

# Computer Science A110

## Introduction to Computers and Computing

a learning guide  
(3 credit hours)

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School of Continuing Studies  
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Screen shots of Excel 2002, Excel 2003, and Access 2002  
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Editor: Millicent Elliott

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Larry Onesti and the whole ISP staff put up with a lot during a development process that took far longer than it should, and they were very patient.

A personal thanks to John Buck who taught the first computer science course I ever took. Without him I would never have got started.

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Rod Stark  
February 2000

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Ryan Scherle  
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Ryan Scherle  
April 2006

# Introduction

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## Computer Science A110 Introduction to Computers and Computing

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Welcome to CSCI A110!

This course provides an introduction to computers. Since computers change rapidly, this course differs greatly from courses with similar titles taught just ten years ago. In the past, this might have been a class in computer programming or a rigid, command-oriented word-processing class. Now it is a combination of “hands-on” activities and textbook material. The hands-on portion focuses on computer applications—you will learn to use a word processor, spreadsheet, and either the Internet or a database. The textbook portion teaches computer literacy—you will learn about the capabilities of computers and their ever-expanding role in our society. I have tried to integrate these two parts of the course so that you will see how your own use of the computer relates to the topics in the textbook.

I will be guiding you through the material in as general a way as possible so that this learning guide and the assignments in it are not tied too closely to any particular version of software. Software is released in ever newer and (usually better) versions, and the skills you learn in this course should enable you to adapt easily to the latest programs. Wherever possible, I have tried not to give instructions in the old-fashioned, step-by-step manner because I believe it is better for you to learn general principles that apply to a variety of programs rather than particular keystrokes or mouse clicks. As you work through the course, you will find that basic techniques

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in word processing, spreadsheets, Web page design, and database organization are highly transferable. That is to say, copying and pasting in a word processor is similar to copying and pasting in a spreadsheet; entering formulas and tests in a spreadsheet is similar to entering formulas and tests in a database.

One difficulty in writing an introductory computing course is that one is not necessarily writing for complete novices. While I hope I have written this course in a way that a learner with no previous background at all can get through it, I also hope that those of you who are already familiar with much of the material will get some benefit from the course, even if you are just fulfilling a degree requirement.

For an orientation to the course and its requirements, please read the following FAQ. If you have other questions, please contact your instructor.

## What is a FAQ?

FAQ is an acronym that stands for **F**requently **A**sksed **Q**uestions. It is pronounced “fack.” Usually a FAQ is a list of questions and answers associated with an electronic discussion group. It helps new members learn the basics, since members may join and leave the group at any time. It can also serve as a summary of the topics discussed by the group, so potential members can decide whether to join.

## What resources will I need to complete the course?

You will need access to a personal computer that has:

- a word-processing program
- a spreadsheet program
- a presentation program

You may also need:

- writable disks, like 3½-inch floppy disks, CD-RWs, or writable DVDs (if you are planning to submit your assignments on paper and disk)
- access to a printer (so that you can print out your assignments)
- Internet access and an e-mail account (if you are doing the Internet activities and/or submitting assignments via e-mail)

You are encouraged to complete a set of Internet-related assignments for lesson 5, but if you cannot for some reason or if you already have extensive experience designing Web pages, you may complete the assignments on databases instead (see below).

You will probably complete this course using a PC running some version of Microsoft Windows. Most of you will be using the latest version of Microsoft Word as your word processor and Excel as your spreadsheet because these programs are available on CD-ROM for a minimal fee through the Indiana University–Microsoft Licensing Agreement (more below). Having said that, I will also say that you can certainly use WordPerfect, earlier versions of Excel and Word, or some other word-processing or spreadsheet program. However, **you may not use Microsoft Works to complete the assignments**. Microsoft Works simply does not have enough power to complete all of the assignments.

Another resource that you will find most useful is a knowledgeable friend. If you are on campus, you will find computer lab assistants and other people to assist you if you get stuck. A local expert can fulfill the same function if you are working away from the university. I am not suggesting that you find someone to do the work for you, but I am well aware that learning how to use a computer can be frustrating at times.

If you are in doubt about the resources you need to complete this course, do not worry. The first lesson is intended to sort that out.

