business at UMSL in 2009. My research interests include market microstructure, mergers and acquisitions, investments, and supply chain finance. I have published in scholarly journals including the *International Journal of Managerial Finance*, the *Journal of Financial Economic Policy*, the *Engineering Economist*, and the *Journal of Purchasing and Supply Management* etc. In my spare time, I enjoy hiking, photography, painting, and reading.

Teaching Philosophy

- Cultivate students' interests and passion in the finance profession.
- Develop and strengthen students' critical thinking, analytical and problem solving skills.
- Emphasize the practical relevance and value of a topic as well as the content of the topics.
- Bridge the gap between classroom learning and real world application.

About this course:

Prerequisites: FIN 6500 or FIN 3500

Optional texts: *Excel Modeling in Corporate Finance*, Fifth edition, by Craig W. Holden, Pearson. ISBN 10: 0-205-98725-7, ISBN 13: 978-0-205-98725-2

Required Hardware

A flash drive to ease file portability; *access to a Windows-based computer with Microsoft Excel and a reliable internet connection*, a college ruled notebook for lecture notes. (A notebook will be handy for the large amount supplementary materials and lecture notes.) You are expected to back up your work regularly.

Please note: there are some fairly significant differences between the Mac version of Excel and the Windows version. If you are uncomfortable with computer usage or the Excel in Mac, I would advise against trying to use a Mac for this course.

Course Description

"FINANCE 6503 Computer Applications in Finance: 3 semester hours

Prerequisites: FINANCE 6500 and 3.0 overall GPA. This course focuses on modeling and data analytics in finance. Hands-on projects include applications in loan amortization, buy or lease decisions, financial statement analysis and forecasting, capital budgeting, bond and stock valuation, risk



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analysis, capital structure, and portfolio analysis. Students will learn basic and sophisticated Excel tools and how to build executive dashboards, interfaces, and other monitoring tools used in day-to-day business. They will also gain exposure to statistical inference, time series modeling, event study analysis, and machine learning techniques for forecasting and working with financial data.” (From UMSL Website)

“FINANCE 3503 Computer Applications in Finance: 3 semester hours

Prerequisite: FINANCE 3500. Financial problem solving and applications on the micro-computer. A project oriented course with an emphasis on micro based finance projects: Present value/IRR analysis, duration, immunization, portfolio optimization, leasing, capital budgeting, financial forecasting, options and futures.” (From UMSL Website)

Goals of the Course

The primary objective of the course is to help students acquire financial modeling skills and spreadsheet proficiency to solve real-world problems. Upon completion of the course, the student should be able to

1. demonstrate thorough understanding of finance and accounting concepts and methodologies.
2. effectively identify and model real-world financial/business problems using Excel spreadsheet skill.
3. extract useful information from large data sets to assist in business decision-making
4. learn and apply industry best practice.

How to Succeed in This Course

- Be a motivated learner
- Be a proactive learner
- Be a responsible learner

Time Requirements

If this course were offered on campus, you’d be in class 2.5 hours/week plus travel time. The online version is no different in terms of expectations for your involvement. This is an active online course that requires 3 hours of your time each week **in addition to** the time it takes you to read the required materials, watch the videos, and complete the assignments. That means that you need to plan to spend a minimum of **6 hours every week** (up to 9-10 hours a week) on activities related to this course. If you are worried about your preparedness, consider taking the [Online Readiness Survey](#) to help decide if an online course is right for you.

