

Business and Information Technology Department
Fall 2010

Missouri University of Science & Technology
Information Science and Technology 051
Implementing Information Systems - User Perspective
Fall Semester 2010 – Syllabus

Class Information

Class: Monday, Wednesday, and Friday 9:00-9:50
Class Room: Toomey 251

Contact Information

Instructor: [Carla Bates](#)
Email: <mailto:carla@mst.edu?subject=IST 051 questions>
Phone: 341-6078(offices)
Office: Computer Science 101
Office Hrs: Monday, Friday 10:00 – 12:00
 Tuesday, Thursday 1:00 – 3:00
Note: Wednesday afternoons I will not be in the office after 2 p.m.

COURSE INFORMATION

Catalog Description:

Introduction to object-oriented programming in the context of developing and implementing various components of an information system with particular attention given to system interface such as window and web forms. Class will include numerous projects covering foundational programming.

Prerequisite: IST 50

Extended Description:

We will complete programming assignments using Visual C# and Visual Studio 2008. Visual C# includes many of the best features of Visual Basic and Java, and also has the full power of the .NET Framework. From the student's perspective, this will result in you being able to create much more powerful programs with less effort. Furthermore, a year on one language allows more depth with less repetition of concepts.

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Information systems are the focus of the Information Science and Technology department. An information system is a large set of programs and interfaces that provide timely data for business operations and decision making requirements. There are many important aspects of information systems common to most commercial implementation. In particular, IST 51 focuses on the issues of implementation surrounding the system user interfaces. Students will learn how to develop useful window interfaces.

Course Prerequisites:

IST 50

Required Materials:

Simply C#. An application-driven tutorial approach. Deitel, Deitel, Hoey, Yaeger. ISBN: 0-13-142641-9.

Instructional Methods:

The instruction is a combination of lecture and laboratory. The lectures will be used to teach important concepts, definitions, and techniques. The labs will be highly interactive and directed experiences allowing a hands-on approach to learning the programming exercises.

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Course Learning Objectives:

| Course Objectives | Program Learning Objectives | | | |
|---|------------------------------------|--------------------------|-------------------------------|----------------------------------|
| | Communication Skills | Critical Thinking | Information Technology | Teamwork & Leadership |
| Understand the various components of an information system and their role in a corporate organization | X | | X | X |
| Learn how to use the Visual C#.NET environment to build information system components | X | X | | |
| Understand and utilize basics of object-oriented design and how it relates to .NET Framework | | X | X | |
| Understand the event driven programming style, including basic controls and methods | | X | X | |
| Master the core programming concept of using variables and different data types | | | X | |
| Learn to find the algorithms to solve simple problems | | X | X | |
| Master the core programming concept of making decisions within code | | X | X | |
| Master the core programming concept of repeating code using loops | | X | X | |
| Learn to solve problems using specific object oriented programming techniques such as lists, structures and arrays | | X | | |
| Learn to read simple programming requirement documents | X | | | |
| Learn to write simple technical specification documents | X | | | |

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SOFTWARE

We will be using Microsoft Visual Studio 2008. This software can be downloaded free of charge. The link to download the software is on BlackBoard under the Content tab and in the Resources folder.

If you already have taken an IST course that required software, and an account was created for you at the MSDN Academic Alliance site, you will have the same userid and password. If not, an account will be created for you this semester. Be sure to watch your Junk folder as the email that will contain your userid and password may go to the Junk folder. If you are not a BIT major, you may need to send me an email that I will forward to the appropriate people to get your account created.

COURSE ASSIGNMENTS

Homework/Labs (50 points each):

Homework and computer laboratory assignments will be made frequently. They are expected to be completed separately. You are allowed to receive help from friends or classmates, but there **must** be differences. Homework and lab exercises are to be completed on the specified date and time and uploaded to BlackBoard in the Assignments tab. Late homework or lab exercises will receive a 10% reduction for each day late with a maximum of up to 3 days late. **NO** assignments will be accepted more than 3 days late. A zero will be given for any assignment not posted within the deadline.

