**D101 Programming Fundamentals**

|  |  |
| --- | --- |
| **Course Level** | 5 |
| **Credits** | 15 |
| **Duration** | 60 Lecturer supported learning hours  90 Independent learning hours |
| **Pre-requisite** | none |
| **Co-requisite** | none |

**Course Aim**

To provide an introduction to the fundamentals of programming and to enable students to develop quality software.

**Learning Outcomes**

On successful completion of this course students will be able to:

1. Develop an application using an industry standard language
2. Debug, test and document a software application
3. Explain the fundamentals of programming

**Content**

* History of software development
* Phases of software development lifecycle (SDLC)
* Concepts of problem solving and abstraction
* Design concepts
* Programming concepts: control structures, expressions, use of APIs, data types, classes, and inheritance
* Debugging and exception handling
* Testing: black box and white box

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessment Type** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 15% | 3 | Gain a minimum of 50% overall |
| Assessment Two | 35% | 1, 2 |
| Assessment Three | 35% | 2 |
| Assessment Four | 15% | 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**D111 Database Fundamentals**

|  |  |
| --- | --- |
| **Course Level** | 5 |
| **Credits** | 15 |
| **Duration** | 60 Lecturer supported learning hours  90 Independent learning hours |
| **Pre-requisite** | none |
| **Co-requisite** | none |

**Course Aim**

To provide students with a broad operational knowledge of database design and administration.

**Learning Outcomes**

On successful completion of this course students will be able to:

1. Design a relational database to meet organisational requirements
2. Apply interaction design concepts to a user interface
3. Store and retrieve organisational data using query and reporting tools
4. Explain database design and administration

**Content**

* Data organisation approaches  
  *Examples may include: data types, tables, keys, relationships*
* Entity Relationship Diagrams
* Common Database models

*Examples may include: (distributed, centralised) hierarchical, network, relational, object-oriented*

* Concepts of Data Manipulation Language (DML), Data Definition Language (DDL), and Data Control Language (DCL)
* Data Integrity  
  *Examples may include: entity integrity, domain integrity, referential integrity*

**Learning and Teaching Approaches**

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**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessment Type** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 25% | 1 | Gain a minimum of 50% overall |
| Assessment Two | 40% | 2, 3 |
| Assessment Three | 35% | 4 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

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**I101 Information Systems Fundamentals**

|  |  |
| --- | --- |
| **Course Level** | 5 |
| **Credits** | 15 |
| **Duration** | 60 Lecturer supported learning hours  90 Independent learning hours |
| **Pre-requisite** | none |
| **Co-requisite** | none |

**Course Aim**

To introduce students to business systems and essential components of the ICT profession.

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Describe information systems principles, roles and functional business areas
2. Communicate effectively and professionally using industry standard tools
3. Apply and explain professional, legal, and ethical principles relevant to the ICT industry

**Content**

* Organisational entities and structures including communication processes and mediums
* Consumer law, privacy law, relevant computing legislation, ethical considerations, Treaty of Waitangi
* Collaborative document editing, virtual team organisation
* Information systems and IT roles
* APA referencing

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessment Type** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 20% | 2 | Gain a minimum of 50% overall |
| Assessment Two | 40% | 2, 3 |
| Assessment Three | 40% | 1, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**I102 Technical Support Fundamentals**

|  |  |
| --- | --- |
| **Course Level** | 5 |
| **Credits** | 15 |
| **Duration** | 60 Lecturer supported learning hours  90 Independent learning hours |
| **Pre-requisite** | none |
| **Co-requisite** | none |

**Course Aim**

To enable students to deliver organisational technical support based on best practice in IT Service Management

**Learning Outcomes**

At the completion of this course students will be able to:

1. Apply a user needs analysis to identify organisational requirements
2. Create, deliver and evaluate a training session
3. Develop technical documentation to a professional standard
4. Explain IT service management best practice

**Content**

* Adult learning concepts
* Learning preferences
* Training styles and methods
* User needs analysis
* Resources and tools for training
* Technical documentation
* Lesson planning
* User support services and roles
* ITIL Service Operation

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessment Type** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 20% | 1, 2 | Gain a minimum of 50% overall |
| Assessment Two | 30% | 1, 3 |
| Assessment Three | 50% | 4 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

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**I111 Web Fundamentals**

|  |  |
| --- | --- |
| **Course Level** | 5 |
| **Credits** | 15 |
| **Duration** | 60 Lecturer supported learning hours  90 Independent learning hours |
| **Pre-requisite** | none |
| **Co-requisite** | none |

**Course Aim**

To provide an introduction to the fundamentals of web development and to enable students to produce quality websites.