## Can I use a Macintosh computer?

You can use a Macintosh rather than a PC, although it may take longer for your instructor to grade your lessons if you do. There are a few other items to beware of:

- If you order the Microsoft Office package from IU, be sure to specify that you want the Macintosh version.
- When saving your files, use PC-formatted disks. All Macs can use these disks, and it will speed up the grading process. Or you can submit all lessons via e-mail, which will greatly speed up the grading process.
- When saving files, always include the “file extension.” For example, if you are using Microsoft Word, the filename should end with “.doc”, and for Microsoft Excel, the filename should end with “.xls”.

## How do I obtain Internet access?

If you do not already have Internet access, check with your local library. Many libraries provide computer labs with Internet access, and the lab manager can help you set up a free e-mail account. If you would like to purchase Internet access for your computer at home, you can contact your phone company or your cable provider, or look through your phone book for Internet Service Providers.

## What if I cannot complete the Internet assignments?

Some of you may not be able to obtain Internet access, so I have provided alternative assignments covering database software in lesson 5. To complete these assignments, you will need a recent version of Microsoft Access. If you have Internet access, but you simply feel that learning to use a database would be more useful, feel free to complete the database assignments instead.

## Should I buy Microsoft Office from IU?

As an Indiana University student, you are in luck! By special arrangement with Microsoft, you are entitled to purchase the latest version of Microsoft Office at a fraction of the retail price. Microsoft Office contains all of the software you will need to complete this course. If you do not currently have a word processor and spreadsheet, I highly recommend this purchase.

The basic Office package typically includes the Word word processor, the Excel spreadsheet program, the PowerPoint presentation system, and the Access database manager. Other applications, like the FrontPage Web design system, may be included in the basic version of Office or may be in a “premium” version. You do not need any of these extra programs to complete the course, but you may be interested in having them. **Note:** You do not need FrontPage for this course, but you are welcome to use it for lesson 5.

On the other hand, if you already have an office package, such as WordPerfect Office, Lotus Smart Suite or Star Office, do not feel obligated to purchase Microsoft Office. The decision depends on what package you would like to use in the future. The learning guide uses pictures of the Microsoft products for illustration, but you should have little trouble following along with your office package. As always, you can ask your instructor if you get stuck!

If you did not request Microsoft Office with your enrollment application but still wish to take advantage of this opportunity, please contact the Independent Study Program’s Office of Learner Services by calling the toll-free number on the back cover of this learning guide.



## What textbooks do I need?

You'll need the following textbooks to complete this course: *Computer Confluence* (7<sup>th</sup> edition, Complete version) by George Beekman and Michael J. Quinn, *The Better Way* (2<sup>nd</sup> edition) by Rich Fulcher et al., and the *Compact Guide to Web Page Creation and Design* (any edition) by Linda Ericksen. It's also helpful to have software manuals for the particular word-processing and spreadsheet programs you'll be using. How should you use the textbooks?

- ***Computer Confluence***: For the computer concepts (CC) activities, we're using a textbook called *Computer Confluence*. It's an excellent resource. The chapters are well organized, with clear objectives at the beginning, and summaries and lists of important terms at the end. I don't expect you to carry out all the activities in this book; however, I do expect you to do the readings and review the material at the end of each chapter. You'll find the summaries, key terms, and self-tests useful when you review for the exams. Your book may include a CD-ROM that contains visual demonstrations, Web addresses, and self-study quizzes. You may want to take the self-study quizzes on the CD-ROM to make sure you have understood the readings. (**Note:** The CD-ROM is optional. If your book has it, please try to use it, as it will enhance your learning experience. If not, or if you can't get it to work, don't worry about it.)
- ***Compact Guide to Web Page Creation and Design***: If you purchase your books through the IU Bookstore, you'll find the *Compact Guide to Web Page Creation and Design* packaged with *Computer Confluence*. We'll use the *Compact Guide* in conjunction with the Internet portion of lesson 5.
- ***The Better Way***: I'm also including a book produced by the IU Computer Science Department. *The Better Way* addresses the material in a way that I think you'll enjoy. Instead of leading you through exercises, it discusses why some ways of doing things on a computer are stylish and efficient while other methods are laborious or even foolish.
- **Software Manuals**: Since the computer activities won't always be presented keystroke-by-keystroke, you'll need to figure out how to complete some tasks on your own. Often the help system built into each program will be adequate, but if you can't find enough information there, I recommend you obtain manuals for the software you'll be using. Your local library or bookstore should present you with an array of choices. You may also want to try online bookstores such as Amazon, Barnes and Noble, or Borders. If you're planning on doing the database assignments, you may wish to look for a book on Microsoft Access. Finally, if you're completely new to Windows (or Mac OS X), you may wish to find a tutorial to get you started.

