**COLLEGE OF INFORMATION TECHNOLOGY**

**DEPARTMENT OF INFORMATION TECHNOLOGY**

**COURSE SYLLABUS/SPECIFICATION**

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| **CODE& TITLE:** | **ITCS 401–Software Project Management** |
| **WEIGHT:** | **(2 - 2 - 3)** |  |
| **PREREQUISITE:** | **ITCS 327** |  |
| **DESCRIPTION:** | The course focuses on the key aspects of software project management. It develops the ability of managing software projects, including organizing the software development team; selecting the best approach and tailoring the process model; estimating software cost and schedule; planning and documenting the plan; risk management and resource allocation. |
| **OBJECTIVES:** | 1. To explain the key components of a project plan.2. To explain roles and responsibilities for key project personnel and stakeholders.3. To explain the importance of a cost/benefit analysis to the successful implementation of a project plan.4. To critically understand project budgeting, scheduling, and evaluation.5. To prepare a project plan, as part of a team, for an IT project and demonstrate ability to follow standard project management methodology.6. To use appropriate project planning and tracking tools. |
|  **SEMESTER:**  | **ACADEMIC YEAR:**  |
|  |  |
| **INSTRUCTOR:**  |
| **OFFICE TEL.:**  |
| **EMAIL:**  |

**INTENDED LEARNING OUTCOMES (ILOS)**

Upon successful completion of the course, students should be able to:

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|  **A. Knowledge and Understanding**  |
| **A1** | Concepts and Theories: Demonstrate critical knowledge and understanding of the process ofdeveloping and managing software projects. |
| **A2** | Contemporary Trends, Problems and Research: Recognize emerging aspects and trends insoftware project management. |
| **A3** | Professional Responsibility: Acquaint students with tasks undertaken during projectmanagement, tasks of each team member, and the skills needed for a project manager to lead his team. |

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|  **B. Subject-Specific Skills**  |
| **B1** | Problem Solving: Demonstrate the ability to estimate efforts, estimate budget, solveresource allocation together with project schedule problems and address any obstacles that may jeopardize the completion of projects. |
| **B2** | Modeling and Design: NA |
| **B3** | Application of Methods and Tools: Apply appropriate project planning and tracking toolssuch as ROI, COCOMO, Gantt charts, CPM, PERT utilizing EXCEL and Microsoft Project. |

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|  **C. Thinking Skills**  |
| **C1** | Analytic: Critically analyze project requirements in order to define the scope of work,conduct organizational planning, identify and evaluate risks and assess how well a project follows its project plan. |
| **C2** | Synthetic: Integrate various components of project plan to implement the project. |
| **C3** | Creative: NA |

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| **D. General and Transferable Skills (Other Skills Relevant to Employability and Personal****Development)** |
| **D1** | Communication: Demonstrate ability to communicate information in appropriate oral andwritten forms to a variety of audience. |
| **D2** | Teamwork and Leadership: Function and work effectively as member/leader of a team. |
| **D3** | Organizational and Developmental Skills: Demonstrate ability to organize ideas andeffectively allocate time in given assignments and project. |
| **D4** | Ethical and Social Responsibility: Predict and learn the impact of one’s behavior on thework and colleagues in a software project management process. |

