**THE STUDENT GUIDE TO MGT 3742  
spreadsheet modeling for  
Business Decision support**

<YEAR> <TERM> TERM SYLLABUS v. <YYMMDD>

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# INTRODUCTION

*Spreadsheets have been used for centuries to organize and present data for Decision Support. Since the introduction in 1979 of VisiCalc, the first electronic spreadsheet software, the capabilities of the form have increased to include sophisticated specialized add-ons, database functions, and programming tools that enable skilled managers to create ever more advanced and useful models for Decision Support. Today the electronic spreadsheet is a mainstay of Decision Support and ad-hoc modeling in business.*

This course enables students to use advanced feature of spreadsheet software to create models for Decision Support. The emphasis is on acquiring a skill set with which to create models in any domain of business using examples from various areas such as finance and operations

***This is not an introductory course.*** Students should possess working knowledge of a basic spreadsheet program before taking the course. The course will begin with a brief review of essential spreadsheet knowledge and skills, much of which is already considered “advanced”, before proceeding to programming concepts and techniques used to create applications for decision support in business.

# RECORD OF CHANGES

|  |  |
| --- | --- |
| **Date** | **Description** |
|  | Original version of syllabus published |

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# LEARNING OUTCOMES AND MEANS

## OUTCOMES

Each assignment, activity and evaluation in this course relates to one or more of these outcomes.

There are specific course learning outcomes. Student will demonstrate proficiency in:

1. Creating formulas by using some built-in spreadsheet functions including conditionals (IF), lookups, database functions, and others, and using absolute and relative addressing as appropriate.
2. Exchanging data with other programs
3. Restricting and validating user input, including creation of pull-down lists
4. Using built-in spreadsheet tools and functions to filter, sort, and group data, create pivot tables and charts, and to analyze data.
5. Securing spreadsheets and tracking changes
6. Automating and extending spreadsheet functionality using a scripting language, demonstrating good design and programming techniques.

## Means

Various means are employed to encourage you to satisfy the learning objectives of the course.

### Material to Review before Class Meetings

You must review assigned material before each class meeting in order for the class to get the most out of meeting activities. All assigned material will be in the text or available through the learning management system (LMS), Lynda, the Library, or the Web.

### Meeting Activities

**This course is to a large degree “flipped” in that first exposure to new material comes not in the classroom but on-line through assigned videos and reading. While meetings will be used for some demonstrations every day, we will use meeting time mostly to practice and expand on techniques already covered in the prep assignments.**

You are expected to bring your copy of the text to each class meeting on days when the text was assigned as preparation.

We will use meeting times for activities best accomplished together including “*lecturettes*”, in-class demonstrations and exercises, games, presentations, Q&A, and quizzes. All activities are designed to increase your chances of fulfilling the objectives of the course. During some class meetings, you will complete a self-assessment concerning particular knowledge of skills.

These count as part of your class participation grade but and they are based on apparent effort as well as correctness, i.e. no credit given for “monkey typing”[[1]](#footnote-1), and all submissions must pass the “my mother”[[2]](#footnote-2) test.

You will often be working in teams both during and between meetings to prepare for meeting activities. You will have the opportunity to evaluate your team members several times during the term.

### Homework

Homework assignments will be given in order to better prepare you to participate in class activities. Effort will be taken into account on some of them as well as results.

### Cumulative Final Exam

Unless otherwise noted, the cumulative final exam is closed-book, closed-note--your own work only. It is designed to determine how well you have mastered the fundamental knowledge and techniques covered in the course.

# RESOURCES

## Required RESOURCES

* “Developing Spreadsheet-Based Decision Support Systems Using Excel and VBA for Excel”, 2nd edition by Ekşioğlu, Şeref, Ahuja, Winston
* Several additional handouts will be distributed
* If computers are not provided in the classroom, students are required to bring a laptop to class. The laptop must include a copy of Excel or the student must be able to access the VLAB through the laptop.
* Numerous other resources, including videos, documents, templates, and web sites, are available through the Resources tab on the course website in T-Square.
* Lecturette notes or copies of selected slides will be posted on-line from time to time.

