**Course Outline**

**Course: SWE332 Software Engineering Project II (Web Programming)**

**Teaching Staff:**

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| --- | --- |
| **Category** | **Description** |
| Course Teacher with Section and Semester | AKS Section- A. 4th year 1st semester |
| Course Code | SWE332 |
| Title | Software Engineering Project II (Web Programming) |
| Credit | 3 |
| Total Cr. Hour | 40 |
| Class room | 304AB, 502AB, 604AB, 607AB |
| Class time | 11:30-1:00, 2:30-4:00, 8:30-10:00, 8:30-10:00 |
| Office Hour | 36 hrs. |
| Consultancy Hour | 12 hrs. |
| Email | Asif.swe@diu.edu.bd |
| Google Classroom Code | 2i5wfql |

**Course Objectives (CO’s):**

1. The students should learn how to handle an independent web project.
2. The students will learn how to use project management tools.
3. The students will learn how to work with the following frameworks: MVC, spring and laravel.
4. The students will learn to use source control services such as GitHub.
5. The students should be able to propose a real life project, analyze the requirements and then implement them.

**Prerequisite:** SWE233: Object Oriented Concept and design, SWE333: Desktop and Web Programming with Lab, SWE222: Software Engineering Quality Assurance and Testing

**Learning Outcomes (LO’s):**

|  |  |
| --- | --- |
| No. | Outcomes (LO’s) |
| **Knowledge** | |
| 1 | Learn how to analyze and implement a real life project |
| 2 | Explain the basic concepts of different frameworks. |
| 3 | Learn the ways and reasons source control softwares should be used. |
| 4 | Learn how to use project management softwares and the benefits of using them. |
| 5 | Learn how to use design patterns. |
| **Skill** | |
| 6 | To be able to implement different design patterns in a project. |
| 7 | To be able to write codes to work with different frameworks in a project. |
| 8 | To be able to write codes to develop both server and client sides of a web application. |
| **Self-Development** | |
| 9 | To be able to handle all aspects of a complete web project. |
| **Attitude** | |
| 10 | To be able to develop web project. |

**Course Description:**

Web Programming sets the foundation for understanding the mechanics of web applications. This course provides the necessary concepts about different frameworks and the usefulness of those frameworks in developing web projects. In addition, this course introduces students to design patterns which are essential to writing manageable code. This course also ensures that students are able to analyze a real life project and prepare documentation. At the end of this course, each student will have developed a complete web based application with all required functionalities.

**Course Methodology:**

1. Class size of 40 Students in theory class.
2. Classroom with a projector, a computer and a white marker board
3. Industrial visit may be required for the course at the end of the semester
4. Students may need to attend seminar and workshop during the turner of the course

**Assessment:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Assessment Methods | Weighing | | | | | Remarks |
|  | | | IN class | Online |  |
| 1 | Continuous Assessment | 50% | 5% | Attendance | 5% | 0% | To measure how well students have learned throughout the semester. |
| 20% | Documentation | 15% | 5% |
| 20% | Presentation | 15% | 5% |
| 5% | Assignment | 3% | 2% |
| 2 | Final | 50% | 20% | Testing | 15% | 5% | To measure how far students have achieved the learning outcomes. |
| 30% | Demonstration | 30% | 0% |

**Mapping of Assessment with Learning Outcomes (LO’s):**

|  |  |
| --- | --- |
| No. | Learning Outcome |
| (LO’S) | | Attendance | Presentation | Assignment | FINAL |
| 1 | Learn how to analyze and implement a real life project. | X | X | X | X |
| 2 | Explain the basic concepts of different frameworks.. | X |  | x |  |
| 3 | Learn the ways and reasons source control softwares should be used. | X |  | x |  |
| 4 | Learn how to use project management softwares and the benefits of using them. | X |  | x |  |
| 5 | Learn how to use design patterns. | X |  | x |  |
| 6 | To be able to implement different design patterns in a project. | X | X |  | x |
| 7 | To be able to write codes to work with different frameworks in a project. | X | X | x | x |
| 8 | To be able to write codes to develop both server and client sides of a web application. | X | X | x | x |
| 9 | To be able to handle all aspects of a complete web project. | X | X | x | x |
| 10 | To be able to develop web project. | X |  | x | x |