Please DO NOT ask after the 3 day grace deadline to allow credit unless you have received permission in advance due to extenuating circumstances.

Quizzes/In-Class Assignments(10 points each):

We will have regular quizzes and in-class assignments. Quizzes will be administered at the **start** of the class and will be multiple-choice. The quizzes will not be available more than 5 minutes after the beginning of class. These will use the Blackboard assessment tool and your score will be posted immediately. They will be open notes and book but must be taken in class that day (with the exception of required school activities, such as sports, as long as you let me know at least 48 hours prior to missing).

Along with quizzes, we will also have some in-class assignments. The in-class assignments will not have to run without errors, but **MUST** be submitted within 10 minutes of the end of class.

Combining quizzes and in-class assignments, we will have more than 20, but only the best 20 will be used to calculate your grade (this will allow you to miss a few classes without your grade suffering).

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Examinations:

The midterm and final will consist of two parts, a debugging exercise and a programming exercise. When working in a business environment, you will be expected to debug your own code as well as other people's code so this qualification is important.

COURSE POLICIES AND GRADING

Attendance:

Attendance is strongly encouraged, particularly as the quizzes will be based on the important definitions and concepts presented in the lectures. You will likely want to ask questions. The class moves quickly and it is **easy to fall behind and not get caught up**. The more you miss class, the more material will be foreign to you. If you must miss, notes for each class are in a notebook on my desk in Computer Science 101. You are more than welcome to stop by and copy them Monday-Friday from 8:00 a.m. – 4:30 p.m.

If a student has missed an extended or excessive amount of classes or has failed to turn in multiple assignments, the instructor will send that student an Academic Alert. The alert will be emailed to the student and student's advisor. The student must meet with the instructor within three days or the instructor will send out another alert. If the student has not met with the instructor after the second alert, the instructor reserves the right to drop the student.

If emergency circumstances arise, please contact the instructor as soon as possible to avoid penalties, and to try to catch up to the rest of the class.

Academic Integrity Statement (<http://registrar.mst.edu/academicregs/>):

Violations of the University's academic code include, but are not limited to, possession of or use of unauthorized materials during quizzes or tests; providing unauthorized information to another student; or copying the work of another person. Violations may result in academic penalties in addition to receiving an "F" on the assignment in question. (See page 30 of Missouri S&T's "Student Academic Regulations" handbook for further details about student standards of conduct relative to the system's Collected Rules and Regulations section 200.010.)

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Academic Alert System (<http://academicalert.mst.edu/>):

Missouri S&T is committed to the success of its students by providing an environment conducive to teaching and learning. To ensure that every student takes full advantage of the educational opportunities and support programs on campus, the University has implemented an Academic Alert System, a web-based application. The purpose of the System is to improve the overall academic success of students by:

- Improving communication between students, instructors, and advisors;
- Reducing the time required for students to be informed of their academic status;
- Informing students of actions they need to perform in order to meet the academic requirements in the courses they are taking.

To assist you, I will initiate an academic alert for students who are not meeting academic course requirements through poor performance on assignments or poor attendance. When an alert is initiated, an email is immediately sent to the instructor, student, and advisor. You are encouraged to respond quickly to all academic alerts. If you fail to open the alert within one week, email notification is sent to your advisor.

Disability Support Services (<http://dss.mst.edu/>):

If you have a documented disability and anticipate needing accommodations in this course, you are strongly encouraged to meet with me early in the semester. You will need to request that the Disability Services staff send a letter to me verifying your disability and specifying the accommodation you will need before I can arrange your accommodation. If you have a disability that might require academic accommodations, please visit Disability Support Services in 204 Norwood Hall (341-4211; dss@mst.edu) very early in the semester.