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| **Course Structure (Outline)** |
| **Week** | **Hours** | **ILOs** | **Unit/Module or Topic Title** | **Teaching****Method** | **Assessment****Method** |
| **Lecture** | **Lab** |
| 1 | 2 | 2 | A1 | **Course Overview &****Introduction:**Why is Project ManagementImportant? | Lecture/ ClassDiscussion |  |
| 2 | 2 | 2 | A1 | **Introduction to Software****Project Management:**Characteristics of Projects | Lecture/ ClassDiscussion |  |
| 3-4 | 4 | 4 | A1, B1, B3, C1 | **Project Evaluation &****Programme Management:**- The Business Case For aProject- Project Portfolios- Project Evaluation- Cost Benefit Analysis- Cash Flow Forecasting- Programme Management- Benefits Management | Lecture/ In- Class Supervised Work/ Lab Demonstration | In-LabExercise |
| 5 | 2 | 2 | A1, B1, C1 | **Overview of Project****Planning:**- Step Wise- Gantt Charts | Lecture/ In-Class Supervised Work | Case Study |
| 6-7 | 4 | 4 | A1, B1, C1, D1, D3 | **Software Effort Estimation:**- What Makes a SuccessfulProject- Estimating Methods | Lecture/ In-Class Supervised Work | Assignment1/ Case Study |
| 8 | 2 | 2 | A1, B1, B3, C1, C2 | **Activity Planning:**- Scheduling- Activity Networks- PERT Diagram | Lecture/ In-Class Supervised Work/ Lab Demonstration | In-Lab Exercise/ Case Study |
| 9-10 | 4 | 4 | A1, B1, C1 | **Risk Management:**- Definition of ‘Risk’ and‘Risk Management’- Some Ways of CategorizingRisk, Risk Management | Lecture/ In- Class Supervised Work | Case Study/ Major Test (Week 9) |
| 11 | 2 | 2 | A1, B1, B3 | **Resource Allocation:**Resource Smoothing | Lecture/ LabDemonstration | In-LabExercise |
| 12 | 2 | 2 | A1, A2, A3, D1, D3 | **Managing Contracts,**- Types of Contracts- The Tendering Process | Lecture/IndependentLearning | Assignment2 |
| 13 | 2 | 2 | A1, A3 | **Managing Teams:** | Lecture/ Class | Case Study |

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|  |  |  |  | - Becoming a Team- Virtual Projects | Discussion | (Simulation) |
| 14 | 2 | 2 | A1, C1 | **Software Quality**- The Importance Of SoftwareQuality- ISO 9126 Software Qualities | Lecture/ In-Class Supervised Work | Case Study |
| 15 | 2 | 2 | A3, B1, B3, C1, C2, D1, D2, D3, D4 | Student Projects | ProjectSupervision | Evaluation ofProject Presentations and Reports |
| 16 | 2 | - | A1, A2, B1,C1, C2 | All Topics |  | Final Exam |

**TEACHING MATERIALS:**

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| **TEXTBOOK(S):** | 1. Schwalbe K. (2016) *Information Technology Project Management*, 8th Edition, Cengaged learning.2. Chemuturi M. K. (2013) *Mastering Software Project Management: Best Practices, Tools and Techniques*, J. ROSS Publishing, USA, ISBN-13: 978-1604270341 |
| **HANDOUT(S):** | PowerPoint slides available on Moodle i.e. [http://www.ahlia.edu.bh/moodle.](http://www.ahlia.edu.bh/moodle) |
| **REFERENCE(S):** | 1. Schwalbe k. (2016) *Information Technology Project Management*, Revised 8thEdition, Cengaged learning.2. Hughes B. and Cotterell M. (2009) *Software Project Management*, 5th Ed., McGraw- Hill3. Gray C. and Larson E. (2018) *Project Management The Managerial Process*, 7th Edition, McGraw-Hill4. Tagarden D. P. (2012) *Systems Analysis and design with UML*,4th EditionInternational Student Version, Wiley.6. Other references can be found on Moodle. |

**ASSESSMENT:**

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| **Type of****Assessment** | **Description** | **ILOs** | **Weighting** |
| In-LabExercise | Each lab exercise consists of a set of practical tasks to beimplemented by students individually in lab times as shown in the above weekly structure. Students work will be observed and graded directly during the lab sessions. | B1, B3, C1 | FormativeAssessment |
| Case Studies | Different project management cases are analyzed, simulatedand studied. | A3, B1, C1 | FormativeAssessment |
| Assignments | Two assignments, each worth 10%. The assignments consistof essay, problem-solving and research based questions covering topics in software project management. The purpose of the assignments is to assess students individually where | A2, B1, C1, D1, D3 | 20% |

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|  | they have to demonstrate their extensive and detailedknowledge and critical understanding of key concepts of software project management. |  |  |
| Major Test | The test will be an in-class 1-hour test that will consists ofshort-answer, essay, and problem solving questions and cover the topics studied in the first 9 weeks. | A1, B1, C1, C2 | 20% |
| Project | Starting from weak 4, the class will be divided into teams of2-3 students where each team will be asked to develop a software project plan for an actual client. In this project, the team will work together and go through each of the steps in the Step Wise framework. | A3, B1, B3, C1, C2, D1,D2, D3, D4 | 20% |
| Final Exam | The final exam is comprehensive and will be of two hoursduration. It will consist of short-answer, essay and problem- solving questions. | A1, A2, B1, C1, C2 | 40% |
| **Overall** |  |  | **100%** |

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