### 1- Course Data

<table>
<thead>
<tr>
<th>Course Code:</th>
<th>Course Title:</th>
<th>Academic Year/Level:</th>
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<tbody>
<tr>
<td>CS 312</td>
<td>Software Design and Quality</td>
<td>Third level (First semester)</td>
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<tr>
<th>Specialization:</th>
<th>No. of Instructional Units:</th>
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<tbody>
<tr>
<td>Computer Science</td>
<td>Lecture 2 Lab 1</td>
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### 2- Course Aim

- This course is designed to encourage in students a sense of interest for Software Design and its application in different contexts
- Provide a solid foundation in the major areas of Software Design
- Provide education and training of high quality in Software Design

### 3- Intended Learning Outcome

#### a- Knowledge and Understanding

- a1. Describe the main concepts, definitions of Software testing
- a2. Review theories and concepts used in Design Patterns
- a3. Identify an understanding of the contribution and impacts of Software Design in scientific, social, economic, environmental, political and cultural terms.
- a4. The software interface
- a5. The software testing for all Software
- a6. The different types of design patterns
### b- Intellectual Skills

b1. Manipulate and apply appropriate theories, principles and concepts relevant to Software Design  
b2. Critically assess and evaluate the literature within the field of Software Design  
b3. Deduce and interpret information from a variety of sources relevant to Software Design

### c- Professional Skills

c1. Plan, design and execute practical activities using techniques and procedures Appropriate to Software Design  
c2. Execute a piece of independent research using Software, computer media and techniques.

### d- General Skills

d1. Develop appropriate effective written and oral communication skills relevant to the specific course of Software Design  
d2. Demonstrate the ability to work effectively as part of a group  
d3. Solve problems relevant to Software Design using ideas and techniques some of which are at the forefront of the discipline.  
d4. Solve problems relevant to applications in real life in computer science using Software and design patterns some of which are at the forefront of the discipline.

### 4- Course Content

- Critical aspects of the software lifecycle,  
- Quality of software system,  
- Techniques and approaches to software design,  
- Quality and reliability,  
- Domain engineering  
- Software reuse
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<tr>
<th><strong>5- Teaching and Learning Methods</strong></th>
<th>Lecturers – Home works - Oral discussion - Quizzes</th>
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<tbody>
<tr>
<td><strong>6- Teaching and Learning Methods for Students with Special Needs</strong></td>
<td>NONE</td>
</tr>
<tr>
<td><strong>7- Student Assessment:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>a- Procedures used:</strong></td>
<td>Lecturers – tutorials - homework – oral discussion - Quizzes</td>
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</table>
| **b- Schedule:** | Mid-Term exam… …. Week 10  
Final exam …………… Week 17 |
| **c- Weighing of Assessment:** | Term work (exam + home works) 20%  
Oral exam 10%  
Final exam 70% |
<p>| <strong>a- Course Notes</strong> | Course notes provided by the Faculty member of Computer Science Division, Math department, to be handled at the beginning of the semester. |</p>
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| **b-** | **Required Books**  
(Textbooks) |
|   |   |
| **c-** | **Recommended  
Books** |
|   |   |
| **d-** | **Periodicals, Web  
Sites, ..., etc.** |

**Course Instructor:** Dr. Yasser Fouad  
**Head of Department:** Prof. Dr. Mahmoud El-Alem.  
**Date:** 1/10/2011