## Recommended Other Resources

* This is not an introductory course. The following videos in the “Excel 2013 Essential Training” on Lynda.com cover basic spreadsheet knowledge and skills that students are expect to understand coming into the course. If you are not familiar with these, you are *strongly* advised to review these videos on your own early during the term since these skills are expected to be evident in your work although we will *not* cover them in class.
* [Using The Menu System](http://www.lynda.com/Excel-tutorials/Using-menu-system/116478/125009-4.html)
* T[he Quick Access Toolbar](http://www.lynda.com/Excel-tutorials/Quick-Access-Toolbar/116478/125010-4.html)
* [The Structure of a Worksheet or Workbook](http://www.lynda.com/Excel-tutorials/structure-worksheet-workbook/116478/125011-4.html)
* [Using The Status Bar](http://www.lynda.com/Excel-tutorials/Using-Status-bar/116478/125013-4.html)
* [Shortcut Menus and The Mini Toolbar](http://www.lynda.com/Excel-tutorials/Shortcut-menus-Mini-toolbar/116478/125015-4.html) [Exploring Data Entry And Editing Techniques](http://www.lynda.com/Excel-tutorials/Exploring-data-entry-editing-techniques/116478/125019-4.html)
* [Entering Data with Autofill](http://www.lynda.com/Excel-tutorials/Entering-data-AutoFill/116478/125020-4.html)
* [Using Undo and Redo](http://www.lynda.com/Excel-tutorials/Using-Undo-Redo/116478/125022-4.html)
* [Adding Comments](http://www.lynda.com/Excel-tutorials/Adding-comments/116478/125023-4.html)
* [Exploring The Page Layout Tab and View](http://www.lynda.com/Excel-tutorials/Exploring-Page-Layout-tab-view/116478/125049-4.html)
* [Previewing Page Breaks](http://www.lynda.com/Excel-tutorials/Previewing-page-breaks/116478/125050-4.html)
* [Working with Page Setup and Printing Controls](http://www.lynda.com/Excel-tutorials/Working-Page-Setup-printing-controls/116478/125051-4.html)
* [Freezing and Unfreezing Panes](http://www.lynda.com/Excel-tutorials/Freezing-unfreezing-panes/116478/125059-4.html)
* [Hiding/Unhiding Rows and Columns](http://www.lynda.com/Excel-tutorials/Hiding-unhiding-rows-columns/116478/125045-4.html)
* [Splitting Screens Horizontally and Vertically](http://www.lynda.com/Excel-tutorials/Splitting-screens-horizontally-vertically/116478/125060-4.html)
* [Creating and Using Tables](http://www.lynda.com/Excel-tutorials/Creating-using-tables/116478/125041-4.html)
* [Showing Necessary Information with The Outlining Feature](http://www.lynda.com/Excel-tutorials/Showing-necessary-information-Outlining-feature/116478/125061-4.html)
* [Inserting Shapes, Arrows, And Other Visual Features](http://www.lynda.com/Excel-tutorials/Inserting-shapes-arrows-other-visual-features/116478/125042-4.html)
* [Adjusting Row Heights and Column Widths](http://www.lynda.com/Excel-tutorials/Adjusting-row-heights-column-widths/116478/125035-4.html)
* [Exploring Font Styles and Effects](http://www.lynda.com/Excel-tutorials/Exploring-font-styles-effects/116478/125034-4.html)
* [Designing Borders](http://www.lynda.com/Excel-tutorials/Designing-borders/116478/125037-4.html)
* [Exploring Numeric and Special Formatting](http://www.lynda.com/Excel-tutorials/Exploring-numeric-special-formatting/116478/125038-4.html)
* [Formatting Numbers and Dates](http://www.lynda.com/Excel-tutorials/Formatting-numbers-dates/116478/125039-4.html)
* Creating Simple Formulas: Totals and Averages
* Using SUM and AVERAGE
* Using Other Common Functions
* Creating Charts
* Exploring Chart Types
* Creating In-Cell Charts with Sparkline
* Formatting Charts
* Working with Axes, Labels, Gridlines, And Other Chart Elements

# POLICIES AND PROCEDURES

## Academic Honesty/Honor Code

The Georgia Tech Honor Code is in force. The complete text is on the Honor Advisory Council website: <http://www.honor.gatech.edu>.

You are expected to be aware of actions that constitute cheating, fabrication or falsifications, multiple submissions of essentially the same work for different classes, plagiarism, and complicity in academic misconduct. Note that academic misconduct includes, “Submission of material that is wholly or substantially identical to that created or published by another person or persons, without adequate credit notations indicating authorship,” (plagiarism). Suspected cases of academic misconduct are investigated by the Office of Dean of Students.

