OPOL COMMUNITY COLLEGE
Bachelor of Information Technology (BSIT)
Systems Integration and Architecture 1
New Curriculum Effective SY 2023-2024

VISION	MISSION	CORE VALUES
Opol Community College is a self-reliant higher educational institution providing affordable quality education to produce pro-active and highly competitive graduates.	The College aims to produce graduates with competitive skills by providing competent instructors, adequate learning resources and scholarship grants and link them to employment opportunities. Further, being a local government owned institution; it supports the programs and projects of the government.	• Optimism • Compassion • Commitment

PROGRAM EDUCATIONAL OBJECTIVES

Profile of an OCC BSIT Graduate	
1	A graduate who can pursue graduate studies in IT, and other higher academic fields.
2	A graduate who can participate in the generation of new knowledge or in research and development projects.
3	A graduate who can demonstrate a service orientation in one's profession.
4	A graduate who imparts and shares expertise with the community.
5	A graduate who can participate in community service and social responsibilities.

PROGRAM OUTCOMES

Common to all programs in all types of schools (CMO 25, s. 2015):		Profile of an OCC BSIT Graduate
1	Apply knowledge of computing, science, and mathematics appropriate to the discipline	PEO 1, 2, 3
2	Understand best practices and standards and their learning applications	PEO 1

3	Analyze complex problems, and identify and define the computing requirements appropriate to its solutions	PEO 2
4	Identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	PEO 3
5	Design, implement, and evaluate computer-based systems, processes, components, or programs to meet desired needs and requirements under various constraints	PEO 1, 3
6	Integrate IT-based solutions into the user environment effectively	PEO 3, 4, 5
8	Apply knowledge through the use of current techniques, skills, tools and practices necessary for the IT profession	PEO 1, 2, 3
9	Function effectively as a member or leader of a development team recognizing the different roles within a team to accomplish a common goal	PEO 3, 4, 5
10	Assist in the creation of an effective IT project plan	PEO 3, 4, 5
11	Communicate effectively with the computing community and with society at large about complex computing activities through logical writing, presentations, and clear instructions	PEO 1, 2, 3
12	Analyze the local and global impact of computing information technology on individuals, organizations and society	PEO 1, 2
13	Understand professional, ethical, legal, security and social issues and responsibilities in the utilization of IT	PEO 1, 2, 3

OUTCOME-BASED COURSE SYLLABUS

Course Title/Number	**System Integration and Architecture 1**
Course Description (Based on CMO No. 18 Series of 2008)	PHP is a server-side scripting language having several frameworks, for instance, Laravel, Symfony, Phalcon and CakePHP etc. The fundamental functioning of these frameworks is to assist in the promotion of rapid application development (RAD). Laravel is chosen preferably by most of the developers over any other Frameworks considering the compatibility and steady pace it offers to its user. Laravel is a free and open source framework based upon model-view-controller which lets developers build smooth web applications. Laravel allows users to access relational databases in a different and easy manner by featuring a dynamic modular packaging system with dependency manager. Also, the source code for Laravel is facilitated under Github. Since Laravel covers so many features that it enables any novice in PHP to take a great head start.
Course Credit	3
Contact Hours	90 hours

Pre-requisite	None
Instructor	Niel M. Daculan
Consultation Time	1:00 PM – 5:00 PM / TH-FRI / Faculty Office
Program Specialization Outcomes	*At the end of this course, graduates will have the ability to:* ● Use and apply current technical concepts and practices in the core information technology. ● Identify and analyze user needs accurately and take them into account in the selection, creation, evaluation, and administration of delivered computer-based systems assuring its appropriateness to the user's environment. ● Efficiently integrate IT-based solutions into the user environment. ● Understanding of best practices and standards and their applications. ● •Assist in the creation of an effective project plan.
Course Learning Outcomes	CLO1 Demonstrate their understanding on Web Development using PHP programming language CLO2 Design and Develop a web application using PHP language

