**CIS 102: Problem Solving with Computers**

**Term:** Fall 2009 **Credits:** 4

**CRN:** 21608 **Time:** Tues & Thurs 2:00-3:50pm **Classroom:** Bldg 19/Rm 128

**Instructor:** Brian Bird **Phone:** 463-3024

**Office:** Bldg 19/Rm 152 **E-mail:** [birdb@lanecc.edu](mailto:birdb@lanecc.edu) **Note**: You must include the course number CIS 102 on the subject line of any e-mail sent to the instructor or he may not open it.

**Office/Lab Hrs:** Tues & Thurs 2:00-3:00pm and Mon & Wed 4:00-5:00pm, or by appointment.

If the instructor is not in his office during office/lab hours, check the main lab: Bldg 19/Rm 135.

**Course Website (Moodle):** <http://classes.lanecc.edu/>

**Textbooks: Required:** New Perspectives on Microsoft Office Excel 2007 Brief*,* Parsons, Oja, Carey, and Ageloff, Thomson Course Technology, 2008, ISBN 1423905830

**Optional:** Simple Program Design, A Step-by-Step Approach, 5th Edition, Lesley Anne Robertson, Thomson Course Technology, 2006, ISBN 9781423901327

**Microsoft Online Training:**

Students will be asked to go through the material on this website to learn the basics of Visio.

Visio 2007: <http://office.microsoft.com/en-us/training/CR101109221033.aspx>

**Materials:** You will need headphones for the online training if you plan to do these at LCC (if you are doing these at home speakers will do fine). Headphones may be purchased from the LCC bookstore. You will also need to provide some removable storage medium to store files, such as a flash memory stick (thumb drive).

**Lab Room**: The CIT Main lab (Bldg 19/Rm 135) can be used to do your home work. The Main lab schedule is posted each term on the door. Feel free to ask the lab aides who work there for assistance.

**Course Description**: CIS 102 introduces students to methods and tools for solving problems in an information systems environment. The emphasis of the course will be on problem solving in an algorithmic context, that is, given a problem statement how does one create a series of steps to solve the problem with a computer by either designing an algorithm which may later be implemented with a programming language, or by utilizing existing application software like Excel and Visio. Students will be introduced to a programming language as well as become experienced in using spreadsheet and drawing software as problem-solving tools. The course is designed as an introductory course in the CIT Department’s degree programs.

**Learning Outcomes:** Upon successful completion of the course the student will

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| 1. be more consciously aware of the thought processes needed to solve problems with a computer |
| 1. understand what an algorithm is and be able to design basic algorithms to solve problems |
| 1. be aware of the role of effective communications in identifying and solving problems |
| 1. be aware of the kinds of problems information technology professionals need to solve |
| 1. be able to use a programming language to implement solutions to basic problems |
| 1. be able to use spreadsheet software effectively to present and analyze information and solve problems |
| 1. be able to use drawing software effectively to present information and solve problems |
| 1. be aware of some common information technology concepts and terminology |

**Assessment:** Turn assignments in to the instructor via moodle. The grade for late assignments will be reduced by 25%. The penalty for late assignments is to encourage students to keep up with their work, and to allow us to discuss homework solutions in class after the due date. Students who do lab work regularly tend to do better in the course. Students must inform the instructor in advance if they cannot take an exam at the scheduled time.

**Grading:** Plus and minus grades will be used. Course grades are based on the following items:

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| **ITEM** | **PERCENTAGE** |
| Assignments | 40% |
| Midterm Exam 1 (covers approximately first four weeks)\* | 20% |
| Midterm Exam 2 (covers material since Exam 1)\* | 20% |
| Final Exam (comprehensive)\* | 20% |
| TOTAL | 100% |

\* Exam coverage details will be given later

**Administrative Drops**: Those students who do not attend at least fifty percent of the classes the first week may be administratively dropped unless the instructor is told by the student that he/she wishes to remain in the course. The administrative drop process is used to allow students on the wait list to enroll. It is the student’s responsibility, however, to drop the course in time to receive a refund.

## **Collaboration**:Students are encouraged to discuss assignments and course material with other students. However, the work you turn in for grading should be your own unless the instructor specifically designates an assignment as a group project. Assistance on lab assignments is available from the lab aides, as well as the instructor.

Class Attendance: Although attendance is not taken on a formal basis, it is highly recommended that students attend every class. This is an excellent way to keep current and to gain the assistance of the instructor, as well as to understand the emphasis placed on the material for the exams. In case of absence from class, students are responsible for announcements made and material covered.

## **Classroom Etiquette**: To enhance the learning environment for all, it is recommended that students arrive on time as late arrivals often disrupt the lecture/demo and consequently the learning experience of others. Also, during lectures, only one person should be speaking at a time. Side conversations tend to disrupt student concentration. In addition, pagers and cell phones should be set so they are not audible.

*If you need support or assistance because of a disability, you may be eligible for academic accommodations through Disability Services. For more information, contact Disability Services at 463-5150 (voice) or*

*463-3079 (TTY), or stop by Building 1, Room 218.*

**Tentative Course Outline:** This is a tentative schedule. The instructor may need to alter it at any time to properly cover the material.

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| **Day** | **Topic** | **Day** | **Topic** |
| Wk 1 | Introduction to problem solving  Algorithms–pseudocode and flowcharts  Algorithms–Small Basic language | Wk 6 | Excel–formulas and functions  Excel–macros |
| Wk 2 | Algorithms–developing an algorithm  Algorithms–data representation | Wk 7 | Excel–formatting  Review for midterm exam 2 |
| Wk 3 | Algorithms–selection control structure | Wk 8 | Excel–charts |
| Wk 4 | Algorithms–repetition control structure  Review for midterm exam 1 | Wk 9 | Visio–intro drawing software  Visio–flowcharts and network maps |
| Wk 5 | Excel–intro to spreadsheets | Wk 10 | Algorithms–arrays  Algorithms–modularization  Review for final exam |