

## ISOM 120 – INFORMATION TECHNOLOGY AND PRODUCTIVITY TOOLS (3 credits)

### Course description

This General Education core course provides students with an understanding of computer and information technologies, and the application of productivity tools. Students learn the concepts of computer software and hardware technologies, networks, telecommunications, files, databases, and E-commerce, the Internet, and the ethical, legal and social implications of computers on society. A project-based learning methodology is integrated with hands-on laboratories providing an understanding of the power and importance of computer productivity tools in business.

### Contents

First part of the course provides an introduction to the computer world (hardware and software) and the basic features of the MS-Windows OS (Windows 7 and Office 2007): it introduces to the use of most applications (Notepad, Explorer, MovieMaker, Paint, Word, Excel, Access, PowerPoint, etc.) It also provides an introduction to more specific software tools like Photoshop, Audacity, or Gnuplot. Second part of the course deals with the basic features of UNIX: it introduces to the syntax of most commands, describes the most commonly used commands, and introduces some applications (pine, pico, lynx, Firefox, ftp, telnet, x-windows, etc.). Third part of the course deals with Internet programming: it introduces to the Internet (functioning and protocols) and the HTML language, and describes the wireless Internet.

### Course format

The course format will include reading and preparation of class sessions, class discussions, exams, projects and homework. Students are expected to read the chapters before topics are covered in class. Class sessions will be used to explain key concepts and to solve problems previously given as homework.

### Course evaluation

Effort+Participation	10%
Homework	20%
Group Programming Projects	20%
Presentation	10%
Critical Readings	10%
Mid-term Exam	10%
Final Exam	20%

## **Assignments**

Mandatory homework is set weekly, which is marked and return corrected to the student. All the assignments are due at the time and date indicated on the assignment. If you need an extension to complete an assignment, you must request this extension BEFORE the original assignment due date. There is no guarantee that such an extension will be granted, and my decision on such extensions will be final.

## **Presentation**

Students will give a 15 minute presentation to the class on an Information Technology-related topic. This assignment will help develop student presentation skills in communicating computer-related material to nontechnical colleagues in the workplace. Presentations will be delivered with the aid of Microsoft Power Point and other productivity tools. Important: avoid reading your notes and/or slides, try to maintain eye contact with your audience at all times.

## **Critical Readings**

This section is for testing student's analysis skills. It consists of critical reading of technical articles and commenting on them. Four articles will be analyzed.

## **Projects**

Three Group Programming Projects are set. Each team (2-3 students) will present a detailed written report including source code, discussion, and comments. They will involve PowerPoint, Movie Maker, and HTML. Some computing projects will be developed under the UNIX operating system.

## **Attendance**

Attendance is mandatory, I strongly urge you to attend every class, and to do so punctually. Students who miss classes are responsible for keeping themselves informed about class proceedings. Students with 4 absences will get an automatic 25% deduction in their final grade; the automatic deduction will increase to 50% for those students with 5 absences. Students with more than 5 absences will automatically fail the course.

## **Course Outline**

**Week 1** Course introduction; Software and Hardware; Windows.

**Week 2** The MS Office suite: Power Point; UNIX (cont.);first homework due.

**Week 3** The MS Office suite: Word and Excel; UNIX (cont.); first critical reading and second homework due.

**Week 4** Databases; the MS Office suite: Access; UNIX (cont.); third homework due.

**Week 5** Internet and the WWW; web browsers and web servers; Internet Explorer; Firefox; Apache and IIS; search engines; second critical reading and fourth homework due.

**Week 6** Basic UNIX and X-Windows; basic editors: notepad and pico; fifth homework due.

Midterm Exam

**Week 7** Introduction to Photoshop and Audacity. Basic HTML; images; sounds; movies; fonts; hyperlinks; first project and sixth homework due.

**Week 8** Tables; advanced multimedia features; Introduction to e-commerce; forms; cgi scripts; https and ssl; seventh homework due.

**Week 9** Frames; style sheets; xhtml; second project and eight homework due.

**Week 10** Introduction to computer security; hackers and crackers; DoS and DDoS attacks; third critical reading and ninth homework due.

**Week 11** Videoconferencing; MS NetMeeting; tenth homework due.

**Week 12** WAP and the wireless internet; basic wml; Imode; chtml; eleventh homework due.

**Week 13** GPU vs. CPU; third project and twelfth homework due.

**Week 14** Course review.

Final Exam