## What are the course requirements?

You must successfully complete five lessons and two exams to receive credit for this course. The first lesson is short and is intended to make sure that you have a basic idea of how to get around on the computer. It also allows you and your instructor to make sure that you have access to the proper hardware and software you will need to do the other lessons.

Lesson 2 starts the regular pattern of the lessons in the course. Each lesson contains the following parts:

- **Objectives:** a list stating what you will be able to do when you have successfully completed the lesson
- **Introduction:** a brief description of the lesson's focus and an overview of activities
- **Resources:** a list of textbook chapters that will help you complete the lesson. This course is unusual in that I will be referring to the resources as we go through the lessons, sometimes in the middle of an activity. I leave it up to you to decide how to use the resources. You may wish to read through the textbook material before beginning the activities, and later read through it again carefully and absorb the material slowly. I think it is best to keep the books by the computer so that you can dip into them and benefit from them as you work through the activities. Doing so will make you a much more skilled software user.

After the list of resources, each lesson is divided into three main sections:

- **Word Processing (WP)**
- **Spreadsheets (SS)**
- **Computer Concepts (CC)**

Each section contains activities with names such as “WP-1,” which would be the first word-processing activity, “SS-1,” the first spreadsheet activity, “CC-1,” the first computer concepts activity. Assignments appear throughout the activities. Each assignment builds on the previous one, so please do them in order. The CC activities contain specific reading assignments, which I expect you to complete. Some of the activities are long, but have no fear—they are an easy read and you should be able to move through them at a reasonable pace.

## Rules for Completing the Activities

You have some flexibility in completing the activities, but you must follow these rules:

- Complete all activities in one lesson before you start on the next lesson's activities.
- Complete all hands-on computer activities of a particular type in numerical order. For example, complete WP-1 before WP-2, and SS-1 before SS-2.

**Exception:** You do not have to complete the CC activities in order as long as you stay within an individual lesson in this learning guide. These activities are mainly readings, and you can use them as a break from sitting at the computer.

Please note that lesson 5 is a little different from the other lessons. As I mentioned earlier, you will be completing either the Internet assignments (IN) or database activities (DB). However, I expect everyone to complete the readings on computer concepts (CC activities) in lesson 5. That material will appear on the final exam.

## How will I submit my assignments?

When you have completed all activities within a lesson, you will be ready to submit your assignments for grading. To help you, there's a checklist at the end of each lesson, which will remind you of what needs to be submitted. Please submit only the files containing the assignments for the lesson in question when you prepare your disk.

You will need to supply your own disks (floppy, CD, or DVD). Please label to each disk that you submit. The label must contain the following information:

- your name
- your student identification number
- the lesson number
- the type of computer you used ("PC" or "Mac")
- the name and version of the software packages you used

In the envelope at the back of this learning guide, you'll find a couple of protective disk sleeves for you to use when submitting your disks. They'll provide padding so that your disks aren't smashed by postal machines. Use one of the envelopes supplied and the correct lesson label.

## Can I use e-mail to submit my assignments?

Yes. After all, this is a computer class, and we encourage using computers as much as possible. Since e-mail can travel around the world in minutes, e-mailed assignments can be processed and graded much more quickly than assignments sent on disk. Please read the e-mail submission instructions at the front of this learning guide.

## Can I submit multiple lessons at one time?

Multiple lesson submission does not work well for this course. Due to policies of the Independent Study Program and the way the lessons are organized, it is only possible to submit lessons 5 and 6 together. If you are working under a deadline, it is much better to submit lessons via e-mail.

