OUTCOMES-BASED EDUCATION (OBE) COURSE SYLLABUS IN
CC106 – APPLICATION DEVELOPMENT AND EMERGING TECHNOLOGIES
Date revised/enhanced: November, 2020

I.	**School Year/Semester**	SY 2020-2021/2ND Semester
II.	**University**	Vision: A green university globally engaged in island research and innovations for societal advancement. Mission: Foster excellence, holistic, outcomes-based education compliant with the requirements of diverse world market and contribute to the development of productive and value-laden lives. Goal: Uphold the tradition of excellence in instruction, research, extension and production functions in an eco-friendly environment. Core Values: Respect, Integrity, Social Responsibility, Excellence, Commitment Institutional Outcomes: A. A *Professiona*l who is morally upright, socially responsible and globally employable B. A *Leader and Innovator* who inspires others and is committed to social transformation and national development C. An *Environmental Advocate* committed to research, extension and production initiatives
III.	**College/Campus**	College of Information and Communications Technology/ Main Campus
IV.	**Program/Degree**	Bachelor of Science in Information Technology (BSINFOTECH)
V.	**Program Outcomes**	a. Articulate and discuss the latest developments in the specific field of practice. b. Effectively communicate orally and in writing using both English and Filipino. c. Work effectively and independently in multi-disciplinary and multi-cultural teams. d. Act in recognition of professional, social and ethical responsibility. e. Preserve and promote “Filipino historical and cultural heritage”. f. Apply knowledge of computing science, and mathematics appropriate to the discipline. g. Understand best practices and standards and their applications. h. Analyze complex problems and identify and define the computing requirements appropriate to its solution. i. Identify and analyze user needs and take them into account in the selection, creation, evaluation, and administration of computer-based systems.

	j. Design, implement, and evaluate computer-based systems, processes, components, or programs to meet desired needs and requirements under various constraints. k. Integrate IT-based solutions into the user environment effectively. l. Apply knowledge through the use of current techniques, skills, tools and practices necessary for the IT profession. m. Function effectively as a member or leader of a development team recognizing the different roles within a team to accomplish a common goal. n. Assist in the creation of an effective IS project plan. o. Communicate effectively with the computing community and with society at large about complex computing activities through logical writing, presentations, and clear instructions. p. Analyze the local and global impact of computing information technology on individuals, organizations, and society. q. Understand professional, ethical, legal, security and social issues and responsibilities in the utilization of information technology. r. Recognize the need for and engage in planning self-learning and improving performance as a foundation for continuing professional development. s. Participate in the generation of new knowledge or in research and development projects t. Support local, regional, and national development plans along education, environment, socio economic, health, gender and development, science, and technology.
VI. **Course Code/Title**	CC106 – Application Development and Emerging Technologies
VII. **Course Description**	Development of application using web, mobile, and emerging technologies with emphasis on requirements management, interface design, usability testing, deployment, including ethical and legal considerations.
VIII. **Course Credit**	3 units (2 units Lecture/ 1 unit Lab)
IX. **Prerequisite**	CC104 – Data Structure and Algorithms
X. **Contact Hours**	5 contact hours per week (2 hours lecture. 3 hours laboratory- 90 hours per semester)
XI. **Course Outcomes**	At the end of the course, the students shall be able to:

COs	Description	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T

		1	Understand word press capabilities its limitations for building web applications and be able to know each database table created.			√		√		√		√		√	√		√		√		√	√		√	√	
		2	Gain understanding on how to structure your app's main plugin that utilize theme frameworks and UI frameworks		√			√			√		√	√		√		√		√	√	√		
		3	Know the different taxonomies and understand how to extend the WP User class for your user archetypes.		√				√		√		√		√		√		√	√		√	√	
		4	1. Identify some of the useful WordPress APIs And utilize JavaScript and AJAX in your WP application.	√		√		√	√	√		√		√	√			√	√			√	√	