## Use of Electronic Devices in Class

Laptops or tablets are required for some in-class work and may be used to take notes. However, you might be dismissed from a meeting for using an electronic device (e.g. laptops, mobile phones, PDAs, etc.) during a meeting for a purpose not directly related to work assigned during that meeting.

**During quizzes and tests and certain in-class activities, the use of any electronic devices for any purpose, including talking, texting, web surfing, etc. is specifically *forbidden*. Exceptions will be identified by the instructor when appropriate. When in doubt, the answer is “*no*”.**

## Official Communications

You are responsible for setting yourself up to receive official class communications. Both the learning management system and the class email distribution list are used to post information on class changes, upcoming assignments, grades, etc. If you do not use your Georgia Tech email address, you should have your GT email forwarded to an account that you check several times each day.

## Preparation for Each Meeting

Please complete any required reading, writing, viewing, listening, problem-solving, and evaluation assigned for a meeting *before* the meeting takes place so that we may use meeting time for activities most appropriate for being in the same place at the same time.

## Absences

Students who are absent because of participation in approved Institute activities (such as field trips and athletic events) will be permitted to make up the work missed during their absences. Approval of such activities will be granted by the Student Academic and Financial Affairs Committee of the Academic Senate, and statements of the approved absence may be obtained from the Office of the Registrar.

Students who are absent because of participation in a particular religious observance will be permitted to make up the work missed during their absence with no late penalty, provided the student informs the course instructor of the upcoming absence, in writing, within the first two weeks of class, and provided the student makes up the missed material within the timeframe established by the course instructor. Exercising one’s rights under this policy is subject to the Georgia Tech Honor Code.

Students *representing the Institute* (not themselves) as part of a competition or conference, or who are fulfilling a mandatory military deployment, or who are hospitalized, or attending the funeral of an immediate family will generally be allowed to make up work at the instructor’s discretion.

Although it is recognized that occasionally it may be necessary for students to be absent from scheduled classes for personal reasons, students are responsible for all material covered in their absences, and they are responsible for the academic consequences of their absences. Work missed for foreseeable events, personal choices, and “things that just happen” will generally not be eligible for make-up. Being ill, doctor appointments, interviews, incarceration, weddings, conflicts with part- of full-time work needs, activities in other classes, research activities, and participation in other extracurricular activities are generally not eligible for make-up.

So if you miss participation points because you missed days of class, it is up to you to not to miss other opportunities to earn participation points.

## Early/Make-Up Work

Late work, if accepted, must be late because of significant events beyond the student’s control such as death in the immediately family, unavoidable work absence, or an emergency medical procedure.

## Accommodations for Disabilities

Students requesting academic accommodations based on a documented disability are required to register with the Office of Disability Services. Please obtain a form from their office and turn it in to me at the beginning of the semester. The Office of Disability Services is located in the Smithgall Student Services Building, Suite 123. The phone number is 404-894-2563. The website is: <http://disabilityservices.gatech.edu/content/4/contact-us>

If you have an accommodation form, accommodations will begin *after* you present the form, provided there is time to make it. Disabilities not recognized and on-file with the Institute will not be accommodated. In no case will last minute or retroactive accommodations be made, for example in response to an email a few days before a test for a condition that existed when the term began.

Should a new disability be identified during the term, the instructor will work with the Office of Disability Services to accommodate the needs of the student from that time forward.

Other accommodations, for example those allowed under the ADA for documented conditions, *might* be granted in the class if they do not interfere with the normal conduct of the class, such as the posing of daily questions and quick provision of feedback.

## Changes to this Document

Changes to any part of this document may be made to reflect changing situations. They will be announced in class or via email and posted on-line.

# SCHEDULE OF MEETINGS AND ASSIGNMENTS

The schedule, presented in Table 1, is subject to change. Changes will be announced in class or on the course website in the learning management system and email.

“Due/Comment” will include major project deliverables but not prep assessments or homework, which will be assigned as appropriate as new material is taken up.