**Rubrics:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Weighing | Letter Grade | Category | Description |
| 1 | 80% | A+ | Outstanding | Very Strong evidence of having achieved all the LO’s and demonstration of exceptional mastery of web programming knowledge and skills.  Able to develop a well web project with all documentation. |
| 2 | 75% | A | Excellent | Strong evidence of having achieved all the LO’s and demonstration of mastery of web programming knowledge and skills. Able to develop correct programs to solve problems. Able to develop a well web project with all documentation. |
| 3 | 70% | A- | Very Good | Evidence of having achieved 90% of the LO’s with good understanding of web programming knowledge and skills.  Able to develop correct programs by using frameworks.  Able to develop a well web project with all documentation. |
| 4 | 65% | B+ | Good | Evidence of having achieved 80% of the LO’s with understanding of programming knowledge and skills.  Able to develop correct programs with frameworks.  Able to develop a well web project with all documentation. |
| 5 | 60% | B | Satisfactory | Evidence of having achieved 70% of the LO’s with basic understanding of web programming knowledge and skills.  Able to develop a well web project with all documentation. |
| 6 | 55% | B- | Above Average | Evidence of having achieved 60% of the LO’s with minimum understanding of web programming knowledge and skills.  Able to develop a well web project with all documentation. |
| 7 | 50% | C+ | Average | Evidence of having achieved 50% of the LO’s with minimal understanding of web programming knowledge and skills.  Able to develop an acceptable web project with all documentation. |
| 8 | 45% | C | Below Average | Evidence of having achieved 40% of the LO’s with minimal understanding of web programming knowledge and skills.  Able to develop an acceptable web project with all documentation. |
| 9 | 40% | D | Pass | Evidence of having achieved 30% of the LO’s with little understanding of web programming knowledge and skills.  Able to develop a small web project with all documentation. |
| 10 | <40 | F | Fail | Evidence of having achieved below 30% of the LO’s with very little understanding of web programming knowledge and skills.  Unable to develop a web project. |

**Teaching Method (TM):**

|  |  |  |  |
| --- | --- | --- | --- |
| No. | **Method Name** | **Description** | **Medium Used** |
|  | **Authority, or lecture style** | This traditional, formal approach to teaching is sometimes referred to as “the sage on the stage.” | **white board, marker** |
|  | **Demonstrator, or coach style** | This style retains the formal authority role while allowing teachers to demonstrate their expertise by showing students what they need to learn | **use projector, PC, presenter** |
|  | **Facilitator, or activity style** | This approach encourages teachers to function as advisors who help students learn by doing. | **Use VIP card, Marker, provide sheet** |
|  | **Developer, or group style** | This style allows teachers to guide students in a group setting to accomplish tasks and learn what works or doesn’t. | **use card and poster and presentation in a group** |
|  | **Hybrid, or blended style** | This approach incorporates different aspects of the various styles and gives teachers flexibility to tailor a personal style that’s right for their coursework and students | **use multiple approaches together** |
|  | **Virtual Learning** | Use Google classroom or Learning feedback system to provide distant learning to students. | **Use internet, computer network, web site** |

**Mapping of Lesson plan to the Learning Outcomes and Teaching Methods:**

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Topic/ Content | Teaching Method  (TM) | Learning Outcomes (LO’s) |
| 1 | **Project Proposal**  Class 1: Describe how to write a project proposal  Class 2: Presentation of the students on their respective proposals. | 1, 2 | 1 |
| 2 | **Documentation**  Class 1: Review the required parts of documentation.  Class 2: Review the required parts of documentation. | 1,2,3,4 | 1,9 |
|  | **Proposal Presentation** |  |  |
| 3 | **Frameworks**  Class 1: Understand how MVC framework works  Class 2: Understand how spring framework works  Class 3: Understand how laravel framework works | 1,2,3,4,5,6 | 2,7,10, 8 |
|  | **Assignment 2: Submit documentation in Google Classroom** |  |  |
| 4 | **Project Management Tools**  Class 1: Understand the benefits of using project management tools and how to use them. | 1,2,3,6 | 4,9 |
|  | **Assignment 3 in Google Classroom** |  |  |
| 5 | **Source Control Softwares**  Class 1: Understand the benefits of using source control softwares and how to use them. | 1,2,3,6 | 3,9 |
|  | **Assignment 4 in Google Classroom** |  |  |
|  | **Half work Presentation** |  |  |
| 6 | **Design Patterns**  Class 1: Understand how different design patterns work.  Class 2: Understand how different design patterns work.  Class 3: Understand how different design patterns work.  Class 4: Understand how different design patterns work. | 1,2,3,6 | 5,6 |
|  | **Final Demo** |  |  |

**Reference:**

1. Introduction to Web Applications Development - Carles Mateu
2. Presentation slide provided by course teacher.
3. Microsoft developer site, Oracle Java documentation site, PHP documentation site
4. Visual Studio, Eclipse, Netbeans
5. SQL server 2008, 2012 or 2016.

**Disclaimer:**

While every effort has been made to ensure that the information contained in this document is accurate, the information is subject to change. Changes will be notified in class and/or tutorials, via Google Classroom or email. Students are encouraged to check Google Classroom or email for any changes. It is your responsibility to be informed.