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| **Official Stamp:** | **Department: Information Technology** |

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| **Course Identification** | |
| **Course Code and Number: BIT 481** | **Course Name: Web Application Development (2)** |
| **Semester: Summer 2021-2022** | **Number of Credit Hours: 3** |
| **Teaching Language: English** | **Course Status: Dept.Mandatory** |
| **Course Coordinator: Dr.Ali Zahrawi** | **Pre-requisite: BIT381** |

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| **General Information** | |
| **Face-to-Face  Online  Blended** | **Teaching Method** |
| **This course aims to provide students with practical experience in web development. Students will explore the architecture of web applications and the technologies used in the three main components: client, server and data store. In this course, students are introduced to server-side programming language (such as PHP and ASP.NET), and how to use this technology to create server-side scripts. This course will cover the following topics: Web-based database applications using programming language, data access and processing techniques, management of status information, file upload and download, security issues, and modern software tools for server-side web application development. The course is supplemented with a small web application development project with a focus on key web components.** | **Course Description** |
| * **Understand the basics concepts of dynamic web pages** * **Learn server-side language, syntax, data types, arrays, control statements** * **Learn the software and tools needed to design and develop dynamic websites** * **Develop full dynamic websites server side developments.** | **Course Objectives** |
| **CLO1: Use reference material to determine syntax and function of PHP language features.**  **CLO2: Model and solve problems using PHP.**  **CLO3:** **Understand Relational Databases and MySQL**  **CLO4:** **Develop full dynamic websites that deal with databases efficiently** | **Course Learning Outcomes (CLOs)** |

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| **Mapping Course Learning Outcomes CLOs to Program Learning Outcomes PLOs** | | | | | | |
| **PLO6** | **PLO5** | **PLO4** | **PLO3** | **PLO2** | **PLO1** |  |
|  |  |  |  |  | **x** | **CLO1** |
|  |  |  |  |  | **x** | **CLO2** |
|  |  |  |  |  | **x** | **CLO3** |
|  |  |  |  |  | **x** | **CLO4** |

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| **Assessment Methods** | | | | | |
| **CLOs** | **Mark (%)** | **Assessment Method** | **Date and Time** | **Assessment Type** | |
| **CLO1,CLO2** | 30 | Written exam | TBA | **Midterm Exam** | |
| **CLO1,CLO2** | 10 | Assignment | TBA | **Activity (1)** | **Activities\*** |
| **CLO1,CLO2** | 5 | Quiz | TBA | **Activity (2)** |
| **CLO1,CLO2,CLO3,CLO4** | 5 | In-class tasks | TBA | **Activity (3)** |
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| **CLO1,CLO2,CLO3,CLO4** | 50 | Written exam | TBA | **Final Exam** | |

\*The instructor must choose at least three activities from the following: quizzes, assignments, projects, videos, discussions, etc.

| **Course Contents, Schedule, and Instruction Methods** | | |
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| **Instruction Method\*\*** | **Course Content** | **Week** |
| Face-to-face | Course Description | **Week 1** |
| Face-to-face | The dynamic web programming concept  The description of the server side programming |
| Face-to-face | Getting PHP Hosting  Setting Up a Development Server  What Is a WAMP, MAMP, or LAMP? | **Week 2** |
| Face-to-face | Installing a WAMP on Windows  Using an IDE  Free hosting serve |
| Face-to-face | Introduction to PHP  Basic Syntax  Understanding Variables  Operators  Variable Assignment and typing | **Week 3** |
| Face-to-face | Constants  String variables , Escaping characters  Multiple-Line Commands |
| Face-to-face | Expressions and Control Flow in PHP | **Week 4** |
| Face-to-face | Expressions  Literals and Variables, Operators, Conditionals  Looping , Implicit and Explicit Casting  PHP Dynamic |
| Face-to-face | Basic Access  The foreach...as Loop  Multidimensional Arrays | **Week 5** |
| Face-to-face | Arrays of Arrays  Using Array Functions |
| Face-to-face | Arrays and Strings  HTTP Parameters and Arrays  PHP Global Variables  Using printf  Date and Time Functions | **Week 6** |
| Face-to-face | File Handling  System Calls |
| Face-to-face | PHP Functions / Modularity  Built-In Functions  PHP Documentation  String Functions | **Week 7** |
| Face-to-face | Defining Functions  Call By Value /Call By Reference |
| Face-to-face | Variable Scope /Local variables /Global Variables  Normal Scope /Static variables | **Week 8** |
| Face-to-face | In class exercise |
| Face-to-face | Form Handling  Building Forms | **Week 9** |
| Face-to-face | Retrieving Submitted Data  Processing form data /HTML5 input types |
| Face-to-face | PHP Form Validation | **Week 10** |
| Face-to-face | In class exercise |
| Face-to-face | Structured Query Language (SQL)  Common Database Systems  Command Line  PhpMyAdmin | **Week 11** |
|  | PHP MySQL Database |
| Face-to-face | Creating a Database | **Week 12** |
| Face-to-face | Retrieving Records: Select |
| Face-to-face | Joining tables  Data Types | **Week 13** |
| Face-to-face | MySQL Functions  Indexes |
| Face-to-face | Multiple Ways to Access MySql  Creating a Database and User  Database Connection  put some data in a database | **Week 14** |
| Face-to-face | program example  SQL Injection  CRUD Pattern  Separate Files |
| Face-to-face | Assignment discussion | **Week 15** |
| Face-to-face | Revision |
|  | **Final Exam Week** | **Week 16** |

