

IONA COLLEGE  
Department of Computer Science  
Spring 2005

**CS 140 Computers Applications**

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**Course Description**

This course will provide students with a firm foundation in computers and technology and enable them to become intelligent, ethical and responsible users of technology. Students will explore the various aspects of computer systems to develop a comprehensive understanding of how computers operate as well as an appreciation of their pervasive influence on society. This course will lay the basis for further study in computer science.

**Course Objectives:** At the completion of this course, students should

Course Objectives	Core Objectives
1. understand the components of a computer system and its functions	IA. understand the foundations of computer science
2. understand the software development and the problem solving process	IA. understand the foundations of computer science IIA. apply knowledge to problem solving
3. understand the social and ethical issues engendered by computers	IC. understand and appreciate the social and ethical implications of computing
4. understand computer terminology and the technology of the computer age	IA. understand the foundations of computer science
5. envision the future use of the computer in the student's career	IB. understand the relationship between computer science and the liberal arts
6. understand how this foundation can lead to more advanced courses in computer science	IA. understand the foundations of computer science

**Required Texts**

The required books and materials are on sale at the Iona College Bookstore.

Dale, Nell & John Lewis. (2004). computer science illuminated, second edition. Sudbury, MA: Jones and Bartlett Publishers.

Office 2003 with Visual Basic.NET Level 1 Computer Science Department (2005). Boston, MA: Thomson Learning, Course Technology

### Required Materials

You should have five 3.5" high-density (HD) diskettes and/or a 250MB zip disks. You can purchase diskettes at the Iona College Bookstore, Staples, Comp-USA, Computer City or other computer stores in packages of five and ten diskettes.

### Required Software

Microsoft Office 2003 (Containing Excel and Access), Visual Basic.NET

### Grading Criteria

Participation	5%
Article Presentation	5%
Quizzes	20%
Computer Projects	30%
Ethics Paper	10%
Final Exam	30%

### Letter Grade Assignment

90-100	A
85-89	B+
80-84	B
76-79	C+
70-75	C
60-69	D
<60	F

### Policy on Plagiarism and Academic Dishonesty

Cheating on an examination other than the Final Examination will result in the loss of credit for that examination. Cheating on the Final Examination will result in failure of the course. Plagiarism of a homework assignment, lab assignment or computer project or the permission of such plagiarism will result in the loss of credit for that assignment.

### Policy on Attendance

As outlined in the College Bulletin, unless the reasons for the absence or the quality of the student's work justifies an exemption from the rule, a student who has been absent from 20% or more of the scheduled class sessions will be dismissed from the class and assigned the failing grade of "FA".

**Course Outline**

<b>Wk</b>	<b>Lecture Topic</b>	<b>Lecture Ref</b>	<b>Lab</b>
1	<b>1.0 Course Introduction</b> <b>2.0 The Big Picture</b> 2.1. Computing Systems	Ch 1	<b>Iona College Computing Signing on Windows 2003 Tutorial</b>
2	2.2 The History of Computing 2.3 Computing as a Tool and Discipline 2.4 Ethical Issues <b>3.0 Introduction to Spreadsheets</b>	Ch 1  Ch 12: 391-399	<b>Excel Tutorial 1:</b> Managing Data
3	<b>4.0 Binary Values and Number Systems</b> 4.1 Number Categories 4.2 Natural Numbers	Ch 2	<b>Excel Tutorial 2:</b> Formulas and Functions
4	4.3 Ethical Issues <b>5.0 Data Representation</b> 5.1 Data and Computers 5.2 Representing Text (ASCII, Unicode) 5.3 Ethical Issues	Ch 3: 54-59, 66-69	<b>Excel Tutorial 4:</b> Charts and Graphs
5	<b>6.0 The World Wide Web</b> 6.1 Spinning the Web 6.2 HTML 6.3 Interactive Web Pages 6.4 Ethical Issues	Ch 16: 502-514, 519-520	<b>HTML(Notes)</b> Basic tags
6	<b>7.0 Problem Solving and Algorithm Design</b> 7.1 Problem Solving 7.2 Top-Down Design 7.3 Object-Oriented Design 7.4 Ethical Issues	Ch 6:152-165, 172-181, 190-191	<b>No Lab</b>
7	<b>8.0 Low-Level Programming Languages</b> 8.1 Computer Operations 8.2 Levels of Abstraction 8.3 Machine Language 8.4 A Program Example 8.5 Assembly Language 8.6 Ethical Issues	Ch 7: 200-202, 209-210, 215-221, 227-228	<b>Web Page Design</b>
8	<b>9.0 High-Level Programming</b> 9.1 Translation Process 9.2 Programming Language Paradigms 9.3 Functionality of Imperative Lang. 9.4 Introduction to Visual Basic 9.5 Ethical Issues	Ch 8: 236-255, Visual Basic Lab Book	<b>VB Overview</b> <b>Visual Basic Tutorial 1:</b> Creating a Project Working with Controls

Wk	Lecture Topic	Lecture Ref	Lab
9	<b>10.0 Visual Basic</b> 10.1 Interface Design 10.2 Assignment statements 10.3 Arithmetic operators	Visual Basic Lab Book	<b>Visual Basic Tutorial 1:</b> Writing Code <b>Visual Basic Tutorial 2:</b> Designing Applications Building User Interface
10	10.4 Variables and Constants 10.5 If ...Then ...Else statement	Visual Basic Lab Book	<b>Visual Basic Tutorial 2:</b> Coding, Testing, Debugging
11	10.6 VB Review		<b>Visual Basic Tutorial 3:</b> Creating Variables and Constants Modifying an Application
12	<b>11.0 Networks</b> 11.1 Networking 11.2 Open Systems and Protocols 11.3 Network Addresses 11.4 Ethical Issues	Ch 15	<b>Visual Basic Tutorial 4:</b> If. . .Then. . .Else
13	<b>12.0 Introduction to Database Management Systems</b> <b>13.0 Computing Components</b> 13.1 Individual Computer Components	Ch 12:399-407  Ch 5: 124-141	<b>Access Tutorial 1:</b> Introduction
14	13.2 Stored Program Concepts 13.3 Ethical Issues <b>14.0 Operating Systems</b> 14.1 Roles of an Operating System 14.2 Memory Management 14.3 Process Management	Ch 5: 143-145  Ch 10: 332-339, 345-346	<b>Access Tutorial 2:</b> Creating and Maintaining a Database
15	14.4 CPU Scheduling 14.5 Ethical Issues <b>15.0 Review</b>	Ch 10: 347-348	<b>Access Tutorial 3</b> Querying a database