Technology Requirements

As a student in an online course, you are expected to have reliable internet access almost every day. If you have computing problems, it is your responsibility to address these or to use campus computing labs. Problems with your computer or other technology issues are not an excuse for delays in meeting expectations and missed deadlines for the course. If you have a problem, get help in solving it immediately. At a minimum, you will need the following software/hardware to participate in this course:



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- Updated Internet browsers. The Google Chrome is the recommended browser for this course. Both Internet Explorer and Firefox have known issues with Canvas.
- Ability to navigate the Canvas (Learning Management System)
- Frequent access to your personal campus email, course website, and Microsoft Excel
- [Oracle Java plugin \(free\)](#)
- [Microsoft Silverlight plugin \(free\)](#)
- DSL or Cable Internet connection or a connection speed no less than [6 Mbps](#)
- Media player such as [VLC Media Player](#)
- [Adobe Flash player \(free\)](#)
- [Adobe Reader or alternative PDF reader \(free\)](#)
- A webcam and/or microphone is **highly recommended**.

Course Pedagogy

Class content is delivered on a computer. Most of content involves working directly on your computer while instructor demonstrates the operations and procedures. It is important that you work along with the instructor to complete the examples and procedures so you know how they are done. Therefore, only minimum class time will be devoted to “lecturing” in the traditional sense. Most of the class time will be spent on working exercises and creating spreadsheet models, with the instructor available to answer questions as needed. Projects and exams require you to apply similar operations.

I also expect you to do your own work in and out of class. Asking your fellow classmates for explanation of points on which you are confused is fine, but looking at someone else’s solution is not a substitute for real learning occurs when you work through examples and exercises yourself.

Classroom

Students are expected to attend *every* class, though occasionally other obligations (e.g., business trips) may take precedence. If you expect to miss more than three class meetings, you should consider taking this course another semester. This course is mainly hands-on, and we will spend a lot of our time working exercises and projects. Both finance and Excel are constantly evolving. The contents of the textbook shall in no way limit the content of the course. Instead, we will expand on the content to include many useful skills left out by the book. For this reason, it is very important that you attend every class. In the past, students who missed classes often find themselves spending excess time and effort on projects, yet receiving lower scores. Your ability to manage your time well and your desire to put in the effort needed to learn spreadsheet modeling are the primary drivers of your success in the course.

Out-of-Class Assignments

Ready-to-build exercises are assigned at each class. These are not collected and graded, nor do they count explicitly toward your grade. However, it is impossible to master the material in this course without doing the exercises conscientiously. Answers to ready-to-build exercises will be provided in class and online.



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In addition to ready-to-build exercise, there will be projects from each topic. The projects will require the use of Excel, and sometimes the Internet. *These are individual projects.* Please note there is no payoff copying others on the projects. Use the buddy system but make your own mistakes!

There are 8-10 projects in total. Feedback on each project will be given and discussed in class after the project is due. **Four to five projects will be randomly selected for grading. The lowest project score will be dropped.** Please do not ask which project will be graded. Graded projects may vary individually. Instead of guessing which project will be graded, you can maximize your project points by doing your best in every single project. All projects must be submitted through **Canvas**. Projects submitted by email will not be graded. It is important that you submit all projects on time. Late projects turned in within a week after the due date will receive, at most, 50% of the full credit. Late projects turned in more than a week after the due date will not be accepted. **Projects not submitted will automatically receive a score of “zero”.**

Exams

There are two exams. Each of the exams will consist of several problems/use cases which must be worked in Excel.

It is your responsibility to attend all exams at the scheduled time. **No make-up exams will be given without legitimate excuses and proof.** If the legitimate excuses are foreseeable, they must be submitted *in writing* (email is OK) two weeks prior to the scheduled exam. If they are unanticipated such as medical emergencies, you should be able to produce documentation. Any student submitting work not his/her own, any student allowing other students to copy his/her work or any student cheating on an exam will automatically receive a *failing grade* for the entire course.

Note: All work that is submitted for a grade in this course is to be your work and only your work. There is no group work in this course.

If this is your first online course, it is recommended that you log into Canvas and complete the [Online Course Overview](#) listed in your Canvas course list. If you've already completed the orientation, you do not have to retake it but you can refer to it for helpful videos and tutorials about the technologies used in this course.

