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 02-800 App 4/15/03 App 4/29/03

Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

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Proposing Department/Unit MIS and Decision Sciences	Phone 357-5773

Check all appropriate lines and complete information as requested. Use a separate cover sheet for each course proposal and for each program proposal.

1. Course Proposals (check all that apply)
- New Course Course Prefix Change Course Deletion
- Course Revision Course Number and/or Title Change Catalog Description Change

IFMG 210 Introduction to Front-End Business Applications

Current Course prefix, number and full title Proposed course prefix, number and full title, if changing

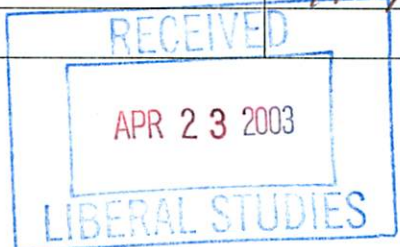
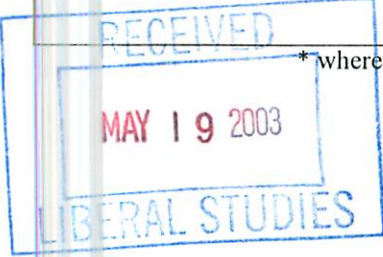
2. Additional Course Designations: check if appropriate
- This course is also proposed as a Liberal Studies Course. Other: (e.g., Women's Studies, Pan-African)
- This course is also proposed as an Honors College Course.

3. Program Proposals Catalog Description Change Program Revision
- New Degree Program Program Title Change Other
- New Minor Program New Track

Current program name Proposed program name, if changing

4. Approvals		Date
Department Curriculum Committee Chair(s)	<i>K. Wilson</i>	4/8/03
	<i>Elizabeth M. Pierce</i>	4/8/03
Department Chair(s)	<i>Louise B. Berky</i>	4/8/03
College Curriculum Committee Chair	<i>Debra</i>	9 Apr 03
College Dean	<i>R. Co</i>	4/9/03
Director of Liberal Studies *		
Director of Honors College *		
Provost *		
Additional signatures as appropriate: (include title)		
UWUCC Co-Chairs	<i>Gail S. Sechrest</i>	4/15/03

* where applicable



Syllabus of Record

I. Catalog Description

IFMG 210 Introduction to Front-End Business Applications	3 class hours 0 lab hours 3 credit hours
Prerequisite: BTED/COSC/IFMG 101	
	(3c-01-3cr)

Provides an introduction to systems and development concepts, information technology and front-end business application software. It explains how information is used in organizations and how MIS enables improvement in quality, timeliness, and competitive advantage. As part of this course, students will learn how to design and construct a front-end business application using a programming language.

II. Course Objectives

Students will be able to:

- Understand algorithm development, programming, computer concepts and the design and application of data and file structures.
- Describe information systems and quality concepts for developing an efficient and effective front-end business application.
- Explain hardware, software, organizational uses of information, and related information technology concepts.
- Describe how the front-end business application can be used to support an organization's mission, goals and objectives.
- Explain how business applications can be used to support an employee's decision-making, goal setting, trustworthiness and empowerment within an organization.
- Describe career paths in Information Systems as well as the professional and ethical responsibilities of the IS practitioner.

III. Detailed Course Outline

- A. Introduction to MIS (3 hours)
1. What is MIS?
 2. Examples of careers paths for MIS professionals
 3. Overview of knowledge base for MIS professionals
 4. Description of front-end business applications. (Front-end business application refers to client tools that fetch or manipulate data stored on a relational database. These are typically the parts of a business system that a customer uses.)
- B. Design and Planning of Front-End Business Application (3 hours)
1. Problem Recognition & Definition
 2. Systems Analysis
 3. Systems Design & Project Management
 4. Development, Testing & Maintenance