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Design a website according to UX design principles that meets organisational requirements
2. Develop a website using an industry standard approach
3. Explain the fundamentals of website development

**Content**

* History of the Internet
* Principles of Web design
* Internet protocols   
  *Examples may include: TCP/IP, HTTP, FTP, SMTP*
* Web development techniques  
  *Examples may include: HTML, XHTML, DHTML, XML, JavaScript, CSS, server-side scripting*

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessment Type** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 20% | 1 | Gain a minimum of 50% overall |
| Assessment Two | 45% | 2 |
| Assessment Three | 35% | 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**I121 Systems Analysis Fundamentals**

|  |  |
| --- | --- |
| **Course Level** | 5 |
| **Credits** | 15 |
| **Duration** | 60 Lecturer supported learning hours  90 Independent learning hours |
| **Pre-requisite** | none |
| **Co-requisite** | none |

**Course Aim**

To provide an introduction to the principles of systems analysis and systems require­ments elicitation techniques

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Analyse situations requiring problem solving
2. Elicit and model user requirements using a variety of techniques
3. Construct accurate systems analysis documentation reflecting requirements

**Content**

* Problem analysis techniques  
  *Examples may include: user interviews, observation, problem definition*
* Requirements elicitation techniques  
  *Examples may include: user interviews, observation, surveys, prototyping, walkthroughs*
* Requirements Modelling  
  *Examples may include: user stories, use-case diagrams*
* Systems analysis phases of Systems Development Lifecycle
* Modelling principles  
  *Examples may include: abstraction, decomposition, user views, explicitness (eg, state all assumptions or make no assumptions)*
* Data Modelling
* Process Modelling

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessment Type** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 30% | 1, 2 | Gain a minimum of 50% overall |
| Assessment Two | 40% | 2, 3 |
| Assessment Three | 30% | 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

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**T101 Network Fundamentals**

|  |  |
| --- | --- |
| **Course Level** | 5 |
| **Credits** | 15 |
| **Duration** | 60 Lecturer supported learning hours  90 Independent learning hours |
| **Pre-requisite** | none |
| **Co-requisite** | none |

**Course Aim**

To provide an introduction to the fundamentals of computer networks as they currently exist in industry and to enable students to configure, test and troubleshoot local area networks.

**Learning Outcomes**

On successful completion of this course students will be able to:

1. Describe the operation of current network technologies
2. Select the most appropriate network technologies for a given scenario
3. Apply testing and troubleshooting techniques to networking problems

**Content**

* Computer network classification: LAN, MAN, WAN and PAN.
* LAN copper, wireless and fibre media; their characteristics and usage.
* Ethernet hardware, performance and operation.
* IP addressing and operation.
* TCP operation, performance and uses.
* UDP operation, performance and uses.
* Symmetric and asymmetric key encryption characteristics and usage.
* Authentication and hashing.
* Network configuration of operating systems in current use.

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessment Type** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 10% | 1, 2, 3 | Gain a minimum of 50% overall |
| Assessment Two | 45% | 1, 2, 3 |
| Assessment Three | 45% | 1, 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**T111 Computer Hardware Fundamentals**

|  |  |
| --- | --- |
| **Course Level** | 5 |
| **Credits** | 15 |
| **Duration** | 60 Lecturer supported learning hours  90 Independent learning hours |
| **Pre-requisite** | none |
| **Co-requisite** | none |

**Course Aim**

To develop students’ understanding of the fundamentals of computer hardware, operating systems and troubleshooting techniques.

**Learning Outcomes**

On successful completion of this course students will be able to:

1. Describe the purpose and operation of major computer components
2. Demonstrate use of a command line interface (CLI)
3. Select, install, troubleshoot and configure IT hardware and systems software

**Content**

* Numbering systems and data representation used in computer systems
* Computer hardware and operating system fundamentals
* Troubleshooting tools and techniques relating to hardware and operating systems
* File Systems
* Memory Management
* Concurrency

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessment Type** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 30% | 1, 3 | Gain a minimum of 50% overall |
| Assessment Two | 30% | 1, 2, 3 |
| Assessment Three | 40% | 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**D211 Database Development**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer supported learning hours  105 Independent learning hours |
| **Pre-requisite** | D111 |
| **Co-requisite** | none |

**Course Aim**

To effectively design an information system for a complex business application.

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Evaluate alternative design solutions
2. Design a complex information system
3. Create a prototype from a design
4. Formulate quality processes

**Content**

* Normalisation and De-normalisation
* Conceptual, Logical, and Physical diagrams
* Client/Server Architecture
* Prototyping approaches
* Distributed Database design
* Input/Output design

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 30% | 1 | Gain a minimum of 50% overall |
| Assessment Two | 25% | 2, 3 |
| Assessment Three | 45% | 4 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**I202 IT Project Management**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer supported learning hours  105 Independent learning hours |
| **Pre-requisite** | I102 |
| **Co-requisite** | none |

**Course Aim**

This course will enable the student to learn the basic principles and terminology of the profession of project management, and apply this to create project plans. Students will also be given a brief introduction to using project management software.

**Learning Outcomes**

At the completion of this course students will be able to:

1. Examine, discuss and apply the knowledge areas of project management.
2. Develop a project plan for an IT related project.
3. Use project management software to create a Gantt chart for scheduled activities and assigned resources, including people, equipment and their relevant costs.
4. Use project management software to analyse project data and produce reports.

**Content**

* Knowledge areas of Project Management including; Integration, Scope, Time, Cost, Quality, Resources, Stakeholders, Communications, Risk, and Procurement
* Project Management terminology
* Project planning
* Project management software

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 25% | 1, 2, 3 | Gain a minimum of 50% overall |
| Assessment Two | 25% | 2, 3 |
| Assessment Three | 50% | 1, 2, 4 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**I221 Analysis and Design**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer supported learning hours  105 Independent learning hours |
| **Pre-requisite** | I121 |
| **Co-requisite** | none |

**Course Aim**

This course will enable students to analyse the requirements for an information system and evaluate different methodologies used in systems analysis.