Assessment/Grading

Grade Composition

Grades will be based on exams, projects, and participation. Your grade will be calculated as follows:

Exam I:	20%
Exam II:	20%
Projects:	45%
Participation (Videos, Discussion, etc):	15%
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Total:	100%



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Grading Scale:

Grade	Weighted Average
A	90-100
B	80-89
C	70-79
D	60-69
F	below 60

A modified 100-point scale will be used in assigning final grades. All students having a final average of 90 or more will receive an A (likewise 80 or more a B; 70 or more a C and 60 or more a D). Any reduction or modification in the minimum average to receive a particular grade will be made consistently across all students (e.g. a student with an 89.3 will not be awarded an A and one with an 89.6 a B). Determination of the final breakpoint (if lower than 90 for an A) will be made on the basis of difficulty of tests and distribution of final averages. The same is also true for B, C and D grades.

Feedback and Grading Timeline

Discussion board grades will be returned, with rubric feedback, within 48 hours of the discussion due date. Other assignments may take longer to grade. You can find grade in the Grades button on Canvas. If there is a rubric attached to the assignment, you can click your score to see my personal feedback on the rubric.

Online Class Netiquette/Behavior

- **Be self-reflective** before you post an emotional response and reread what you have written to be sure it is positive. Think of your comments as printed in the newspaper. Your online comments will be seen, heard and remembered by others in the class.
- **Use effective communication.**
 - Avoid the use of all caps or multiple punctuation elements (!!!, ??? etc).
 - Be polite, understate rather than overstate your point, and use positive language.
 - If you are using acronyms, jargon or uncommon terms, be sure to explain them so everyone can understand and participate in the discussion.
- **Ask for clarification** to a point if you feel emotional from a classmate's post. It is likely that you misunderstood his/her point. This strategy will also help you step away from the intensity of the moment to allow for more reflection.
- **Sign your name.** It is easier to build a classroom community when you know to whom you are responding.
- **Foster community.** Share your great ideas and contribute to ongoing discussions. Consider each comment you make as one that is adding to, or detracting from, a positive learning environment for you and your classmates.
- **Be constructive.** You can challenge ideas and the course content, but avoid becoming negative online. When you disagree politely, you stimulate and encourage great discussion. You also maintain positive relationships with others with whom you may disagree on a certain point.



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- **Keep the conversation on topic** by responding to questions, adding thoughtful comments about the topics at hand. Online dialogue is like conversation. If there is a certain dialogue going on, please add to it, but if you have something new to say, please post it in another thread.
- **Define your terms.** When using acronyms or terms that are particular to your field (or new to our course), please define them for others.

Course Policies

Participation

- It is vitally important that our classroom environment promote the respectful exchange of ideas. Please be sensitive to the views and beliefs expressed during discussions whether in class or online. Please speak with me before recording any class activity. It is a violation of University of Missouri policy to distribute such recordings without my authorization and the permission of others who are recorded.
- I will not respond to each post but will be monitoring each discussion, and will respond, challenge and urge you to think about what you and others are discussing.
- Your success in this course will heavily depend on your ability to communicate, engage and participate in all course activities. Successful completion of this course requires that a student keep up with all assignments, coursework and discussions. Timely participation in online discussions is a very important part of this course and participation in these discussions, and other activities as assigned, is not optional. You are expected to prepare and post to discussions in a timely manner consistent with the requirements contained within the course syllabus and discussion rubric

Attendance Policies

- “Present” in class for online courses is determined by participation in an “academically related activity,” i.e. submission of an assignment, assessment or discussion forum posting. The last day of attendance is the last day a student is academically participating in the online course.
- Documentation that a student has logged into an online class is not sufficient by itself to demonstrate academic attendance.
- If you are unable to attend class due to work or family responsibilities, please contact Ms. Becky Leathers in the Graduate Business Programs Office (mba@umsl.edu; 314.516.5885) so alternative arrangements can be made.