\*\*Instruction method is as follows:

* **Face-to-Face course**: Face-to-face class
* **Online** **course**: Interactive synchronous or asynchronous
* **Blended course**: Face-to-face or Online (synchronous or asynchronous)

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| **Main Textbook and References** | |
| **Robin Nixon , Learning PHP, MySQL & JavaScript: With jQuery, CSS & HTML5 (Learning PHP, MYSQL, Javascript, CSS & HTML5) 5th Edition, 2018** | **Main Textbook** |
| **I.Books:**   * **Ralph F. Grove PhD, Web Based Application Development, ISBN-13: 9780763759407, 2010** * **Niederst Robbins, Jennifer, Learning Web Design : a beginner's guide to HTML, CSS, Javascript, and Web Graphics, Fifth Edition: Sebastopol, CA: O'Reilly Media, 2018.** * **Validate web pages according to W3C standard considering the need of clients and users, analyze and evaluate websites from the perspective of usability and availability.**   **II.Web Sites:**   * **www.PHP.net** * **https://www.w3schools.com/** * **http://webdesign.about.com**   **III. Development Tools**   * **AMPPS (http://www.ampps.com/ (http://www.ampps.com/) ) a bundle includes bundle of Apache, MySQL, PHP and Python.** * **Eclipse Integrated Development Environment (IDE), with PHP development tools (http://www.eclipse.org/pdt/downloads (http://www.eclipse.org/pdt/downloads) )** | **Other References** |

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| **Policies and Instructions\*\*\*** | |
| **Attendance is mandatory. Participation is expected and highly encouraged. Please come prepared to class and play an active role in class discussions. Turn off your cell phone before you enter the classroom to avoid unnecessary distractions.** | **Attendance** |
| **Students are informed about their dates of their assignments and exams** | **Activities** |
| **Students are expected to submit their assignment before the due date , late submission will be subject to grade deduction** | **Late Submission** |
| **Closed books exams. If, due to circumstances beyond your control, you are unable to take an exam at the scheduled time, please contact me prior to the exam. Proof of the circumstances (e.g. doctor's certificate) will be essential; make-up exams must be taken within one week. Unexcused absences on the day of the exam (i.e., failure to notify the instructor prior to the exam period) can result in an F for that exam.** | **Exams** |
| **Dishonesty:**  **It is expected that students adhere to the University rules and regulations and code of conduct. Students are expected to maintain high standards in submitted assignments and home works. Any student caught cheating in an exam will receive a zero on the test and will be referred to the department chair and the dean and questioned by an investigation committee that might take further corrective actions.**  **All forms of academic dishonesty will result in an F for the course, notification of the Dean of Student Affairs and the University Disciplinary Board. Academic dishonesty includes (but is not limited to) plagiarism, copying answers or work done by others and use of notes or other aids during quizzes and exams.** | **Cheating and Plagiarism** |

\*\*\*For more information, please see the student handbook.