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Create analysis documentation for a moderately complex system
2. Create design documentation for the system under investigation
3. Implement quality processes to ensure accuracy of analysis and design documentation

**Content**

* Analysis methodologies
* Requirements Management
* Data and Process modelling
* Quality processes

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 30% | 1, 2, 3 | Gain a minimum of 50% overall |
| Assessment Two | 30% | 1, 2, 3 |
| Assessment Three | 40% | 1, 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**D201 Advanced Programming**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer supported learning hours  105 Independent learning hours |
| **Pre-requisite** | D101 |
| **Co-requisite** | none |

**Course Aim**

To introduce standard algorithms required for business application programming

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Design and Construct small applications using a variety of algorithms
2. Devise test plans to ensure quality software
3. Create system maintenance documentation

**Content**

* Standard algorithms

*Examples may include: Searching, Sorting, Recursion*

* File input/output
* Database access
* Testing strategies  
  *Examples may include: white-box, black-box*
* Maintenance documentation
* Web applications

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 30% | 1, 2 | Gain a minimum of 50% overall |
| Assessment Two | 40% | 1 |
| Assessment Three | 30% | 1, 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**D202 Software Process**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer supported learning hours  105 Independent learning hours |
| **Pre-requisite** | D101 |
| **Co-requisite** | none |

**Course Aim**

To create quality software applications utilising a modern development approach

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Undertake a team based iterative development project
2. Effectively manage an individual development task
3. Implement processes to ensure quality
4. Compare and select an appropriate development method for a given problem

**Content**

* Iterative development approaches

*Examples may include: RAD, Agile*

* Team based development approaches
* Quality Assurance techniques

*Examples may include: Testing, Inspection and Review, Maintenance documenta­tion, User documentation*

* Adapting to user requirements changes

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 15% | 4 | Gain a minimum of 50% overall |
| Assessment Two | 45% | 1, 3 |
| Assessment Three | 40% | 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**I203 Digital Multimedia**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer supported learning hours  105 Independent learning hours |
| **Pre-requisite** | I101 Information Systems |
| **Co-requisite** | none |

**Course Aim**

To apply principles and techniques relating to the application of digital multimedia technologies

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Describe the concepts of digital images, video and audio
2. Create and manipulate digital image, video and audio files according to a technical specification for distribution across the ICT infrastructure
3. Optimise digital multimedia for commonly used ICT mediums

**Content**

* Digital Images  
  Examples may include: Editing, 2D, 3D, Raster type, Vector type, Lossy and Lossless compression, Resolution, Conversion, Common file types, Medium Optimisation
* Digital Video  
  Examples may include: Editing, Recording, Frame rate, Interlacing, Resolution, Aspect Ratio, Bit rate, Compression, Codecs, Common formats, Conversion, Common file type, Medium Optimisation
* Digital Audio  
  Examples may include: Editing, Recording, Sample rate, Word size, Bit rate, Dithering, Aliasing, Compression, Conversion, Common file type, Medium Optimisation

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 30% | 1, 2, 3 | Gain a minimum of 50% overall |
| Assessment Two | 20% | 1, 2, 3 |
| Assessment Three | 20% | 1, 2, 3 |
| Assessment Four | 30% | 1, 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**I209 Industry Placement**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 15 Lecturer Supported  135 Independent learning hours |
| **Pre-requisite** | 120 compulsory credits at level 5 |
| **Co-requisite** | none |

**Course Aim**

To enable students to undertake an ICT industry based work placement. The industry placement course is subject to availability and approval from the Head of School.

**Learning Outcomes**

On successful completion of this paper students will be able to:

1. Work within an ICT industry based environment
2. Meet work placement expectations and requirements
3. Record and evaluate work and progress
4. Present placement outcomes to academic supervisors

**Content**

* Placement documentation, e.g. job description, roles, and responsibilities
* Industry based work which complements and enhances existing ICT skills and knowledge
* Development and maintenance of weekly work logs
* Written reporting on placement outcomes
* Reflective formal presentations of placement experiences

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is standards-based and achievement is described by grades. This paper will have a minimum of three and generally a maximum of five pieces of assessment. A student must achieve a C grade (50-54) or higher in order to successfully pass this paper.

The specific assessments will be specified in the Paper Outline as provided by the lecturer at the beginning of the semester. Assessment activities will be selected from the following range: theory test, practical test, practical demonstration, project, assignment, exercise, interview, debate, report, portfolio, presentation, journal, work log.

**Off Campus Learning**

Refer to 1.12 in Programme Overview

**Resources and Prescribed / Recommended Texts**

Students will access a learning management system to obtain templates and learning resources for the generic assessments. As each placement is unique, students will use experience gained throughout the degree to source their own specific resources. The library is also a source of information and guidance in the use of academic referencing and writing techniques.

