|  |  |
| --- | --- |
| Title | **Web design and development** |
| Level | **4** | **Credits** | **15** |

|  |  |
| --- | --- |
| Purpose | The aim of this module is to develop the skills, knowledge and understanding to design and develop a web based software application (E-Commerce enabled) in any web design/development software. |

|  |  |
| --- | --- |
| Classification ISCED | 0414 Marketing and advertising |

|  |  |
| --- | --- |
| Available grade | Competent / Not yet competent |

|  |  |
| --- | --- |
| Modification history | N/A |

|  |  |  |
| --- | --- | --- |
| **Competency Unit** | **Performance Criteria** | **Knowledge and Understanding** |
| **B1:** Introduce Some Web Designing languages | * 1. Figure out different web application development languages
	2. Develop front end design using HTML, JQuery, JavaScript, etc
	3. Identify different coding standards in **any** of the computer language (Sun J2EE, MS ASP.Net, PHP) to meet the market requirements.
	4. Implement concept of Object Oriented Programming (OOP) to solve the real life problem by doing Server/Client side scripting.
	5. Unit testing and debugging to check the correctness of the software program
 | * 1. Knowledge of different web application user Interface design
	2. Information of E-Commerce system
	3. Knowledge to develop site map of web application
 |

|  |  |  |
| --- | --- | --- |
| **B2:** Framework | * 1. Procedure to Identify different frameworks and its application
	2. Develop a software application using frameworks
	3. Efficiently use framework libraries to develop the software application
 | * 1. Knowledge of different framework i-e Spring MVC, JSF, Struts, CodeIgenator, Zend, Entity Framework)
	2. Knowledge of application development techniques
	3. Awareness to use different libraries
 |

|  |  |  |
| --- | --- | --- |
| **B-3:** Database | * 1. Identify entity classes
	2. Design ERD diagram from entity classes
	3. Apply normalization and de-normalization techniques
	4. Design database queries (e.g create, insert, update, delete etc)
	5. Design database in different tools
 | 1. **1** Knowledge of Entity classes
	1. Skill of Entity Relationship Diagram (ERD) design
	2. Knowledge of database queries designing
	3. Information of database design tool
 |

|  |  |  |
| --- | --- | --- |
| **B- 4:** Security (HTTPS) | * 1. Apply Security techniques on server side (64/32-bit)
	2. Implementation of Cryptology (Encryption) standards
	3. Configure SSL certificate on server
	4. Auditing (Vulnerabilities) of Technical Infrastructure
 | * 1. Knowledge of server configuration to enable Secure Socket Layer, Payment Card Industry Data Security Standard (PCI DSS)
	2. Aware about Public Key Encryption (PKI) for public-private keys, AES (Advance Encryption Standard), Below Fish for Cypher development
	3. Information of Firewalls configuration(Packet Filtering, Proxy Server)
	4. Knowledge of Anti-Hacking (Intrusion

Detections, Worms Attacks, Denial of Service-DoS) tools* 1. Illustrate to Short comings of different Internet protocol (UDP, etc.)
 |
| **B 5:** Payment Modes | * 1. Identify different payment systems
	2. Apply different payment Transaction mechanism
 | * 1. Explain renowned Payment modes (Credit/Debit cards)
	2. Knowledge of Web Service integration with VeriSign
 |

|  |  |  |
| --- | --- | --- |
|  |  | * 1. spell out about different financial networks e.g. Union Pay, Visa, MasterCard, ORIX Leasing, 1-Link, MNet, Phoenix,)
	2. Explain & Implementation of Internationality recognized Payment protocol including ACH (American Clearing House, PayPal)
 |