Academic Integrity/Plagiarism

- You are responsible for being attentive to and observant of University policies about academic honesty as stated in the [University’s Campus Policies](#) and [Code of Student Conduct](#) found in the UMSL Bulletin
- Academic dishonesty is a serious offense that may lead to [probation, suspension, or dismissal from the University](#). One form of academic dishonesty is plagiarism – the use of an author's ideas, statements, or approaches without crediting the source. Academic dishonesty also



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includes such acts as cheating by using any unauthorized sources of information and providing or receiving unauthorized assistance on any form of academic work or engaging in any behavior specifically prohibited by the faculty member (e.g., copying someone else's answers on tests and quizzes). Unauthorized possession or distribution of academic materials is another type of academic misconduct. It includes the unauthorized use, selling or

purchasing of examinations or other academic work, using or stealing another student's work, unauthorized entry or use of material in a computer file, and using information from or possessing exams that an instructor did not authorize for release to students. Falsification is any untruth, either verbal or written, in one's academic work. Facilitation is knowingly assisting another to commit an act of academic misconduct. **Plagiarism, cheating, and falsification are not acceptable.**

- All instances of academic dishonesty will be reported to the Office of Academic Affairs who will determine whether you will appear before the Student Conduct Committee for possible administrative sanctions such as dismissal from the university. The instructor will make an academic judgment about the student's grade on that work in this course. The campus process regarding academic dishonesty is [described in the "Policies" section of the Academic Affairs website.](#)
- Plagiarism and cheating will not be tolerated and may lead to failure on an assignment, in the class, and dismissal from the University, per the [UMSL academic dishonesty policy.](#)

Title IX Policies

- **Mandatory Reporting:** Under Title IX, all UMSL faculty, staff, and administrators (with limited exception) are obligated to report any incidents of sexual harassment, sexual misconduct, sexual assault, or gender discrimination to the Student Affairs office and/or other University officials. This ensures that all parties are protected from further abuses and that victim(s) are supported by trained counselors and professionals. Note: There are several offices at UMSL (e.g., Counseling Services, Health Services, Community Psychological Service, Center for Trauma Recovery, and Student Social Services) whose staff are exempt from Title IX mandated reporting, when the information is learned in the course of a confident communication.

Student Resources

Access, Disability and Communication

Your academic success is important. If you have a documented disability that may have an impact upon your work in this class, please contact Disability Access Services (DAS) immediately. Students must provide documentation of their disability to the office of Disability Access Services in order to receive official University services and accommodations. The staff is available to answer questions regarding accommodations or assist you in your pursuit of accommodations. Information about your disability is confidential. Once DAS reviews your medical documentation, they will provide you with the information and steps to inform me about the accommodations to



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which you are entitled. Your accommodations will begin as soon as we discuss your approved accommodations.

- 144 Millennium Student Center (MSC)
- Phone: (314) 516-6554
- Email: Tara Cramer, cramert@umsl.edu, or Adam Mann, mannad@umsl.edu
- [Website: http://www.umsl.edu/services/disability/](http://www.umsl.edu/services/disability/)

Office of International Students and Scholar Services

If you have difficulty communicating in English with the instructor of this course, contact ISS.

- 362 Social Sciences & Business Building (SSB)
- Phone: (314) 516-5229
- [Email: iss@umsl.edu](mailto:iss@umsl.edu)
- [Website: http://www.umsl.edu/~intelstu/contact.html](http://www.umsl.edu/~intelstu/contact.html)

Student Enrichment and Achievement

SEA provides comprehensive support and intervention strategies that support your road to graduation!

- 107 Lucas Hall
- Phone: (314) 516-5300
- [Email: umslsea@umsl.edu](mailto:umslsea@umsl.edu)
- [Website: https://www.umsl.edu/services/sea/](https://www.umsl.edu/services/sea/)

Office of Multicultural Student Services (MSS) and the University Tutoring Center (UTC)

MSS provides comprehensive student retention services to diverse student populations; through their tutoring center, the MSS offers comprehensive tutoring services free to students at UMSL.