LEARNING PLAN

Day	Topic	Course Learning Outcomes	Intended Learning Outcomes	Teaching & Learning Experience/ Activities	Task Assessment	References
1	**Introduction to PHP**	CLO1	• Understand the role of PHP in web development and its interaction with web servers. • Differentiate between server-side scripting languages and client-side technologies.	1. Class activity: *Getting to know you* 2. Lecture 3. Discussion 4. Human compiler **Values Integration** a. Respect b. Honesty	1. Class Participation 2. Lab Exercises/ Assessment 3. Lab Activity 1	PHP Reference: Beginner to Intermediate PHP5 LAP1
2	**Setting Up a PHP Development Environment**	CLO1	• Configure a local development environment with PHP, Apache/Nginx, and MySQL. • Install and manage dependencies using Composer, the PHP package manager.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Accountability	1. Class Participation 2. Lab Exercises/ Assessment 3. Lab Activity 2	PHP Reference: Beginner to Intermediate PHP5 LAP2
3	**Building Dynamic Web Pages**	CLO1	• Develop dynamic web pages using PHP to generate HTML content based on user interactions. • Utilize PHP tags and syntax for embedding PHP code within HTML.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler	1. Class Participation 2. Lab Exercises/ Assessment 3. Lab Activity 3	PHP Reference: Beginner to Intermediate PHP5 LAP3

				Values Integration a. Respect b. Friendship		
4	**Working with Variables and Data Types**	CLO1	• Define variables, data types, and constants in PHP. • Manipulate data using arithmetic and string operations.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Teamwork	1. Class Participation 2. Lab Exercises/ Assessment 3. Lab Activity 4	PHP Reference: Beginner to Intermediate PHP5 LAP4
5	**Control Structures and Loops**	CLO1	• Implement conditional statements (if, else, switch) and loops (for, while, foreach) for controlling program flow. • Create logic for decision-making and iterative processes.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Integrity	1. Class Participation 2. Lab Exercises/ Assessment 3. Lab Activity 5	PHP Reference: Beginner to Intermediate PHP5 LAP5
6	**Arrays and Data Manipulation**	CLO1	• Create and manipulate arrays to store and manage collections of data.	1. Individual program demonstration 2. Lecture 3. Discussion	1. Class Participation **2.** Lab Exercises/ Assessment	PHP Reference: Beginner to Intermediate PHP5

			• Apply array functions for sorting, filtering, and transforming data.	4. Human Compiler **Values Integration** a. Respect b. Obedience	**3.** Lab Activity 6	LAP6
7	**Functions and Custom Libraries**	CLO1	• Design and create reusable functions to modularize code. • Organize code into custom libraries for improved maintainability.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Patience	1. Class Participation **2.** Lab Exercises/ Assessment **3.** Lab Activity 7	PHP Reference: Beginner to Intermediate PHP5 LAP7
8	**Working with Forms and User Input**	CLO1	• Validate and process user input from HTML forms using PHP. • Prevent common security vulnerabilities like SQL injection and cross-site scripting (XSS)	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Independence	1. Class Participation **2.** Lab Exercises/ Assessment **3.** Lab Activity 8	PHP Reference: Beginner to Intermediate PHP5 LAP8
9	**Midterm**					
10	**Working with Databases (MySQL)**	CLO1	• Interact with MySQL databases using PHP's	1. Individual program demonstration	1. Class Participation	PHP Reference: Beginner to Intermediate PHP5

			MySQLi or PDO extensions. ● Perform CRUD (Create, Read, Update, Delete) operations and manage database connections.	2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Friendship	**2.** Lab Exercises/ Assessment **3.** Lab Activity 9	LAP9
11	**Error Handling and Debugging**	CLO1	Implement error handling mechanisms and gracefully handle exceptions. Utilize debugging tools and techniques to identify and resolve issues.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Accountability	1. Class Participation **2.** Lab Exercises/ Assessment **3.** Lab Activity 10	PHP Reference: Beginner to Intermediate PHP5 LAP10
12	**File Handling and Manipulation**	CLO1	Read from and write to files using PHP for tasks like file uploads, parsing, and data storage.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Integrity	1. Class Participation **2.** Lab Exercises/ Assessment **3.** Lab Activity 11	PHP Reference: Beginner to Intermediate PHP5 LAP11

