| Module Title: | Advanced User Interface Programming |
|---|---|
| Language of Instruction: | English |

| Credits: | 5 |
|---|---|

| NFQ Level: | 7 |
|---|---|

| Module Delivered In | [2 programme(s)](#) |
|---|---|

| Teaching & Learning Strategies: | There will be two 1-hour lectures and four hours laboratory work per week. The laboratory sessions will provide students with the opportunity to work on problems and assessments. They will implement (a) the theory presented in lectures and (b) practical material presented during laboratory sessions. These supervised lab sessions will involve the use of appropriate database and programming tools and packages. Students can access notes and resource materials including self-test quizzes, sample databases etc. through a MLE. The students will be expected to participate actively in lectures and lab sessions. |
|---|---|

| Module Aim: | To have students produce dynamic Web applications using client side and server side technologies, with an appreciation of security issues, the User Experience and the importance of testing these web applications. |
|---|---|

| Learning Outcomes |
|---|
| *On successful completion of this module the learner should be able to:* |

| LO1 | Create an interactive programmed user interface for client server and internet connected devices including IoT technologies. Understand the usability issues involved in human computer interaction including Virtual, Augmented and Mixed Reality devices |
|---|---|
| LO2 | Create an ER model for systems. Create SQL queries (DML) for systems. Integrate a back-end database with client server technologies |
| LO3 | Design interfaces that will give a high level of user satisfaction and maximise user productivity allowing for alternative input mechanisms. Understand the security issues involved when developing websites. Test user interfaces and analyse and use the results of the tests |

| Pre-requisite learning |
|---|
| ***Module Recommendations***<br>*This is prior learning (or a practical skill) that is recommended before enrolment in this module.* |
| No recommendations listed |
| ***Incompatible Modules***<br>*These are modules which have learning outcomes that are too similar to the learning outcomes of this module.* |
| No incompatible modules listed |
| ***Co-requisite Modules*** |
| No Co-requisite modules listed |
| ***Requirements***<br>*This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.* |
| No requirements listed |

## Module Content & Assessment

### Indicative Content

**Developing Dynamic client-side websites**
Developing Dynamic client-side websites using client side coding including HTML5, Javascript and CSS

**Database Theory**
Introduction to Database concepts : ER Modelling; SQL

**Developing Dynamic Web Sites with Database Integration**
Developing Dynamic Web Sites with Database Integration using PHP and MySQL with an awareness of potential security issues. Testing these websites for functionality and usability.

**User Experience**
Developing an understanding of the user, Designing interfaces using a selection of prototyping, concept development, building scenarios etc. Consideration of interaction styles, visual issues. Balancing function and fashion. Usability testing using field tests, usability labs and heuristic evaluation

| Assessment Breakdown | % |
|---|---|
| Project | 55.00% |
| Practical | 45.00% |

| No Continuous Assessment |
|---|

### Project

| Assessment Type | Assessment Description | Outcome addressed | % of total | Assessment Date |
|---|---|---|---|---|
| Project | Complete a client server integration project | 1,2,3 | 55.00 | n/a |

### Practical

| Assessment Type | Assessment Description | Outcome addressed | % of total | Assessment Date |
|---|---|---|---|---|
| Practical/Skills Evaluation | Complete a series of practical projects which will enable students to become familiar with client server, visualisation and alternative user input mechanism which support user experience | 1,2,3 | 45.00 | n/a |

| No End of Module Formal Examination |
|---|

**SETU Carlow Campus reserves the right to alter the nature and timings of assessment**

## Module Workload

| Workload: Full Time | | |
|---|---|---|
| *Workload Type* | *Frequency* | *Average Weekly Learner Workload* |
| Lecture | 12 Weeks per Stage | 1.00 |
| Laboratory | 12 Weeks per Stage | 4.00 |
| Estimated Learner Hours | 15 Weeks per Stage | 4.33 |
| | Total Hours | 125.00 |

## Module Delivered In

| Programme Code | Programme | Semester | Delivery |
|---|---|---|---|
| CW_KCIAD_B | [Bachelor of Science (Honours) in Computing in Interactive Digital Art and Design](#) | 5 | Mandatory |
| CW_KCIAD_D | [Bachelor of Science in Computing in Interactive Digital Art and Design](#) | 5 | Mandatory |

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