- 225 Millennium Student Center (MSC)
- Phone: (314) 516-6807
- [Email: multicultural@umsl.edu](mailto:multicultural@umsl.edu)
- [Website: https://www.umsl.edu/~mcraa/index.html](https://www.umsl.edu/~mcraa/index.html)

Technical Support

Online Mentor Program

Online education requires different teaching, learning, and technology skills than those found in traditional face-to-face classes. We assist students with the online technology in Canvas and provide resources for studying and success in online classes.

- 598 Lucas Hall
- Phone: (314) 516-4211
- [Email: onlinementor@umsl.edu](mailto:onlinementor@umsl.edu)
- [Website: http://www.umsl.edu/services/ctl/studentsupport/omp.html](http://www.umsl.edu/services/ctl/studentsupport/omp.html)



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Canvas

If you have problems logging into your online course, or an issue within the course site, please contact the **Technology Support Center**:

- Phone: (314) 516-6034
- [Email: helpdesk@umsl.edu](mailto:helpdesk@umsl.edu)
- [Website : http://www.umsl.edu/technology/tsc/](http://www.umsl.edu/technology/tsc/)

If you are having difficulty with a technology tool in Canvas, consider visiting the [Canvas Student Guides](#), which has overviews of each tool and tutorials on how to use them.

If you continue to experience problems or just have questions, you can also contact the **Learning Resource Lab**:

- Phone: (314) 516-6704
- [Email: lrl@umsl.edu](mailto:lrl@umsl.edu)
- [Website: http://www.umsl.edu/technology/lrl/](http://www.umsl.edu/technology/lrl/)

VoiceThread

- [Online Contact Form: https://voicethread.com/support/contact/](https://voicethread.com/support/contact/)
- [Website: https://voicethread.com/howto/](https://voicethread.com/howto/)

Academic Support

The Online Writing Center (OWC)

At the OWC Canvas site, students can send their papers to our tutors, who will read them and send them back with suggestions. Students can also access Turnitin, which identifies quoted material in their essays.

- 222 Social Sciences and Business Building (SSB)
- [Website: https://www.umsl.edu/~umslenglish/Writing Center/](https://www.umsl.edu/~umslenglish/Writing Center/)
- Visit the OWC course site on Canvas to submit drafts online. To find the OWC course, click on Courses→All Courses. Then click to join this course
- The OWC usually responds within 48 hours. Please allow ample time.

Math Academic Center (Math Lab)

The Math Academic Center offers free individual assistance on a walk-in basis to students needing help with any mathematics from basic math through calculus or any course involving mathematical skills.

- 222 Social Sciences and Business Building (SSB)
- [Website: http://www.umsl.edu/mathcs/math-academic-center/](http://www.umsl.edu/mathcs/math-academic-center/)



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Course Schedule

Module #/Name	Dates	Lectures and Readings	Assignments	Discussions	Assessments
Module 1	Jan 18 - Jan 30	TVM and CF patterns	Project 1	Discussion 1	Financial modeling Basics
Module 2	Jan 31 - Feb 13	Mortgage Loans	Project 2		Form Controls
Module 3	Feb 14 - Feb 27	Lease vs Buy Decision	Project 3	Discussion 2	
Module 4	Feb 28 - Mar 13	Project NPV Analysis	Project 4		Data table
Module 5	Mar 14 - Mar 27	Breakeven Analysis	Project 5	Discussion 3	Solver Exam I
***Mar 28 – Apr 03, No Class, Spring Recess! ***					
Module 6	Apr 04 - Apr 17	Advanced Excel Functions	Project 6		Functions
Module 7	Apr 18 - May 01	Data Analysis and Visualization	Project 7	Discussion 4	Pivot table
Module 8	May 02 - May 08	Financial Analytics	Project 8	Discussion 5	Dashboard
	May 09 - May 14				Exam II

**I may alter the schedule as circumstances dictate.*