

Course Syllabus

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| 1. Program of Study | Bachelor of Business Administration Program |
| Faculty/Institute/College | Mahidol University International College |
| 2. Course Code | ICMF 376 |
| Course Title | Financial Modeling |
| 3. Number of Credits | 4 (Lecture/Lab/Self-Study) (4-0-8) |
| 4. Prerequisite(s) | ICBE 341, ICMB 281, ICMB 372 |
| 5. Type of Course | Required Course |
| 6. Trimester / Academic Year | First, Second, Third Trimester/2007-2008 |
| 7. Course Conditions | 20-40 students |
| 8. Course Description | Employing of Microsoft Excel, Visual Basic and other software packages in application of several topics of financial management, the modeling of asset valuation, capital budgeting, cash management, cash flow analysis, and application of the Monte Carlo simulation. |
| 9. Course Objective(s) | After successful completion of this course, students will be familiar with using Microsoft Excel and other software packages on several topics in finance. |

10. Course Outline

Week	Course Outline				Instructor
	Topics	Lecture	Lab	Self-Study	
1	Introduction Finance insights Excel solutions	4	0	8	WPJ
2	Advance Excel functions and procedures <ul style="list-style-type: none"> ➤ Accessing functions in Excel ➤ Mathematical functions ➤ Statistical functions ➤ Lookup functions ➤ Other functions ➤ Regression ➤ Goal Seek ➤ Auditing tools 	4	0	8	WPJ
3	Matrix algebra and related functions <ul style="list-style-type: none"> ➤ Introduction to matrices ➤ Transposing a matrix ➤ Adding matrices ➤ Multiplying matrices ➤ Matrix inversion ➤ Solving systems of simultaneous linear equations 	4	0	8	WPJ
4	Introduction to VBA <ul style="list-style-type: none"> ➤ Advantage of mastering VBA ➤ Object-oriented aspects of VBA ➤ Writing VBA macros ➤ Communicating between macros and the spreadsheet 	4	0	8	WPJ
5	Writing VBA user-defined functions <ul style="list-style-type: none"> ➤ Manipulating arrays in VBA ➤ Expected value and variance functions with array inputs ➤ Portfolio variance function with array inputs 	4	0	8	WPJ

6	Portfolio optimization <ul style="list-style-type: none"> ➤ Portfolio mean and variance ➤ Risk-return representation of portfolios ➤ Using solver to find efficient points ➤ Generating efficient frontier ➤ Combining risk-free and risk assets 	4	0	8	WPJ
Week	Course Outline				Instructor
	Topics	Lecture	Lab	Self-Study	
7	Asset pricing <ul style="list-style-type: none"> ➤ The single-index model ➤ Estimating beta coefficient ➤ The capital asset pricing model ➤ Variance-covariance matrices 	4	0	8	WPJ
8	Interest rate models <ul style="list-style-type: none"> ➤ Vasicek' s term structure model ➤ CIR term structure model 	4	0	8	WPJ
9	Applying Excel on concept of time value of money issues	4	0	8	WPJ
10	Applying Excel on financial statement issues	4	0	8	WPJ
11	Applying Excel on capital budgeting policy issues <ul style="list-style-type: none"> ➤ Capital budgeting techniques ➤ Cash flow estimation 	4	0	8	WPJ
	Total	44	0	88	

11. Teaching Method(s)

All materials will be covered by lecturing during the class time. Examples and case studies will be discussed through question-answer time. Class participations are encouraged. Students will have a chance to practice exercises through in-class quizzes and assignments.

12. Teaching Media

N/A

13. Measurement and Evaluation of Student Achievement

Students achievement is measured and evaluated by

- 13.1 The ability in using Microsoft Excel and other software packages on several topics in finance.

Student's achievement will be graded according to the faculty and university standard using the symbols: A, B+, B, C+, C, D+, D, and F.

Student must have attended at least 80% of the total class hours of this course.

Ratio of mark

1. Midterm	30%
2. Final	30%
3. Quizzes and assignment	40%

14. Course Evaluation

- 14.1 Students' achievement as indicated in number 13 above.
- 14.2 Students' satisfaction towards teaching and learning of the course using questionnaires.

15. Reference(s)

Jackson M., and Staunton M. **Advanced Modeling in Finance Using Excel and VRA**, Wiley

16. Instructor(s)

Mr. Worapong Janyangyuen

17. Course Coordinator

Program Director of Finance Major