**I211 eCommerce Systems**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer supported learning hours  105 Independent learning hours |
| **Pre-requisite** | I111 |
| **Co-requisite** | none |

**Course Aim**

To introduce principles and application of electronic commerce technologies

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Define Electronic Commerce and describe its various categories
2. Describe the major types of Electronic Commerce transactions
3. Describe the limitations of Electronic Commerce
4. Implement an online commercial Web site for selling products
5. Implement user security and session management for the Web site

**Content**

* Overview of Electronic Commerce

*Examples may include: B2B, B2C, M-Commerce, Electronic tendering systems, Affiliate marketing, Electronic Storefronts, E-Malls, Information portals, Supply chains*

* Web Programming languages  
  *Examples may include: ASP.NET, Visual Basic.NET, C#.NET, PHP*
* Electronic Commerce Web site development  
  *Examples may include: workflow design, simulating credit card processing facilities, data validation*
* Web application security

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is standards-based and achievement is described by grades. This course will have a minimum of three and generally a maximum of five pieces of assessment. A student must achieve a C grade (50-54) or higher in order to successfully pass this course.

The specific assessments will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Assessment activities will be selected from the following range: theory test, practical test, practical demonstration, project, assignment, exercise, interview, debate, report, portfolio, presentation, journal.

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**I213 Dynamic Web Solutions**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer supported learning hours  105 Independent learning hours |
| **Pre-requisite** | I111 |
| **Co-requisite** | none |

**Course Aim**

To create a dynamic web application utilising a variety of open-source technologies

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Design and document a web application
2. Secure critical business data within the web application
3. Interface with a web based database management system
4. Implement user security and session management

**Content**

* Open source web technologies
* Scripting languages
* Web Server software
* Web application security
* Data validation

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 25% | 1 | Gain a minimum of 50% overall |
| Assessment Two | 30% | 3, 4 |
| Assessment Three | 45% | 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**T201 Network Services**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer supported learning hours  105 Independent learning hours |
| **Pre-requisite** | T101 |
| **Co-requisite** | none |

**Course Aim**

To implement key network services as used in modern LANs and to explain the network protocols that these services use.

**Learning Outcomes**

On successful completion of this course students will be able to:

1. Analyse and evaluate network services
2. Implement and configure network services
3. Analyse and diagnose faults within network services

**Content**

* DNS server configuration of forward and reverse resolution
* DHCP server configuration
* LDAP compliant directory service
* Web proxy implementation and automatic client configuration
* File sharing with SMB

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 35% | 1, 2, 3 | Gain a minimum of 50% overall |
| Assessment Two | 30% | 1, 2, 3 |
| Assessment Three | 35% | 1, 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**T205 Networks (CISCO ITN)**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer Supported  105 Independent learning hours |
| **Pre-requisite** | none |
| **Co-requisite** | none |

**Course Aim**

To enable students to gain practical and technical networking knowledge that will assist in designing, building and analysing networks and their protocols.

**Learning Outcomes**

On successful completion of this course students will be able to:

1. Describe the devices and services used to support communications in data networks and the internet
2. Describe the role of protocol layers in data networks
3. Describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments
4. Design, calculate, and apply subnet masks and addresses to fulfil given requirements in IPv4 and IPv6 networks
5. Explain fundamental Ethernet concepts such as media, services, and operations
6. Build a simple Ethernet network using routers and switches
7. Use CISCO command-line interface (CLI) commands to perform basic router and switch configurations
8. Utilise common network utilities to verify small network operations and analyse data traffic

**Content**

* The CISCO Network Academy (CNA) Introduction to Networks curriculum:
  + Exploring the Network
  + Configuring a Network Operating System
  + Network Protocols and Communications
  + Network Access
  + Ethernet
  + Network Layer
  + Transport Layer
  + IP Addressing
  + Subnetting IP Networks
  + Application Layer

**Learning and Teaching Approaches**

The course may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web based technology, email and telephone. This will enhance the opportunity for students to access learning materials, communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access all possible assistance so that they can succeed at their chosen course of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 10% | 1, 2, 3, 4, 5, 6, 7, 8 | Gain a minimum of 50% overall |
| Assessment Two | 45% | 1, 2, 3, 4, 5, 6, 7, 8 |
| Assessment Three | 45% | 1, 2, 3, 4, 5, 6, 7, 8 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed / Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**T206 Networks (CISCO RSE)**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer Supported  105 Independent learning hours |
| **Pre-requisite** | T101 |
| **Co-requisite** | none |

**Course Aim**

To enable students to gain practical and technical networking knowledge that will allow them to configure and troubleshoot routers, switches and resolve common issues with networks.

**Learning Outcomes**

On successful completion of this course students will be able to:

1. Describe basic switching concepts and the operation of CISCO switches
2. Describe the purpose, nature, and operations of a router, routing tables, and the route lookup process
3. Describe how VLANs create logically separate networks and how routing occurs between them
4. Configure and troubleshoot static routing

**Content**

The CISCO Network Academy (CNA) Routing and Switching Essentials curriculum:

* Introduction to Switched Networks
* Basic Switching Concepts and Configuration
* VLANs
* Routing Concepts
* Inter-VLAN Routing
* Static Routing
* DHCP
* STP
* EtherChannel
* FHRP
* WLAN concepts

**Learning and Teaching Approaches**

The course may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web based technology, email and telephone. This will enhance the opportunity for students to access learning materials, communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access all possible assistance so that they can succeed at their chosen course of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 10% | 1, 2, 3, 4 | Gain a minimum of 50% overall |
| Assessment Two | 45% | 1, 2, 3, 4 |
| Assessment Three | 45% | 1, 2, 3, 4 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed / Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**T211 Systems Security**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer supported learning hours  105 Independent learning hours |
| **Pre-requisite** | T111 |
| **Co-requisite** | none |

**Course Aim**

To analyse and implement computer systems security, including operating systems, server applications and networks; and to enable students to explain the fundamentals of computer forensics.

