

**FINA 4920: Computers in Finance**  
**Syllabus**  
**TR 11:00-12:15; Caldwell 305**

|               |                   |             |                       |
|---------------|-------------------|-------------|-----------------------|
| Instructor:   | Mihail Miletkov   | Email:      | mihail@uga.edu        |
| Office:       | Room G10 (Brooks) | WebCT Page: | http://webct.uga.edu/ |
| Phone:        | 542-7175          |             |                       |
| Office Hours: | By appointment    |             |                       |

**Course Objective:**

The main objective of the course is to learn how to use Excel to solve a variety of financial problems. The course is very 'hands-on' and is expected to help you develop skills that are useful in a variety of jobs in finance, accounting, insurance, and real estate.

**Recommended Text:**

Principles of Finance with Excel (2006), by Simon Benninga

**Pre-requisites:**

The only required class is FINA 3000 but additional finance, mathematics, and statistics classes will be helpful.

**Course Grading:**

Quizzes 40%  
Projects 20%  
Final Exam 40%

**Quizzes:**

There will be four quizzes during the semester. Quizzes will be short problems that will require you to use Excel and will be completed individually. All quizzes will be open book and you can refer to notes, textbooks etc. There are no make-up quizzes.

**Projects:**

Projects try to re-create situations or problems you will see in the real world. Projects will require you to solve a problem in Excel and write up your results using Microsoft Word. Your solution will be a memorandum written to me explaining your results and approach to solving the problem. Instructions for the write-up will be included with project assignments. There will be two projects assigned during the semester.

**Final Exam:**

The final exam will be cumulative, in the sense that it will test material covered throughout the semester. Excel will be the only application allowed during the final.

**Honor code:**

All academic work must meet the standards contained in "A Culture of Honesty." All students are responsible to inform themselves about those standards before performing any academic work. While I strongly encourage discussion with classmates, all work should be completed individually with no sharing of spreadsheets or documents. See [www.uga.edu/honesty](http://www.uga.edu/honesty).

Additionally, the use of computers and the internet during class should be limited to completing assignments in class. Failure to abide by this policy may result in the reduction of your course grade.

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

**Class Attendance:**

Class attendance is very important in order to keep up with the course. Students are responsible for any material covered in class; if you miss a class it is your responsibility to ask classmates for information, notes, etc.

**Topics to be covered in the course:**

- Introduction to Excel
- Basic Financial Calculations
  - Present Value (PV) and Net Present Value (NPV)
  - Internal Rate of Return (IRR)
  - Application to simple bond pricing, retirement planning etc.
- Amortization and Loans in Excel
  - Payment schedules
- Capital Budgeting
  - NPV Calculations
  - Decision-making using capital budgeting
- Introduction to some advanced Excel tools
  - Logical functions in Excel
  - Using the Solver tool
  - Matrix manipulation in Excel
- Calculating the Cost of Capital
  - The Gordon dividend model
  - The Capital Asset Pricing Model (CAPM)
  - Estimating betas and the Security Market line
- Portfolio Analysis
  - Calculating correlation between assets
  - Calculating portfolio mean and variance
  - Portfolio optimization with many assets
- Bond Valuation
  - Bond Pricing
  - Bond duration
  - Bond convexity
- Introduction to Options calculations using Excel
  - Options profits and pay-offs
  - Binomial option pricing
  - Black-Scholes option pricing
- Advanced Excel Topics

*Note: This schedule is tentative and subject to change over the course of the semester.*

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