XII. **Course Outline/Learning Plan**

POs	COs	Desired Learning Outcomes	Course Content/ Subject Matter	Textbooks/ References	Teaching and Learning Activities *(TLAs)*	Assessment Tasks	Instructional Resources/ Materials	Time Table (Hours)
A **B** **C**	**CO1** **CO2** **CO4** **CO5**	**At the end of the lesson the students be able to:** 1. define what we mean by "web app" and also covers why or why not to use WordPress for building web apps.	**A. Building a Web App** 1. What is a Website, App and a Web App? 2. Why Use WordPress 3. WordPress as an Application Framework	Messenlehner, B. and Coleman, J. (2014). Building Web Apps with WordPress Printed in the United States of America. by O'Reilly Media, Inc., 1005 Gravenstein Highway	• Webinars • Online Meetings • Group discussion through an online platform	▪ Submission of outputs through LMS /email ▪ Module activity submission	• Modules submission through LMS/email • Online Presentations • Web Discussions • Webinars	13.5

		2. discuss basics of WordPress such as various directories of the core WordPress install 3. explain each database table created by WordPress	4. Directory Structure 5. Database Structure	North, Sebastopol, CA 95472	• Online présentation discussion		• Book	
A,B, C,E	**CO2 CO3 CO4 C06**	**At the end of the lesson the students be able to:** 1. discuss about plugins 2. create your own plugins? 3. Learn how to structure your app's main plugin 4. Know how do themes works? 5. understand what code should go into your theme, and what code should go into plugins 6. utilize theme frameworks and UI frameworks	**B. Plugins and Themes** 1. Installing Plugins 2. Building Your Own Plugin 3. File Structure for an App Plugin 4. Themes versus Plugins 5. The Template 6. Style.css and Functions.php 7. Popular Theme Frameworks 8. Menus	Messenlehner, B. and Coleman, J. (2014).	• Webinars • Online Meetings • Group discussion through an online platform • Online présentation discussion	▪ Submission of outputs through LMS /email ▪ Module activity submission ▪	• Modules submission through LMS/email • Online Presentations • Web Discussions • Webinars • Book	**15**

A,B, C,E	**CO2 CO3 CO4 CO6**	**At the end of the lesson the students be able to:** 1. discuss what custom post types and taxonomies 2. employing post meta and taxonomies 3. explain users, roles, and capabilities. 4. discuss how to extend the WP_User class for your user archetypes.	**C. CPT, Taxonomies, and Users Role** 1. Default Post Types, Custom Post Types, and Taxonomy 2. Using CPT and Taxonomies in Your Themes and Plugins 3. Metadata with CPTs 4. Getting User Data 5. What Are Roles and Capabilities? 6. Extending the WP_User Class 7. Adding Registration and Profile Fields 8. Customizing the Users Table in the Dashboard	Messenlehner, B. and Coleman, J. (2014).	▪ Webinars ▪ Online Meetings ▪ Group discussion through an online platform ▪ Online présentation discussion	▪ Submission of outputs through LMS /email ▪ Module activity submission •	• Modules submission through LMS/email • Online Presentations • Web Discussions • Webinars • Book ▪	**15**
MID-TERM EXAMINATION								**1.5**
A,B, C,E	**CO2 CO3 CO4 CO5**	**At the end of the lesson the students be able to:** 2. discuss some of the useful WordPress APIs 3. utilize JavaScript and AJAX in your WP application.	**D. APIs, JavaScript, jQuery, AJAX, XML-RPC** 1. APIs 2. What is AJAX and JSON 3. jQuery and WP	Messenlehner, B. and Coleman, J. (2014).	• Webinars • Online Meetings • Group discussion through an online platform • Online présentation discussion	▪ Submission of outputs through LMS /email ▪ Module activity submission ▪	• Modules submission through LMS/email • Online Presentations • Web Discussions • Webinars • Book	**28.5**