**Learning Outcomes**

On successful completion of this course students will be able to:

1. Analyse and evaluate the security of IT systems
2. Implement and configure the security of IT systems
3. Diagnose IT systems security and mitigate weaknesses

**Content**

* Operating systems securityFirewalls and content filtering
* Virtual Private Networks (VPNs)
* Tunnelling
* Operating Systems Security
* Networking devices and protocols
* Encryption and Authentication

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 40% | 1, 2, 3 | Gain a minimum of 50% overall |
| Assessment Two | 30% | 1, 2, 3 |
| Assessment Three | 30% | 1, 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**I212 Enterprise Data Management**

|  |  |
| --- | --- |
| **Paper Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer Supported  105 Independent learning hours |
| **Pre-requisite** | I101 & I111 |
| **Co-requisite** | None |

**Course Aim**

To enable students to design and implement enterprise data management systems.

**Learning Outcomes**

On successful completion of this paper students will be able to:

1. Compare and select appropriate enterprise data management systems
2. Design an enterprise data management system structure
3. Implement an enterprise data management system including automated processes

**Content**

This paper will cover the following:

* Content Management Systems
* Document Management Systems
* Business Intelligence Systems
* Cloud-based platforms

**Learning and Teaching Approaches**

The student will meet with the academic supervisor for up to one hour per week, or by negotiation with the academic supervisor. This meeting ensures that the placement is progressing in accordance with the agreed expectations and enables discussion of any issues/problems that may arise. The student is responsible for any extra learning that is required for their industry placement.

The overall management of the placement is the responsibility of the student, who must keep all parties informed of any issues that arise that may affect their commitment to the placement. This includes regular communication with the placement sponsor.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 40% | 1, 2, 3 | Gain a minimum of 50% overall |
| Assessment Two | 30% | 2, 3 |
| Assessment Three | 30% | 1, 2, 3 |

**Off Campus Learning**

Refer to 1.12 in Programme Overview

**Resources and Prescribed / Recommended Texts**

The required and recommended reading material will be specified in the Paper Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**I263 Introduction to Finance**

|  |  |
| --- | --- |
| **Course Level** | 6 |
| **Credits** | 15 |
| **Duration** | 45 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** |  |
| **Co-requisite** | none |

**Course Aim**

Students will apply financial management knowledge and skills to a small or medium size business for decision-making purposes

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Demonstrate an understanding of the business finance environment.
2. Calculate, interpret and evaluate capital budgeting techniques and apply them to the appraisal of investment decisions.
3. Apply understanding of working capital and current assets management to given business situations.
4. Evaluate short term and long term financing alternatives for businesses.
5. Analyse principles of capital structure including the cost of capital.
6. Demonstrate application of different aspects of business finance to case studies and offer recommendations.

**Content**

* Financial management, financial planning and financial control
* Impact of stakeholder demands and agency theory on financial goals
* Basic concepts of working capital management
* Cash, accounts receivable, inventory and accounts payable management
* Capital expenditure (capital budgeting) techniques including risks in investments
* Capital structure, debt and equity consideration, weighted average cost of capital and capital asset pricing model
* Short- and long-term financing

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 19% | 1, 3, 4 | Gain a minimum of 50% overall |
| Assessment Two | 15% | 2 |
| Assessment Three | 20% | 6 |
| Assessment Four | 46% | 2, 4, 5 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**I301 Professional Practice**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | 240 Credits including all Level 5 and 6 compulsory courses |
| **Co-requisite** | none |

**Course Aim**

To prepare students for an industry project/internship related to their area of study.

**Learning Outcomes**

On successful completion of this course, students will be able to:

1. Demonstrate the work-place skills and attributes required to obtain a role in a New Zealand business.
2. Identify and critically analyse business-related processes and issues relating to an organisation and apply theoretical knowledge to processes or problems.
3. Develop and present a proposal for a project on a specific organisational issue.

**Content**

* Organisational communication
* Curriculum Vitae preparation
* Interview skills
* Client management
* Presentation skills
* Team roles and managing teams
* Industry project overview and project sourcing
* Ethics and professional conduct
* Employment and remuneration

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 35% | 1 | Gain a minimum of 50% overall |
| Assessment Two | 35% | 2 |
| Assessment Three | 30% | 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**I302 Industry project**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 45 |
| **Duration** | 15 Lecturer supported learning hours  435 Independent learning hours |
| **Pre-requisite** | 280 credits including all compulsory level 5, 6 and 7 courses |
| **Co-requisite** | none |

**Course Aim**

To enable students to undertake an industry based project of a complex nature.