COURSE GRADING

Grading Breakdown:

Grades will be based on total points, as defined below. I will **NOT** round your final grade up at all if you miss one or more assignments. If you do complete every assignment and attend most classes, I will be **generous** about rounding up. So, it will benefit you to attend class and complete **EVERY** assignment. I have added 5 extra credit points on every assignment. It is suggested that you take advantage of these extra credit points on each assignment. Please do not ask me at the end of the semester for extra credit opportunities.

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Point Distribution:

| Assessment | Description | Points | Number | Total Points |
|---|---|--------|--------|--------------|
| Assignment 1 | Introduction to programming and Microsoft Visual Studio | 50 | 1 | 50 |
| Assignment 2 | Text boxes and buttons | 50 | 1 | 50 |
| Assignment 3 | Variables, arithmetic, pseudocode, program control | 50 | 1 | 50 |
| Assignment 4 | Checkboxes, message dialogs | 50 | 1 | 50 |
| Assignment 5 | While and do while loops | 50 | 1 | 50 |
| Assignment 6 | For loops, switch, methods | 50 | 1 | 50 |
| Assignment 7 | DateTime, scoping, pass-by-reference | 50 | 1 | 50 |
| Assignment 8 | Random-Numbers, Arrays, ComboBoxes, Building own custom classes | 50 | 1 | 50 |
| Assignment 9 | Collections, foreach, accessing keys, mouse events | 50 | 1 | 50 |
| Assignment 10 | Keyboard events, string processing | 50 | 1 | 50 |
| Examinations | Debugging Exams | 50 | 2 | 100 |
| | Programming Exams | 100 | 2 | 200 |
| Daily Quizzes / In-Class Assignments | Quizzes over the Reading Material and Lectures | 10 | 20 | 200 |
| | | | | 1,000 |

Grades:

- A: 100% - 90%
- B: 89% - 80%
- C: 79% - 70%
- D: 69% - 60%
- F: Below 59%

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COURSE OUTLINE

The course will proceed as follows. This schedule is a best estimate. We may drift a bit from it.

It should be made clear that you are expected to work on the assignments outside of class. Pieces of the assignments will be worked during lectures and we will have some lab time for each assignment, but you will need time to bring them closure. Plan on a couple of hours outside of class for each hour spent in class.

| Lecture Week | Topics | Reading (Ch. & Section) |
|--------------|---|--|
| 1 | Preliminaries, Introduction to Visual Studio | Before You Begin: Font & naming conventions, viewing file extensions, copying & organizing files, copying book examples, creating a working directory, 1.4-1.7, 1.9-1.12 |
| 2 | Introduction to programming | Chapters 2-3 Practice Assignment due Monday, August 30 at 8 p.m. |
| 3 | Window Forms Applications | Chapters 4-5 Assignment 1 due Tuesday, September 7 at 8 p.m. |
| 4 | Variables, memory concepts, algorithms, pseudocode, program control | Chapters 6-7 Assignment 2 due Monday, September 13 at 8 p.m. |
| 5 | Logical operators, while, exception handling | Chapters 8-9, 32 Assignment 3 due Monday, September 20 at 8 p.m. |
| 6 | | Assignment 4 due Monday, September 27 at 8 p.m. |
| 7 | Stuff for mid-term programming | Notes posted |
| 8 | Do while, For | Chapters 10-11 Mid Term due Monday, October 11 at 8 p.m. |
| 9 | Switch, Classes and Methods | Chapters 12-13 Assignment 5 due Monday, October 18 at 8 p.m. |
| 10 | Date/Time, Passing Arguments | Chapters 14-15 Assignment 6 due Monday, October 25 at 8 p.m. |
| 11 | Random numbers, Arrays | Chapters 16-18 Assignment 7 due Monday, November 1 at 8 p.m. |
| 12 | Own classes, Foreach, mouse events | Chapters 19-21 Assignment 8 due Monday, November 8 at 5 p.m. |
| 13 | | |
| 14 | Keyboard events & String Processing | Chapters 22-23 Assignment 9 due Monday, November 29 at 8 p.m. |
| 15 | | Assignment 10 due Monday, December 6 at 8 p.m. |
| Final | Debugging | Final due |