University: Cairo Faculty: Engineering Department: Aerospace Engineering

Course Specifications

Program: **Aerospace Engineering**
Major Field: **Information Technology, IT**
Department: **Aerospace Engineering Department**
Academic **Year Level: First Year Undergraduate**
Term: **Second Term**
Year of Approval: March 2015.

Basic Information

Title: **Computer Applications (2+4)**

Code: **AER 112**
Credit Hours: **3**
Weekly Hours: **Lectures 2, Tutorials 4, Total 6**
Prerequisite Courses: -

Description

Aims

The aim of the course is to introduce students to essential non-programming background in computer science and software engineering, in order to enable them to progress through the degree regardless of their prior knowledge on entering the degree course.

Learning Outcomes

Knowledge and Understanding

Having successfully completed the course, student will be able to demonstrate knowledge and understanding of:

Core program topics:

- Computer Architecture
- Comparative Programming Languages
- Computer Networks
- Operating Systems
- Application systems, MS Office, AutoCAD, MathLab,..etc.
- Web Design
- Programming with C#
- Database Management Systems.
- Business and Scientific Graphics.

- Computer Security and Privacy. Computer

Important application areas:

- Document Processing, spread sheets, PowerPoint,.
- Technical Report writing
- Local area Networks.
- Object Oriented Programming
- Introduction to Artificial Intelligence
- Databases

Intellectual Skills

Having successfully completed the module, student will be able to:

- Evaluate computer components and systems for suitability in particular contexts
- Critically evaluate current and emerging technologies.
- Explain the use of computers in a number of application areas.
- Place technologies and methods in historical context.

General Transferable (key) Skills

Having successfully completed the module, student will be able to:

- Carry out essential operations within Windows OS.
- Programming skills
- Use electronic mail, the World Wide Web and other Internet resources.

Topics Covered

- Computer Hardware.
- Operating System Principles.
- Using Windows OS
- Electronic mail and the World Wide Web
- Assemblers, compilers and interpreters.
- Handling text on computers.
- Spreadsheets.
- Databases and 4th generation languages.
- Computer Networks.
- The evolution of computer languages.
- Artificial intelligence.
- Communications and networks.
- The history of computing and future trends.

Teaching and learning activities

Teaching methods include

Classroom contact is the main means of teaching. The lectures are given with a tutorial feel, and because two sessions are used each week, there is ample time to follow topics raised by the students when they arise. This allows the course to respond to the backgrounds of the students, which changes on a yearly basis.

Where possible, artifacts are taken to the lectures to illustrate various aspects of the syllabus

Learning activities include

Students are expected to read the indicated parts of the course text, and the structure of the lectures follows the text closely, to facilitate this.

There is a multi-part assignment which requires the students to undertake independent study to complete. They thus need to undertake computer-based searches as well as finding the Department's resources, such as Helpdesk.

Methods of assessment

Assessment method	% contribution to final mark
Basic computer use [cwork]	20%
Computer Lab	30%
Exam [exam]	50%

Evaluating and Improving the Quality & Standards of Teaching & Learning

Student Perception of Module (SPOM) Forms and Student Perception of Course (SPOC) Forms
Examiner Reports
Internal Review
Performance indicators – pass rates, retention rates
Quality, learning and Teaching Coordinator

Resources

Core Resources

- Brookshear JG, Computer Science: An Overview (8th Edition), Pearson/Addison-Wesley 2006

Background Resources

- Tanenbaum AS, Structured Computer Organization (4th Edition), Prentice Hall 2006

Course Coordinator: Dr. Ahmed Rashed
Head of Department: Prof. Ayman H. Kassem

Date: March, 2015.