**Learning Outcomes**

At the completion of this course students will be able to:

1. Manage an ICT project for industry
2. Produce original work and project deliverables
3. Consider and apply professional work ethics
4. Meet project timelines and goals
5. Record and evaluate project work and progress
6. Present project outcomes to sponsors and academic supervisors

**Content**

* Project documentation including terms of reference for project
* Industry based work which integrates skills and knowledge gained throughout the degree and of a suitably complex level
* Written report on project outcomes
* Formal presentations

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 5% | 1, 2 | Gain a minimum of 50% overall |
| Assessment Two | 60% | 1, 2, 3, 4, 5, 6 |
| Assessment Three | 5% | 6 |
| Assessment Four | 15% | 6 |
| Assessment Five | 15% | 5 |

**Off Campus Learning**

Refer to 1.12 in Programme Overview

**Resources and Prescribed/Recommended Texts**

Students will access a learning management system to obtain templates and learning resources for the generic assessments. As each project is unique, students will use experience gained throughout the degree to source their own specific resources. The library is also a source of information and guidance in the use of academic referencing and writing techniques.

**D301 Software Engineering**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | I101; and D201 or D202 |
| **Co-requisite** | none |

**Course Aim**

To design and construct quality software ready for distribution

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Work in a team to deliver a software product
2. Conduct effective and efficient inspections
3. Evaluate software user interfaces for accessibility and usability
4. Design and implement testing to ensure a quality product

**Content**

* Software engineering and its place as an engineering discipline
* Software reuse: Frameworks and APIs
* Human-Computer interaction
* User-Interface evaluation techniques:  
  *Examples may include: heuristic, cognitive walkthroughs*
* Task Analysis. User-centred design
* Securing applications
* Testing strategies  
  *Examples may include: unit testing, integration testing, profiling, test driven development*
* Problem / defect reporting and tracking

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 30% | 3 | Gain a minimum of 50% overall |
| Assessment Two | 55% | 1, 4 |
| Assessment Three | 15% | 2 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**D303 Mobile Application Development**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | D101 |
| **Co-requisite** | none |

**Course Aim**

To develop mobile applications for current and emerging mobile computing devices using industry standard tools and frameworks

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Design and develop mobile applications in a major mobile platform
2. Apply current software technologies, framework architecture and standards used in mobile application development
3. Securely transfer local data to a remote real-time database

**Content**

* Mobile app design
* Developing apps for Android or other mobile operating systems
* Local Data storage on mobile devices
* Mobile Frameworks
* Mobile Design Patterns
* Web services

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 20% | 1, 2, 3 | Gain a minimum of 50% overall |
| Assessment Two | 20% | 1, 2 |
| Assessment Three | 30% | 1, 2, 3 |
| Assessment Four | 30% | 1, 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**D311 Advanced Database Concepts**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | D211 |
| **Co-requisite** | none |

**Course Aim**

To enable students to successfully design, create and administer a data warehouse using a server-based database management system.

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Discuss and argue an advanced database topic
2. Install a server-based database management system
3. Design and create a data warehouse schema
4. Transfer and transform data from more than one data source into a data warehouse
5. Analyse and process data for management reporting
6. View pre-processed information from the data warehouse from a separate application

**Content**

* Overview of data warehousing
* Installing and securing a server-based database management system
* The data warehouse schema

*Examples include: fact tables, dimensions tables, star schemas, snowflake schemas*

* Data transfer and transformation with Data Transfer Services
* Data analysis and processing with Analysis Services

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 45% | 2, 3, 4 | Gain a minimum of 50% overall |
| Assessment Two | 25% | 1 |
| Assessment Three | 30% | 5, 6 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**I303 Management of Information and Communication Technology**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite or Co-requisite** | I202 |

**Course Aim**

To provide students with the skills and knowledge to analyse organisations and make management decisions relating to the organisation’s IT.

**Learning Outcomes**

At the completion of this course students will be able to:

1. Discuss and analyse practices associated with managing and structuring ICT services within an organisation
2. Recommend and design a service continuity plan for an organisation
3. Apply best practice human resource management techniques
4. Develop and recommend strategies and plans to improve an organisation’s IT service

**Content**

* IT Service Management best practice and frameworks
* Workforce Management Incident Management
* Service Desk
* Information Security Management
* Service Continuity Management
* Strategy Management
* Contemporary and emergent technologies

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 25% | 3 | Gain a minimum of 50% overall |
| Assessment Two | 25% | 2 |
| Assessment Three | 50% | 1, 4 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**I321 Advanced Systems Analysis**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | I221 |
| **Co-requisite** | none |

**Course Aim**

To introduce tools and techniques used to assess feasibility and present a business case; to complete an analysis of a complex information system based on the recommendation from the feasibility phase.

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Undertake a feasibility study to recommend a solution to business problems
2. Present a business case to project stakeholders
3. Develop a model of the proposed complex system
4. Implement quality processes to ensure accuracy of analysis and design documentation

**Content**

* Assessing Feasibility  
  *Examples may include: candidate systems, economic feasibility, technical feasibility, schedule feasibility, operational feasibility*
* Creating a convincing business case
* Business Process Automation
* Business Process Improvement
* Business Process Re-engineering
* Alternative process mapping techniques  
  *Examples may include: IDEF0, ASME*
* Quality processes  
  *Examples may include: version control, model checking, inspection, CASE tool use*

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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**Assessment Procedures**

Assessment is achievement based.

321 Advanced

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 30% | 1, 2 | Gain a minimum of 50% overall |
| Assessment Two | 40% | 3, 4 |
| Assessment Three | 30% | 1, 3, 4 |

**Off Campus Learning**

Refer to Section 1.12.