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|----|---|-------------|
| C. | Constructing a Front-End Business Application– Part I | (9 hours) |
| | 1. Basic Language Statements | |
| | 2. Additional Controls and Objects | |
| | 3. Procedures | |
| D. | Midterm 1 and Evaluation Testing | (1.5 hours) |
| E. | Constructing a Front-End Business Application– Part II | (15 hours) |
| | 1. Decision Structures | |
| | 2. Repetition Structures | |
| | 3. Arrays | |
| | 4. Sorting and Searching Techniques | |
| | 5. Sequential Files | |
| F. | Midterm 2 and Evaluation Testing | (1.5 hours) |
| G. | Constructing a Front-End Business Application– Part III | (6 hours) |
| | 1. Data Base Files | |
| | 2. Object Oriented Business Programming | |
| H. | Creating a Web-Based Business Application | (3 hours) |
| I. | Final Examination | (2 hours) |

IV. Evaluation Methods

45% Exams (2 mid-terms & final). The three equally-weighted exams will emphasize the application of concepts and techniques used to construct front-end business applications.

45% Lab exercises, assignments and projects. Primarily programming exercises using a modern business application development language.

10% Project: Students will create a front-end business application.

Grading Scale: A: $\geq 90\%$ B: 80-89% C: 70-79% D: 60-69% F: $< 60\%$

V. Attendance Policy

In accordance with University policy, individual faculty will denote an attendance policy on specific course syllabi.

VI. Required Textbook(s)

Schneider, David I., An Introduction to Programming Using Visual Basic.Net, 5th Edition, Prentice-Hall, 2003.

VII. Special Resource Requirements

No special resource requirements.

VIII. Bibliography

Deitel, Deitel, & Nieto, Visual Basic.NET: How to Program, 2nd Edition, Prentice Hall, 2002.

Laudon, K. & Laudon, J., Essentials of Management Information Systems, 4th Edition, Prentice Hall, 2001.

Martin, Grown, Dehayews, Hoffer, & Perkins, Managing Information Technology, 4th Edition, Prentice Hall, 2002.

McConnell, Steve, Code Complete: A Practical Handbook of Software Construction, Microsoft Free Press, 1993.

Stair, R. & Reynolds, G., Principles of Information Systems, 5th Edition, Course Technology, 2001.

Turban, E., McLean, E. & Wetherbe, J., Information Technology for Management, 3rd Edition, John Wiley & Sons, 2001.

Whitten, J. L., Bentley, L., & Dittman, K. Systems Analysis and Design Methods, 5th Edition, McGraw-Hill Irwin, 2001.

Zak, Diane, Programming with Microsoft Visual Basic.NET, Thomson Course Technology, 2002.

COURSE ANALYSIS QUESTIONNAIRE

Section A: Details of the Course

- A1 How does this course fit into the programs of the department? For what students is the course designed? (majors, students in other majors, liberal studies).

This course is the first major core course to be taken by students majoring in MIS. It is also a course required for students minoring in MIS. Other students in the Eberly College of Business & IT may take this course as an elective.

- A2 Does this course require changes in the content of existing courses or requirements for a program? If catalog descriptions of other courses or department programs must be changed as a result of the adoption of this course, please submit as separate proposals all other changes in courses and/or program requirements.

This course does not require changes in the content of existing courses.

- A3 Has this course ever been offered at IUP on a trial basis (e.g. as a special topic)? If so, explain the details of the offering.

This course is a major revision of an existing course, IFMG 205. IFMG 205 has been offered every semester since it was first introduced as a special topic in Spring 1996. Due to the substantial evolution of this course over the years, the decision has been made to revise the course syllabus of record along with a new title/number.

- A4 Is this course to be a dual-level course? If so, please note that the graduate approval occurs after the undergraduate.

This course is not intended to be dual level.

- A5 If this course may be taken for variable credit, what criteria will be used to relate the credits to the learning experience of each student? Who will make this determination and by what procedures?

This course is not intended to be taken for variable credit.

- A6 Do other higher education institutions currently offer this course? If so, please list examples.

Many institutions offer a similar introductory course for business students majoring in Management Information Systems. A few examples are listed below.

Penn State University, University Park Campus: MIS 101 Microcomputer Programming in Structured BASIC (3) Introduction to the microcomputer algorithmic process, using BASIC as the vehicle to construct computer solutions to common problems.

University of Arizona: MIS 111 Introduction to Computing (3 units)
Basic computer hardware and software concepts, computer terminology, problem solving and program development concepts, with emphasis on problem definition and systems development, introduction to a general purpose programming language and hands-on experience using application software systems.