			4. AJAX Calls with WordPress and jQuery					
A,B, C,E	**CO3 CO4 CO5**	**At the end of the lesson the students be able to:** **1.** Know how to use WP to power native apps on mobile devices by creating app wrappers for Android.	E. **Mobile Apps with WordPress** 1. App Wrapper 2. Android Applications	Messenlehner, B. and Coleman, J. (2014).	• Webinars • Online Meetings • Group discussion through an online platform • Online présentation discussion	▪ Submission of outputs through LMS /email ▪ Module activity submission ▪	• Modules submission through LMS/email • Online Presentations • Web Discussions • Webinars • Book	**15**
FINAL EXAMINATION								**1.5**

XIII. **Suggested Readings and References**	**Online References:** 1. Ramdin , Darrion (2017) What is means by programming paradigms? retrieved: June 2019 from: https:medium.com/@darrion/ 2. VijiPriya, J. (2015) Integrative Programming Technology retrieved: June 2019 from: https://www.slideshare.net/vijipriyacse/ipt-chapter-5 3. Introduction of Programming Paradigms retrieved: June 2019 from: https://www.geeksforgeeks.org/ 4. Whats the difference between Scripting and Programming Languages? Retrieved: June 2019 from: https://www.geeksforgeeks.org/ 5. Using Intersystem Communication (ISC) retrieved: June 2019 from: https://docs.oracle.com/cd/E19065-05/servers.15k/816-5327-11/adminisc.html 6. Basic Scripting Techniques Retrieved: June 2019 from: https://choicescriptdev.fandom.com/wiki/ 7. Zhu Zhong (2014) Automation Scripting Techniques Retrieved: June 2019 From: https://www.slideshare.net/zhongzhu2002/

	8. Le Clair, Haidee (2018) Managing Software Security: 10 Essential Best Practices [Infographic] retrieved: June 2019 from: https://www.checkmarkx.com/blog/ 9. Worsham, Darryl (2018) Why should you be aware of software security best practices? Retrieved: June 2019 from: https://www.growthaccelerationpartnerts.com/blog/software-security-best-pratices/ 10. The Importance of Secure Development retrieved: June 2019 from: https://www.veracode.com/security/secure-development 11. XML Tutorial retrieved: June 2019 from: https://www.w3schools.com/xml/ 12. XML Tutorial retrieved: June 2019 from: https://www.xml.com/
XIV. **Course Requirements**	Due to COVID 19 Pandemic, the midyear activities shall follow the format of a flexible learning platform,viz 1. This course syllabus and all other documents necessary for the course will be available in the learning managements systems portal (LMS) or be sent through email. Students should provide email address and telephone numbers during enrollment. 2. All students are required to attend online webinars /meetings scheduled by the professor in charge. 3. Individual activities for the outputs shall be submitted for the given date set by the professor through LMS or email to their professor. 4. All student enrolled on the subject should be online on the given date and time set by the professor for meetings and other lectures online. If there is no connection and poor connection students should immediately inform their professor. This activity shall be the basis of student's attendance. 5. Submission of output and activities should follow the format prescribed by the professor and be submitted on time. The system will automatically close on the prescribed deadline set by the professor. 6. Modules can be downloaded. If there is no internet connection on their area or poor connection, Student should immediately inform the faculty in charge to make necessary action to assists the student. 7. Student should inform the barangay captain with regards to their concern so that the university and the local government can immediately assist and make necessary action with regards to their concern.
XV. **Course Policies**	1. Students with reasonable absences during online activities for the reason they have poor connection or no internet connection will be given consideration provided that they have to submit hard copies through the barangay captain. Inform the barangay captain to send it to the university. There should be proper labelling on the paper to be able to hand it over to the faculty concern. 2. Students should be able submit and be present during webinars and online activities. Attendance is necessary

XVI. **Grading System** *(Per Board Resolution No. 6, series 2016)*	For Academic Courses Midterm/Final Examination 30% Quizzes/Homeworks/Seatworks/Problem Sets 30% Performance(skill-based; psychomotor) 40% Total 100%	Distribution of Weight for the Overall/Final Grade Mid-Term Grade 50% Tentative 50%
XVII. **Consultation Time/Venue**	W 1:00 – 6:00 CICT Faculty Room	

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