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**I309 Special Topic**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | 240 credits including all compulsory level 5 and 6 courses |
| **Co-requisite** | none |

**Course Aim**

To allow students to pursue an area of special interest under the guidance of a UCOL academic staff member. The Special Topic course is subject to availability and approval from the Head of School.

**Learning Outcomes**

At the completion of this course students will be able to:

1. Explore a new or additional topic which will extend skills to a higher level

**Content**

* Dependent on special interest topic.

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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**Assessment Procedures**

Assessment is standards-based and achievement is described by grades. This course will have a minimum of three and generally a maximum of five pieces of assessment. A student must achieve a C grade (50-54) or higher in order to successfully pass this course.

The specific assessments will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Assessment activities will be selected from the following range: theory test, practical test, practical demonstration, project, assignment, exercise, interview, debate, report, portfolio, presentation, journal.

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

As each topic is unique, students will use experience gained throughout the degree to source their own specific resources. The supervising lecturer will also provide additional guidance on resources relevant to the topic.

**T301 Network Design**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | I101 and T201 |
| **Co-requisite** | none |

**Course Aim**

To recommend network and service architectures and to design and implement, or simulate chosen architectures. Students will be able to analyse and evaluate network designs, select an appropriate technology and design for a given situation, and justify their selection.

**Learning Outcomes**

On successful completion of this course students will be able to:

1. Assess and recommend appropriate network hardware and configuration/s for given scenario/s
2. Assess, evaluate and recommend the deployment of virtualisation/cloud/containerised infrastructure
3. Assess and respond to infrastructure requirement change/s
4. Implement network/virtualisation/cloud/containerised infrastructure for given scenario/s

**Content**

* Automated network and service provisioning and management
* Installation and configuration of thick and thin client technologies
* Installation and configuration of a network simulator
* Installation and configuration of virtualised infrastructure
* Configuration of cloud infrastructure
* Business continuity planning
* Network design and documentation

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 30% | 1, 3, 4 | Gain a minimum of 50% overall |
| Assessment Two | 45% | 1, 2, 3, 4 |
| Assessment Three | 25% | 1, 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

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**T302 CISCO Scaling & Connecting**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer Supported  120 Independent learning hours |
| **Pre-requisite** | T206 |
| **Co-requisite** | none |

**Course Aim**

To gain practical and technical networking knowledge that will assist in designing, building and analysing networks and their protocols using advanced technologies.

**Learning Outcomes**

On successful completion of this course students will be able to:

1. Configure and troubleshoot routers in a complex routed IPv4 or IPv6 network using single area OSPF
2. Describe different WAN technologies and QoS mechanisms
3. Describe the operations and benefits of virtual private networks (VPNs) and IPSec
4. Configure, and troubleshoot Access Control Lists (ACLs)
5. Configure, and troubleshoot Network Address Translation (NAT) for IPv4
6. Describe enterprise-scale network-management techniques including software-defined networking, virtualisation, monitoring and automation

**Content**

The CISCO Network Academy (CNA) Scaling and Connecting Networks curriculum:

* Single-Area OSPF concepts
* Single-Area OSPF configuration
* Security concepts
* ACL concepts
* ACL configuration
* Network Address Translation for IPv4
* WAN concepts
* VPN and IPSec concepts and configuration
* QoS concepts
* Network management concepts and configuration
* Network design concepts
* Network troubleshooting
* Network virtualisation
* Network Automation

**Learning and Teaching Approaches**

The course may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web based technology, email and telephone. This will enhance the opportunity for students to access learning materials, communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access all possible assistance so that they can succeed at their chosen course of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 15% | 1, 2, 3, 4, 5, 6 | Gain a minimum of 50% overall |
| Assessment Two | 45% | 1, 2, 3, 4, 5, 6 |
| Assessment Three | 40% | 1, 2, 3, 4, 5, 6 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed / Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**T311 Systems Administration**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | T211 |
| **Co-requisite** | none |

**Course Aim**

To provide the ability to design and construct a complex multi-user client/server network. Students will gain skills needed to configure and integrate complex systems.

**Learning Outcomes**

On successful completion of this course students will be able to:

1. Configure and administer multi-user implementation of a client/server network
2. Implement strategies that will ease administrative burden
3. Implement remote administration of central services

**Content**

* Client/Server configuration using current operating systems such as Windows and Linux desktop and server editions
* Automating administrative tasks such as creating users and log file checking
* Management of system policies
* Configuring various application deployment techniques
* Automating administrative tasks through scripting
* Centralised authentication of various software and operating systems

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

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**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 35% | 1, 2, 3 | Gain a minimum of 50% overall |
| Assessment Two | 35% | 1, 2, 3 |
| Assessment Three | 30% | 1, 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**T312 Network Security**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | T206 |
| **Co-requisite** | none |

**Course Aim**

To enable students to understand and configure the components, and operation of Virtual Private Networks, firewalls and network security.