Arizona State University: CIS (Computer Information Systems) 220 Programming Concepts for Accountancy Majors. (3)

Introduces business computer programming. Uses programming languages such as Visual BASIC to teach proper programming style and practice. Fee. Prerequisite: prebusiness student.

University of Texas: MIS 304. Introduction to Business Programming.

Programming skills for creating easy-to-maintain systems for business applications. Object-oriented and structured methodologies with C++.

University of Minnesota: IDSC 3201 Information Systems Application Development.

User interface design and development, database design and querying, operating environments. Introduction to programming and program design. Hands-on experience with selected application system development tools. Follows the systems development experience from design and construction through testing and deployment.

Virginia Tech: Business Information Technology (BIT) 3444: Advanced Business Computing and Applications.

Study of selected advanced topics in business computing. Introduction to the World Wide Web & HTML (2 weeks), programming in Visual Basic (6-7 weeks), database concepts (1-2 weeks), networking concepts (2-3 weeks), and computer hardware and operating systems (2 weeks). The course builds computer literacy and strong programming skills.

- A7 Is the content, or are the skills, of the proposed course recommended or required by a professional society, accrediting authority, law or other external agency? If so, please provide documentation.

The Association for Computing Machinery (ACM), the Association for Information Systems (AIS) and the Association for Information Technology Professionals (AITP) all recommend this course.

Section B: Interdisciplinary Implications

- B1 Will this course be taught by instructors from more than one department? If so, explain the teaching plan, its rationale, and how the team will adhere to they syllabus of record.

This course will not be team-taught.

- B2 What is the relationship between the content of this course and the content of courses offered by other departments? Summarize your discussions (with other departments) concerning the proposed changes and indicate how any conflicts have been resolved. Please attach relevant memoranda from these departments which clarify their attitudes toward the proposed change(s).

This course is different from other courses at the University because it focuses on the creation of business applications by the MIS professional. Although it covers the basics of programming, it differs from computer science because (1) the language chosen will be one primarily used for business application development and (2) the emphasis of the class will be the design and creation of front-end business applications rather than engineering, scientific, or mathematical application development. In addition, the pace and format of the class is designed specifically for the needs and backgrounds of business students.

This last point is particularly important. MIS is not the same as computer science. While computer science focuses on the technical issues of software development, an MIS professional is much more driven by the behavior/economics of computer technology. For example, is it more cost effective to buy a payroll system rather than build it from scratch? If a new inventory system is projected to cost \$100,000, what return will the business see from its investment? Which case tool will allow the new order entry system to be completed faster? How much will it cost to maintain the current general ledger application? An MIS course should be an integration between business know how and technical skills. This is what sets it apart from a computer science course that would focus simply on the technical skills.

B3 Will this course be cross-listed with other departments?

This course will not be cross-listed.

B4 Will seats in this course be made available to students in the School of Continuing Education?

Seats will be made available to Continuing Education students meeting the prerequisite.

Section C: Implementation

C1 Are faculty resources adequate? If you are not requesting or have not been authorized to hire additional faculty, demonstrate how course will fit into the schedules of current faculty. What will be taught less frequently or in fewer sections to make this possible?

Faculty resources are adequate for teaching this course.

C2 What other resources will be needed to teach this course and how adequate are the current resources? If not adequate, what plans exist for achieving adequacy?

*Space - The course will utilize existing Eberly labs and class rooms.

*Equipment - Course will not require special equipment.

*Laboratory Supplies and other Consumable Goods - Not required.

*Library Materials - Library holdings are adequate.

*Travel Funds - Not required.

C3 Are any of the resources for this course funded by a grant? If so, what provisions have been made to continue support for this course once the grant has expired? (Attach letters of support from Dean, Provost, etc.)

No resources are funded by grant sources.

C4 How frequently do you expect this course to be offered? Is this course particularly designed for or restricted to certain seasonal semesters?

Once a semester.

C5 How many sections of this course do you anticipate offering in any single semester?

At least one a semester.

C6 How many students do you plan to accommodate in a section of this course? What is the justification for this planned number of students?

Approximately 30 students will be accommodated in a section of the course.

C7 Does any professional society recommend enrollment limits or parameters for a course of this nature? If they do, please quote from the appropriate documents.

No professional society recommends enrollment limits or parameters for this course.