13	**PHP Sessions**	CLO1	To integrate the use of the Sessions in creating a program in PHP.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Honesty	1. Class Participation **2.** Lab Exercises/ Assessment **3.** Lab Activity 12	PHP Reference: Beginner to Intermediate PHP5 LAP12
14	**PHP Regular Expressions**	CLO1	To integrate the use of the Regular Expressions in creating a program in PHP.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Punctuality	1. Class Participation **2.** Lab Exercises/ Assessment **3.** Lab Activity 13	PHP Reference: Beginner to Intermediate PHP5 LAP13
15	**PHP Classes and Objects**	CLO1	To integrate the use of the Classes & Objects in creating a program in PHP.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect	1. Class Participation **2.** Lab Exercises/ Assessment **3.** Lab Activity 14	PHP Reference: Beginner to Intermediate PHP5 2018 LAP14

				b. Independence		
16	**PHP Constructor and Destructor**	CLO1	To integrate the use of the Constructor and Destructor in creating a program in PHP.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Teamwork	1. Class Participation **2.** Lab Exercises/ Assessment **3.** Lab Activity 15	PHP Reference: Beginner to Intermediate PHP5 LAP15
17	**PHP Access Modifiers and Abstract Classes**	CLO1	To integrate the use of the Access Modifiers in creating a program in PHP.	1. Individual program demonstration 2. Lecture 3. Discussion 4. Human Compiler **Values Integration** a. Respect b. Patience	1. Class Participation **2.** Lab Exercises/ Assessment **3.** Lab Activity 16	PHP Reference: Beginner to Intermediate PHP5 LAP16
18	**Final Term**	CLO2				

<table>
<tr><td>Suggested Learning Resources</td><td>PHP Reference: Beginner to Intermediate PHP5

http://cdn.phpreferencebook.com/wp-content/uploads/2008/12/php_reference_-_beginner_to_intermediate_php5.pdf</td></tr>
<tr><td>Grading System</td><td>
<table>
<tr><th>Midterm</th><th>Final Term</th><th>Final Grade</th></tr>
<tr><td>(Assignment
Quizzes
Oral Recitation
Project) 70%</td><td>(Assignment
Quizzes
Oral Recitation
Project) 70%</td><td>Midterm grade + Final grade
2</td></tr>
<tr><td>Term Exam. 30%</td><td>Term Exam. 30%</td><td></td></tr>
<tr><td>Total 100%</td><td>Total 100%</td><td></td></tr>
</table>
</td></tr>
<tr><td>Course Policy and Standards</td><td>1. Students are required to attend all class sessions as listed on the school calendar. Students will be dropped if he/she exceeds an allowable number of absences.
2. Students are expected to attend class sessions on time.
3. Students must take all scheduled and unscheduled examinations. No special examinations will be given except for Major Examinations.
4. Assignments, case studies, projects, and designs must be submitted on or before the deadline/due date.
5. Cheating will not be tolerated and will result in a Failure grade.
6. Students are expected to consistently demonstrate professional behavior.
7. Students are required to have at least 75% final grade in order for them to pass the Subject.</td></tr>
<tr><td></td><td>Lateness. A student will be marked “late” if he/she enters the class 15 minutes after the indicated time. Any student who comes to class 15 minutes after the scheduled time or is always late for two consecutive meetings shall be marked “absent”.

Missed work or exam. Any student who missed giving a class presentation, submitting a work assignment, or to take a test should consult the concerned instructor for immediate compliance.

Cheating. Any student who committed any form of academic dishonesty shall be given a “failed mark” and a disciplinary action provided in the OCC Student’s Handbook and subject to the Guidance office.</td></tr>
</table>

	Use of Technology. Cell phones should be "turned off" while the session is in progress. Using laptops, smartphones, and tablets shall be prohibited unless the instructor is aware of the purpose and permits the student's request.					
Course Title	**AY/Effective Term**	**Prepared by:**	**Checked by:**	**Verified by:**		**Approved by:**
SYSTEM INTEGRATION AND ARCHITECTURE 1	1ST SEMESTER AY 2023 - 2024	**Niel M. Daculan** *Faculties*	**LEILANI B. RANARA, MIT** *Program Head*	**RODELIA T. ARANCON, PhD** *College Librarian*	**RUBEN B. MADRIAGA** *EdTech Coordinator*	**ALMA T. GURREA, Ed.D.** *VP for Academic Affairs*