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Explain the operation of Virtual Private Networks (VPNs), firewalls, router security, switch security and network security
2. Configure and troubleshoot Virtual Private Networks (VPNs)
3. Configure and troubleshoot Firewalls
4. Analyse, configure and troubleshoot router and switch security in an IP network

**Content**

* Virtual Private Networks
* Cisco CCNA Security
* Network security threats
* Securing network devices
* Authentication, Authorisation and Accounting (AAA)
* Firewall technologies
* Network security
* Intrusion prevention systems (IPS)
* Cryptographic Systems
* Cisco ASA
* SBA Practice

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

UCOL’s learning philosophy is founded on its ability to provide all students with opportunities to access a wide range of support services. Students are able to access assistance so that they can succeed at their chosen programme of study. Learning support is intended to diminish or eliminate barriers to learning and academic success.

**Assessment Procedures**

Assessment is achievement-based

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 10% | 1, 2, 3, 4 | Gain a minimum of 50% overall |
| Assessment Two | 45% | 1, 2, 3, 4 |
| Assessment Three | 45% | 1, 2, 3, 4 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**I304 Data Analytics and Intelligence**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | D211 |
| **Co-requisite** | none |

**Course Aim**

To enable students to use data analytics and business intelligence tools and techniques in order to provide decision support within an organisational context

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Demonstrate how data analytics techniques and tools are used to support business decision making
2. Apply data analytics tools and techniques on organisational data
3. Provide meaningful representation of organisational data

**Content**

* Data analytics
* Business intelligence tools
* Visual data representation
* Data exploration
* Decision support reporting
* Big data
* Power Pivot
* Power BI
* SSRS, SSIS, SSAS

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 40% | 1, 2, 3 | Gain a minimum of 50% overall |
| Assessment Two | 30% | 1, 2, 3 |
| Assessment Three | 30% | 1, 2, 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**I311 Advanced Web Solutions**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | I213 |
| **Co-requisite** | none |

**Course Aim**

To enable students to investigate, implement, and critique influential, new, and emerging web technology solutions

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Demonstrate advanced understanding of new, emerging, and influential web technologies
2. Investigate and critically present on a new or influential web technology
3. Develop systems demonstrating advanced application of new or influential web technology

**Content**

* Server-side languages
* Client-side languages
* Web presentation frameworks
* Development frameworks and libraries
* Everything as a service
* Data security
* Traffic Analysis Tools
* Content management systems

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 25% | 1 | Gain a minimum of 50% overall |
| Assessment Two | 30% | 2 |
| Assessment Three | 45% | 3 |

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

The required and recommended reading material will be specified in the Course Outline as provided by the lecturer at the beginning of the semester. Students will use texts and other books, journals, CD–ROM databases, on-line databases, and the Internet to increase their knowledge and awareness of the subject material. The library is also a source of information and guidance in the use of academic referencing and writing techniques. Students engage with the library staff, throughout their studies, with the objective of learning and developing their referencing skills and their general academic writing skills.

To support students who may choose to study off campus, all of the formal material provided in face-to-face sessions will be available in a web-based format. Resource based material may also include computer-assisted instruction, print based workbooks for independent study, multimedia packages, streaming video and streaming audio.

**I367 Advanced Project Management**

|  |  |
| --- | --- |
| **Course Level** | 7 |
| **Credits** | 15 |
| **Duration** | 30 Lecturer supported learning hours  120 Independent learning hours |
| **Pre-requisite** | I202 |
| **Co-requisite** | none |

**Course Aim**

This course will enable the student to learn advanced principles of the project management body of knowledge and cover the content of the Project Management Institute PMBOK® and its application and evaluation to the workplace

**Learning Outcomes**

At the successful completion of this course students will be able to:

1. Discuss how project management process groups and processes are used to manage projects
2. Evaluate the project environment, and identify the factors that may impact the outcome of a project
3. Consider the role of the project manager and their sphere of influence.
4. Consider the purpose, key concepts, inputs, and outputs for each project management knowledge area.
5. Integrate the techniques defined in the knowledge management areas to solve project management problems.
6. Create key project management plan components, and project documents.

**Content**

* Project Management Framework
* Project Environment
* Role of the Project Manager
* Stakeholder Management
* Integration Management
* Scope Management
* Schedule Management
* Cost Management
* Quality Management
* Resource Management
* Communications Management
* Risk Management
* Procurement Management

**Learning and Teaching Approaches**

The programme may be taught both on campus and through blended delivery. Timetabled classes may include, but are not limited to: theory delivery, discussion, practical application, video, web-based information, off-site visits, guest speakers and project work. Blended delivery will be supported by a Learning Management System, other web-based technology, email and telephone. This will enhance the opportunity for students to access learning materials, and communicate with one another and with their lecturers.

**Assessment Procedures**

Assessment is achievement based.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessments** | **Weightings** | **Learning Outcomes Assessed** | **Pass Criteria** |
| Assessment One | 30% | 1, 4, 5, 6 | Gain a minimum of 50% overall |
| Assessment Two | 40% | 1, 2, 3, 4, 5, 6 |
| Assessment Three | 30% | 1, 4, 5, 6 |

**Off Campus Learning**

Not applicable

**Learning and Teaching Strategies**

This course is delivered by lectures, and through blended delivery.

**Off Campus Learning**

Not applicable

**Resources and Prescribed/Recommended Texts**

Project Management Institute (2018) *A guide to the project management body of knowledge: PMBOK guide* (6th ed.). Newton Square, PA. Project Management Institute.