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| Module Title: | Mathematics |
| Credits: | 10 |
| NFQ Level: | 6 |
| Module Delivered In | 1 programme(s) |
| Teaching & Learning Strategies: | As well as traditional lectures students will undertake in-class exercises on material presented in class. Small group tutorials will encourage further problem solving and discussion. |
| Module Aim: | To provide students with some mathematical techniques appropriate for computer systems management. |
| Learning Outcomes | |
| <i>On successful completion of this module the learner should be able to:</i> | |
| LO1 | Apply the basic concepts of number theory |
| LO2 | solve various types of probability problems using the theory of probability distributions; |
| LO3 | Explain and apply some numerical Analysis techniques |
| LO4 | demonstrate an understanding of calculations underlying various financial arrangements; |
| Pre-requisite learning | |
| Module Recommendations <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i> | |
| No recommendations listed | |
| Incompatible Modules <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i> | |
| No incompatible modules listed | |
| Co-requisite Modules | |
| No Co-requisite modules listed | |
| Requirements <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i> | |
| 1st year Mathematics | |

Module Content & Assessment

| Indicative Content |
|--|
| Number Theory Elementary number theory, Euclidean algorithm, Linear congruences, basic cryptography |
| Numerical Methods Newton's method, line and curve fitting, forecasting, programming techniques |
| Further Probability and Statistics review of basic probability, basic statistics, probability distributions, normal, binomial and Poisson distributions. |
| Financial Mathematics geometric series, compound interest, savings and investments, loans and mortgages, discounting, annuity, investment appraisal. |

| Assessment Breakdown | % |
|----------------------------------|--------|
| Continuous Assessment | 30.00% |
| End of Module Formal Examination | 70.00% |

| Continuous Assessment | | | | |
|-----------------------|--|-------------------|------------|-----------------|
| Assessment Type | Assessment Description | Outcome addressed | % of total | Assessment Date |
| Other | CA marks will be based on the results of three 1 hour written tests during the term. | 1,2,3,4 | 30.00 | n/a |

No Project

No Practical

| End of Module Formal Examination | | | | |
|----------------------------------|--|-------------------|------------|-----------------|
| Assessment Type | Assessment Description | Outcome addressed | % of total | Assessment Date |
| Formal Exam | The terminal examination will include questions on all aspects of the course | 1,2,3,4 | 70.00 | End-of-Semester |

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

Module Workload

| Workload: Full Time | | |
|----------------------------|--------------------|--|
| <i>Workload Type</i> | <i>Frequency</i> | <i>Average Weekly Learner Workload</i> |
| Lecture | 30 Weeks per Stage | 2.00 |
| Estimated Learner Hours | 30 Weeks per Stage | 1.00 |
| Tutorial | 30 Weeks per Stage | 1.00 |
| Total Hours | | 120.00 |

Module Delivered In

| Programme Code | Programme | Semester | Delivery |
|----------------|---|----------|-----------|
| CW_KWCAP_C | Higher Certificate in Computing | 2 | Mandatory |