Abbreviations*:*

* ESAW: The text. “Developing Spreadsheet-Based Decision Support Systems Using Excel and VBA for Excel”

Table 1. Schedule of Meetings and Assignments

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **#** | **Date** | **Day** | **Preparation** | **Meeting Topic** | **Due/Comment** |
| 1 |  | M |  | Course Introduction and Expectations Brief review of basic Excel operations |  |
| 2 |  | W | ESAW: Chapter 1 ESAW Chapter 2 ESAW: Chapter 3 | Excel Basics and Formatting Referencing and Names |  |
| # |  | M | n.a. | n.a. | School Holiday |
| 3 |  | W | ESAW: Chapter 4 | Functions and Formulas |  |
| 4 |  | M | ESAW: Chapter 5  ESAW: Chapter 6 | Charts & Sparklines  Pivot Tables |  |
| 5 |  | W | ESAW: Chapter 7 | Statistical Analysis with Excel |  |
| 6 |  | M | ESAW: Chapter 8  ESAW: Appendix A | Solving Mathematical Programs Excel Add-ins |  |
| 7 |  | W | ESAW: Chapter 9 | Simulation |  |
| 8 |  | M |  |  |  |
| 9 |  | W | ESAW: Chapter 10 | Working with Large Data |  |
| 10 |  | M |  | Midterm 1 |  |
| 11 |  | W | ESAW: Chapter 11  ESAW: Chapter 12  ESAW: Appendix B | Introduction to the Visual Basic Environment Recording Macros Debugging and Error Checking |  |
| 12 |  | M | ESAW: Chapter 13  ESAW: Chapter 14 | More on Objects Variables |  |
| 13 |  | W | ESAW: Chapter 15 | Sub Procedures and Function Procedures |  |
| 14 |  | M | ESAW: Chapter 16 ESAW: Chapter 17 | Programming Structures Arrays |  |
| 15 |  | W | ESAW: Chapter 18 | User Interface |  |
| 16 |  | M | ESAW: Chapter 19 | “Mathematical Programming Revisited” |  |
| 17 |  | W | ESAW: Chapter 20 | “Simulation Revisited” |  |
| 18 |  | M |  | Review |  |
| 19 |  | W |  | Midterm 2 |  |
| # |  | M | n.a. | n.a. | School Break |
| # |  | W | n.a. | n.a. | School Break |
| 20 |  | M | ESAW: Chapter 21 | Working with Large Data Using VBA |  |
| 21 |  | W |  |  |  |
| 22 |  | M | ESAW: Chapter 22 | DSS Development Process |  |
| 23 |  | W | ESAW: Chapter 23  ESAW: Chapter 24 | GUI Design Programming Principles | s |
| 24 |  | M |  | Case Study 1 |  |
| 25 |  | W |  | Case Study 2 |  |
| 26 |  | M |  | Case Study 3 |  |
| 27 |  | W |  | Case Study 4 |  |
| 28 |  | M | n.a. | Review and Wrap-up | Dead week |
| # |  | W | n.a. | FINAL EXAM |  |

All homework is due at 11:55 pm on the indicated date.

# EVALUATION OF DEMONSTRATED KNOWLEDGE AND SKILLS – Course grades

Table 2 displays the criteria upon which the course grade is based and the weight of each criterion.

Table 2 Weights of Assignments

|  |  |  |
| --- | --- | --- |
| **Criterion** | **Weight** | **Comment** |
| Preparation and participation | 10% | Prep assessments, classwork, homework, drafts, and practice sets. Preparation and participation grade will be the percentage of total available p-points earned. |
| Midterms (2) | 40% | Midterms are equally weighted. |
| Comprehensive final exam | 30% |  |
| Homework | 20% |  |
| Total | 100% |  |

Letter grade assignment: >= 90% = A, >= 80% = B, >= 70% = C, >= 60% = D. Pass-fail: >=70% = S.

There is no extra credit. *Just do the work.* Posted letter grades are final unless the instructor failed to record a grade correctly or made a math error.

*If you have questions about this syllabus, please ask.  
Don’t just make something up.*

1. Hoping to stumble upon something that might be worth some credit simply by typing lots of words. [↑](#footnote-ref-1)
2. Answers must indicate that you have reviewed the assigned material. If an intelligent, literate, curious person with a lot of common sense (like my mother) who has not reviewed the material assigned for the class or participated in any of the course activities could give the answer you gave, you won’t get credit for that answer. [↑](#footnote-ref-2)