## What about the exams?

There are two exams in this course: a midterm and a final. Instructions for arranging the exams, tips for studying, and practice tests appear in lessons 4 and 7. These will be proctored, written exams (not computer lab exams). However, they will contain questions about your hands-on computer work as well as your readings in the textbook *Computer Confluence*. Please see lessons 4 and 7 for further information.

## How will my grade be calculated?

Lesson 1 must be completed with a grade of S (satisfactory) before you can proceed with the later lessons, but it does not figure into your course grade. Your grade will be based on your scores for the rest of the lessons and exams, as shown below:

Lesson 1	must be completed
Lessons 2, 3, 5, 6	40 percent (10 percent each)
Midterm exam	30 percent
Final exam	<u>30 percent</u>
	100 percent

**Important:** To pass this course, the average of your exam grades must be at least a D. Even if your lesson grades are excellent, you will not pass the course unless you fulfill this requirement.

## How long will it take me to complete this course?

The answer depends a lot on you. Correspondence courses are very different from classroom courses, and the time it takes to complete the course depends on how much time you can spend with the course each week. Although there are fewer submissions than in other independent study courses, that does not mean the course can be completed more quickly, because each lesson in this course covers a lot of material.

Many students take their time with the course, and complete it in a leisurely 6 to 9 months. Others are in more of a hurry, usually because they are up against a deadline. These students submit all assignments via e-mail, and turn in a new lesson as soon as they receive a graded lesson. Some highly motivated students finish the course in a single month! Here are a few estimates of typical completion times:

- For a student submitting lessons via standard mail, 4 months.
- For a student who lives in Bloomington, and uses the drop box in Owen Hall to submit lessons, 3 months.
- For a student submitting lessons via e-mail, 2 to 3 months.

## How does this course count toward my degree?

If you are pursuing a General Studies degree through Indiana University's School of Continuing Studies, this course will fulfill your computer literacy requirement. If you are in another degree program at IU or pursuing a degree at another university, please check with your academic advisor.

## Plagiarism

As an educational institution, IU puts learning first. We want you to learn, and we think you value learning as well. We also value honesty and trust. You have every right to expect fair exams, fair assignments, and fair grades. By the same token, your instructor expects the work you hand in to be your own. You are welcome to discuss this course with other students and teachers, but when it comes to writing your assignments, all the words should come straight from you, unless you are supporting your assertions with a properly cited quote.

Passing off someone else's work as your own is plagiarism. As stated in Indiana University's *Code of Student Rights, Responsibilities, and Conduct* (Art. III, § A.3), "A student must not adopt or reproduce ideas, words, or statements of another person without an appropriate

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acknowledgment. A student must give due credit to the originality of others and acknowledge an indebtedness whenever he or she does any of the following:

- a. quotes another person's actual words, either oral or written;
- b. paraphrases another person's words, either oral or written;
- c. uses another person's idea, opinion, or theory; or
- d. borrows facts, statistics, or other illustrative material, unless the information is common knowledge."

We take plagiarism very seriously. If you are caught plagiarizing, you could receive an F for the whole course.

So how can you avoid plagiarizing? When is it appropriate to cite your sources, and how should you cite them? The answer's simple. Ask your instructor. If you're unsure whether you've cited your sources appropriately, call or e-mail your instructor before you submit your assignment. Not only will you get answers to your questions, you'll reap the fruit of honesty: trust.

## Contacting Your Instructor

With each lesson you are required to submit an assignment cover sheet. Every assignment cover sheet has a space for your questions and comments; you are strongly encouraged to use this space. If problems arise between assignments, you can write to your instructor at the Independent Study Program. Many instructors can be contacted via e-mail or reached by telephone during established office hours. To learn your instructor's e-mail address and/or office hours, please refer to the contact information on the back cover of this learning guide.

Do not expect your instructor to solve questions relating to why your computer "just will not work at all." Your instructor, however, can explain course policies, what is expected on assignments, and how to use the standard software for the course.

Once again, welcome to CSCI A110! I hope you will enjoy taking the course as much as I have enjoyed teaching it over the years.