



Course Specifications

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| Program(s) on which this course is given: | Systems and Biomedical Engineering |
| Department offering the program: | Systems and Biomedical Engineering |
| Department offering the course: | Systems and Biomedical Engineering |
| Academic Level: | Fouth year |
| Date | 2013-2014 |
| Semester (based on final exam timing) | <input checked="" type="checkbox"/> Fall <input type="checkbox"/> Spring |

A- Basic Information

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|--|-----------------------|---|----------|--------------|-----------|----|-------|---|
| 1. Title: | Computer Systems (IV) | | | Code: | SBE 404 | | | |
| 2. Units/Credit hours per week: | Lectures | 3 | Tutorial | 2 | Practical | -- | Total | 5 |

B- Professional Information

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| 1. Course description: | |
| 2. Intended Learning Outcomes of Course (ILOs): | a) Knowledge and Understanding |
| | K1: Concepts and theories of mathematics and sciences, appropriate to the discipline. |
| | K2: Basics of information and communication technology (ICT) |
| | K4: Principles of design including elements design, process and/or a system related to specific disciplines. |
| | K5: Methodologies of solving engineering problems, data collection and interpretation |
| | K7: Business and management principles relevant to engineering. |
| | K22: Management, finance, liability and quality control as related to systems and biomedical engineering. |
| | b) Intellectual Skills |
| | I2: Select appropriate solutions for engineering problems based on analytical thinking. |
| | I3: Think in a creative and innovative way in problem solving and design. |
| | I4: Combine, exchange, and assess different ideas, views, and knowledge from a range of sources. |
| | I7: Solve engineering problems, often on the basis of limited and possibly contradicting information. |
| | I12: Create systematic and methodic approaches when dealing with new and advancing technology. |
| | c) Professional and Practical Skills |
| | P1: Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to solve engineering problems. |
| P2: Professionally merge the engineering knowledge, understanding, and feedback to improve design, products and/or services. | |
| P6: Combine, exchange, and assess different ideas, views, and knowledge from a range of sources. | |

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| | P10: Apply quality assurance procedures and follow codes and standards. |
| | P12: Design systems, devices, and/or processes for use in medical, biological or control applications. |
| | d) General and Transferable Skills |
| | T3: Communicate effectively. |
| | T5: Lead and motivate individuals. |
| | T7: Search for information and engage in life-long self learning discipline. |

| 3. Contents | | | |
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| Topic | Total hours | Lectures hours | Tutorial/ Practical hours |
| Introduction to computer networks and Internet | 15 | 9 | 6 |
| The application layer | 10 | 6 | 4 |
| The transport layer | 10 | 6 | 4 |
| The Network layer | 10 | 6 | 4 |
| Computer security | 3 | 2 | 1 |
| 4. Teaching and Learning Methods | Lectures (*) | Practical Training/ Laboratory () | Seminar/Workshop () |
| | Class Activity (*) | Case Study (*) | Projects (*) |
| | E-learning () | Assignments /Homework (*) | Other: |

| 5. Student Assessment Methods | |
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| • Assessment Schedule | Week |
| -Assessment 1;Class test | Tutorials |
| -Assessment 2; Project Assignment | 14 th week |
| -Assessment 3; Presentations | ----- |
| -Assessment 3; Midterm Exam | 7 th week |
| -Assessment 4; Final Exam | 16 th week |
| • Weighting of Assessments | |
| -Mid-Term Examination | 20% |
| -Final-term Examination | 60% |
| -Project | 15% |
| -Class Test | 5% |
| -Presentation | ----- |
| -Total | 100% |
| 6. List of References | |
| Course notes | |
| <ul style="list-style-type: none"> • ComComputer Networking: A Top Down Approach Featuring the Internet (6th ed.), J.F. Kurose and K.W. Ross, Addison-Wesley Longman • Computer Networks, Tanenbaum, (4th ed) | |
| 7. Facilities Required for Teaching and Learning | |
| <ul style="list-style-type: none"> - Classroom White board (*) - Classroom Laptop and data-show (*) - Electronics Laboratory () - Computer Laboratory (*) - Others () | |
| Course Coordinator: | Assoc.Prof.Dr. Sahar A. Fawzi |
| Head of Department: | Prof. Dr. Ahmed Badawi |