

COURSE SYLLABUS

WEB DEVELOPMENT WITH OPEN SOUCRE

Course code: 220142

1. General information

Course type		Number of credits	Number of learning periods
General	<input type="checkbox"/>	Theory: 02 Exercise: 00 Practice: 01	Theory: 30 Exercise: 00 Practice: 30
Basic	<input type="checkbox"/>		
Specialized	<input checked="" type="checkbox"/>		
Required	<input checked="" type="checkbox"/>		
Elective	<input type="checkbox"/>		

Learners:

Level	Bachelor
Discipline	Information Technology

Course requirements:

Prerequisites	Web Design, Information System Analysis and Design
Parallels	None
Other requirements	None

2. Learning resources

Books	[1] Đoàn Phước Miên, Phạm Thị Trúc Mai (2014). <i>Tài liệu giảng dạy môn lập trình web (internal use only)</i> . Tra Vinh University
References	[2] Phạm Hữu Khang, <i>Xây dựng ứng dụng Web bằng PHP & MySQL</i> (2007). NXB Phương Đông [3] Nguyễn Trường Sinh, Lê Minh Hoàng, Hoàng Đức Hải (2005). <i>Sử dụng PHP & MySQL thiết kế Web động</i> . NXB Thống kê [4] Khuất Thùy Dương, <i>Giáo trình Lập trình Ứng dụng Web với PHP (tập 1)</i> . Đại học Quốc gia TP.HCM [5] Khuất Thùy Dương, <i>Giáo trình Lập trình Ứng dụng Web với PHP</i>

	<p>(tập 2). Đại học Quốc gia TP.HCM</p> <p>[6] Trần Hữu Thực, <i>Tạo website hướng Database bằng PHP & Mysql</i> (2004). Nhà xuất bản thông kê</p> <p>[7] Harris, A. (2009). <i>PHP 6/MySQL Programming for the absolute beginner</i>. Cengage Learning.</p> <p>[8] Powers, D. (2014). <i>PHP solutions: dynamic web design made easy</i>. Apress</p> <p>[9] West, A. W., & Prettyman, S. (2018). <i>Practical PHP 7, MySQL 8, and MariaDB Website Databases: A Simplified Approach to Developing Database-Driven Websites</i>. Apress.</p>
Other learning materials	<p>[10] Websites:</p> <ol style="list-style-type: none"> 1. Website: https://www.php.net/ 2. Website: https://www.apache.org/ 3. Website: https://www.mysql.com/ 4. Website: https://www.w3schools.com/

3. Course description

The course provides students specialized knowledge of web programming in PHP and MySQL. Besides, the course also helps students to understand and utilize the PHP MVC Framework. Students will be able to design and implement real web applications using PHP Frameworks. Additionally, the course develops students' appropriate awareness of important soft skills, e.g., group working and communication, and attitudes on the role of Information Technology engineers.

4. Course learning outcomes (CLOs)

After finishing the course, students will be able to:

		Satisfy LOs of the program	Satisfy LOs of the ABET
❖ Topic 1: Disciplinary Knowledge and Reasoning			B.1.1
L1.	Describe the roles of WebServer	1.3.6	B.1.2
L2.	Create databases on WebServer		B.1.3
L3.	Create dynamic web pages with PHP and MySQL		B.1.4
L4.	Develop web applications using MVC model		B.1.5
❖ Topic 2: Personal and Professional Skills and Attributes			B.1.6

L5.	Applying software engineering process in web application development	2.1.1, 2.1.2, 2.1.3, 2.1.4
L6.	Utilizing system analysis and user interface design	2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.3.1, 2.3.2, 2.3.3, 2.3.4
L7.	Creative Thinking, Self-Awareness, Metacognition and Knowledge Integration	2.4.3, 2.4.5
L8.	Ethics, Integrity and Social Responsibility	2.5.1, 2.5.2, 2.5.3, 2.5.4, 2.5.5
❖ Topic 3: Interpersonal Skills: Teamwork and Communication		
L9.	Team Operation in small and medium web projects	3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.1.5, 3.3.1
L10.	Oral Presentation skills	3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.3.2
❖ Topic 4: Conceiving, Designing, Implementing and Operating Systems in The Enterprise, Societal and Environmental Context – The Innovation Process		
L11.	Identify customer requirements for a specific web application	4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.5, 4.2.1, 4.2.2, 4.2.3, 4.2.4
L12.	Analyze and design web applications with specific requirements	4.3.1, 4.3.2, 4.3.3, 4.3.4
L13.	Build complete websites	4.4.1, 4.4.2, 4.4.3
L14.	Test and assess the ability to meet the system requirements	4.5.1, 4.5.2, 4.5.3
L15.	Deploying websites	4.5.4

5. Course content

Course content	CLOs	Number of learning periods				
		Theory	Practice	Others		
Chapter 1. An Overview of Web Server	L1, L2	04	01			
1.1. Roles of Web Server	L1	01	00			
1.2. Popular Web Servers						
1.2.1. Internet Information Services (IIS)						
1.2.2. Apache						
1.3. Popular Web Server applications				03	01	
1.4. Setup Web Server applications						
1.5. Using Web Server features	L2					
<input checked="" type="checkbox"/> Personal and Professional Skills and Attributes	L7, L8: (T)					
<input checked="" type="checkbox"/> Interpersonal Skills: Teamwork and Communication	L9, L10: (U)					
<input checked="" type="checkbox"/> CDIO in the enterprise, societal and environmental context						
Chapter 2. PHP Basics	L3	08	10			
2.1. Introducing PHP	L3	01	00			
2.1.1. History of PHP						
2.1.2. PHP syntax and naming conventions						
2.2. PHP statements				04	05	
2.3. Passing data between webpages, GET/ POST method				03	05	
<input checked="" type="checkbox"/> Personal and Professional Skills and Attributes	L7, L8: (T)					
<input checked="" type="checkbox"/> Interpersonal Skills: Teamwork and Communication						
<input checked="" type="checkbox"/> CDIO in the enterprise, societal and environmental context						