C8 If this course is a distance education course, see the implementation of Distance Education Agreement and the Undergraduate Distance Education Review Form in Appendix D and respond to the questions listed.

Presently, this course is not a distance education course.

Section D: Miscellaneous

This course is a major revision of an existing course, IFMG 205. IFMG 205 has been offered every semester since it was first introduced as a special topic in Spring 1996. Due to the substantial evolution of this course over the years, the decision has been made to revise the course syllabus of record along with a new title/number. The old syllabus of record format for IM 205 Foundations of MIS is attached for reference.

I. Catalog Description

IM 205 Foundations of MIS
Prerequisite: BE/CO/IM 101

3c-01-3sh

An introductory course designed to provide students with a fundamental understanding of MIS. Systems theory, quality, decision making, and the organizational role of information systems are introduced. Information technology, including basic programming skills, is stressed. Concepts of organization, information system growth, telecommunications, and re-engineering are introduced.

II. Course Objectives

- Provide an understanding of algorithm development, programming, computer concepts and the design and application of data and file structures.
- Introduce information systems and quality concepts.
- Provide an introduction to the organizational uses of information to improve overall quality.
- Present hardware, software and related information technology concepts.
- Provide concepts and skills for the specification and design or the re-engineering of organizationally related systems of limited scope using information technology.

- Show how MIS can be used to support an organization's mission, goals and objectives.
- Explain how MIS can be used to support an individual's decision making, goal setting, trustworthiness, and empowerment.
- Show career paths in Information Systems.
- Present and discuss the professional and ethical responsibilities of the IS practitioner.

III. Detailed Course Outline

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|---|--------------------------|
| <p>A. Organization and Information</p> <ol style="list-style-type: none"> 1. Data, Information & Business Decision Making 2. Computers 3. End User Computing & Office Automation | <p>(3 hours)</p> |
| <p>B. Programming Concepts</p> <ol style="list-style-type: none"> 1. Basic Language Statements 2. Loop Structures 3. Branching Structures 4. Sequential Files 5. Data Structures 6. Planning, Writing & Debugging an Application | <p>(24 hours)</p> |
| <p>C. Information Systems: The Operational Level</p> <ol style="list-style-type: none"> 1. Data and Databases 2. Networks and Telecommunications 3. Planning & What-If Analysis | <p>(3 hours)</p> |
| <p>D. Information Systems: The Tactical Level</p> <ol style="list-style-type: none"> 1. Problem Recognition & Definition 2. Systems Analysis 3. Systems Design & Project Management 4. Development, Testing & Maintenance | <p>(6 hours)</p> |
| <p>E. Information Systems: The Strategic Level</p> <ol style="list-style-type: none"> 1. Executive Decisions & Strategic Information 2. Long Range Planning | <p>(3 hours)</p> |
| <p>F. Evaluation & Testing</p> | <p>(3 hours)</p> |

IV. Evaluation Methods

- 50% Exams (2 mid-terms & final). Exams will emphasize the application of concepts and techniques.
- 40% Lab exercises, assignments and projects. Primarily programming exercises using a language such as Visual Basic.

10% Students will write a term paper on a MIS topic of their choice.

Note: Scores will be recorded in points and letter grade equivalents will be computed at the end of the semester. Assignment of letter grades will be based on the percentage of correct points accumulated where: A = 90% and above, B = 80% - 89%, C = 70% - 79%, D = 60% - 69%, and F = less than 60%.

V. Required Textbook(s)

Davis, William S. In Introduction to Business Information Systems, West Publishing Co., 1995.

Barron, Jonathan C. Understanding and Using Microsoft Visual Basic, West Publishing Co., 1996.

VI. Special Resource Requirements

The course will utilize existing PC labs in the Eberly College of Business and IT.

VII. Bibliography

Laudon, Kenneth C. and Laudon, Jane P. Management Information Systems, Prentice Hall, 1996.

McKelvy, Michael, Using Visual Basic 4, Que Corporation, 1995.

Shortt, Joseph and Wilson, Thomas G. Problem Solving and the Computer. Addison-Wesley Publishing Co., 1976.

Stair, Ralph M. Principles of Information Systems, Boyd & Fraser Publishing Co., 1996.