Chapter 3. PHP & MySQL	L3	10	10	
3.1. Working with web-based data management	L3	05	02	
3.1.1. Create, delete databases				
3.1.2. Create, edit, and delete tables				
3.1.3. Create, edit, and delete records				
3.2. Data manipulation with PHP		05	08	
3.2.1. Connect/Disconnect to databases				
3.2.2. Access databases and tables				
3.2.3. Display records from tables				
<input checked="" type="checkbox"/> <i>Personal and Professional Skills and Attributes</i>	L5, L6: (U); L7, L8: (T)			
<input checked="" type="checkbox"/> <i>Interpersonal Skills: Teamwork and Communication</i>	L9, L10: (T)			
<input checked="" type="checkbox"/> <i>CDIO in the enterprise, societal and environmental context</i>	L11, L12: (U); L13: (T); L14, L15: (I)			
Chapter 4. Develop Web Applications using MVC Model	L4	08	09	
4.1. MVC model	L4	04	00	
4.1.1. Components of MVC architecture				
4.1.2. Benefits of MVC model				
4.2. Popular PHP Framework				
4.3. Installing PHP Framework		04	09	
4.4. Using PHP Framework				
<input checked="" type="checkbox"/> <i>Personal and Professional Skills and Attributes</i>	L5, L6: (U); L7, L8: (T)			
<input checked="" type="checkbox"/> <i>Interpersonal Skills: Teamwork and Communication</i>	L9, L10: (T)			
<input checked="" type="checkbox"/> <i>CDIO in the enterprise, societal and environmental context</i>	L11, L12: (U); L13: (T); L14, L15: (I)			
Summary of skills in course level				

<input checked="" type="checkbox"/> <i>Personal and Professional Skills and Attributes</i>	L5, L6: (U); L7, L8: (T)
<input checked="" type="checkbox"/> <i>Interpersonal Skills: Teamwork and Communication</i>	L9, L10: (T)
<input checked="" type="checkbox"/> <i>CDIO in the enterprise, societal and environmental context</i>	L11, L12: (U); L13: (T); L14, L15: (I)

6. Teaching and learning methods

ID	Teaching method/technique		Description
M1.	Lecturing	<input checked="" type="checkbox"/>	
M2.	Questions – Answers	<input checked="" type="checkbox"/>	
M3.	Group-based Learning	<input checked="" type="checkbox"/>	
M4.	Problem-based Learning	<input checked="" type="checkbox"/>	
M5.	Project-based Learning	<input checked="" type="checkbox"/>	
M6.	Case studies	<input type="checkbox"/>	
M7.	Roleplay	<input checked="" type="checkbox"/>	
M8.	Demo	<input checked="" type="checkbox"/>	
M9.	Simulations	<input type="checkbox"/>	
M10.	Debate	<input type="checkbox"/>	
M11.	Game	<input type="checkbox"/>	
M12.	Brainstorming	<input type="checkbox"/>	
M13.	Think-Pair-Share	<input type="checkbox"/>	

7. Course assessment

ID	Assessment activity		Quantity	Weight	LOs assessed
T1.	Text-based midterm exam	<input type="checkbox"/>			
T2.	Text-based final exam	<input type="checkbox"/>			

ID	Assessment activity		Quantity	Weight	LOs assessed
T3.	Practice midterm exam	<input checked="" type="checkbox"/>	01	25%	L2, L3, L7, L8
T4.	Practice final exam	<input checked="" type="checkbox"/>	01	50%	L3, L4, L13
T5.	Report	<input checked="" type="checkbox"/>	01	25%	L4, L9, L10, L11, L12, L13
T6.	In-class exercises	<input type="checkbox"/>			
T7.	Homework assignments	<input type="checkbox"/>			
T8.	Question – Answer	<input type="checkbox"/>			
T9.	Term Project	<input checked="" type="checkbox"/>	01	50%	L9, L10, L11, L12, L13
T10.	Final Exam	<input type="checkbox"/>			
Formula for Overall score		$T3*0.25+T5*0.25+T4*0.5$ <p style="text-align: center;">Or</p> $T3*0.25+T5*0.25+T9*0.5$			

8. Course requirements and expectations

8.1. Requirements on attendance

- Students are responsible for attending in all classes. In case of absence due to force majeure circumstances, there must be sufficient and reasonable evidence.
- Students who do not attend more than 20% of the class sections, whether for reason or not, are deemed not to have completed the course and must re-enroll in the following semester.

8.2. Requirements and expectations on student behaviors

- Students must show their respects for teachers and other learners.
- Students must be on time. Students who are late more than five minutes will not be allowed to attend the class.
- Students should not make noise and interfere with others in the learning process.
- Students should not eat, chew gum, and use devices such as cell phones, music players during class hours.
- Laptops and tablets can only be used in class for the purpose of learning.
- Students who violate the above principles will be asked to leave the class and considered absent from the class.

8.3. Requirements on learning issues

Issues related to applying for score reservation, scoring complaints, scoring, exam disciplines are done according to the Learning Regulation of Tra Vinh University.

9. Tentative course instructor

Nguyen Ngoc Dan Thanh

DEAN

DEPARTMENT HEAD

LECTURER

Nguyen Ngoc Dan Thanh