

# **University of Plymouth**

Faculty of Science and Engineering

School of Computing Electronics and Mathematics

## **Programme Specification**

BSc (Hons) Mathematics – 0153

BSc (Hons) Mathematics (Integrated) – 4583

September 2019

## 1. BSc (Hons) Mathematics

**Final award title**      **BSc (Hons) Mathematics**

**Level 4 Intermediate award title(s)**      **Certificate of Higher Education**

**Level 5 Intermediate award title(s)**      **Diploma of Higher Education**

**UCAS code**   **G100**

**JACS code**   **G100**

**2. Awarding Institution:**      University of Plymouth

**Teaching institution(s):**      University of Plymouth

## 3. Accrediting body(ies)

Institute of Mathematics and its Applications (IMA)

Summary of specific conditions/regulations

None

Date of re-accreditation for 2021/22 intake

## 4. Distinctive Features of the Programme and the Student Experience

### Generic to our mathematics degrees

- Contemporary, research-informed syllabus with a focus on applications, problem solving and employability. Staged approach to teaching mathematics: **foundation – consolidation – application**. The latter aimed at real-life context.
- Programme provides a unique student experience: engaged teaching using up-to-date methodology and technology plus holistic approach to student support (open-door policy and elaborate tutor system offering pastoral support, career and skills development).
- Employability: general problem solving, ICT and communication skills.

### Specific to this degree

- Development of broad analytic and reasoning skills based on mathematical logic and an awareness of limitations and pitfalls of mathematical modelling.
- Range of mathematics options at final stage to accommodate students' interests and career aspirations.

## 5. Relevant QAA Subject Benchmark Group(s)

Mathematics, Statistics and Operational Research (MSOR)

## 6. Programme Structure

The programme builds on a common first and second year into a wide range of third year options in pure and applied mathematics and statistics.

Students who wish to choose more than two of the statistics modules: MATH3613, MATH3614, MATH3623 must transfer to BSc (Hons) Mathematics and Statistics

**Stage 1.** HE Level 4. All modules are 20-credit

<b>MATH1601</b> Mathematical Reasoning	<b>MATH1602</b> Calculus and Analysis	<b>MATH1603</b> Linear Algebra and Complex Numbers	Semester 1
<b>MATH1605</b> Probability with Applications	<b>MATH1610</b> Numerical and Computational Methods	<b>MATH1611</b> Geometry and Group Theory	Semester 2

The integrated programme consists of Stage 1 (Level 4) of the standard programme together with

**ILS1005:** Interactive Learning Skills and Communications.

Successful completion of both of these components allows students to proceed to Stage 2 (Level 5) of the standard programme.

**Stage 2.** HE Level 5. All modules are 20-credit

<b>MATH2601</b> Advanced Calculus	<b>MATH2602</b> Statistical Inference and Regression	<b>MATH2606</b> Real and Complex Analysis	Semester 1
<b>MATH2604</b> Mathematical Methods and Applications	<b>MATH2605</b> Operational Research and Monte Carlo Methods	<b>MATH2603</b> Ordinary Differential Equations	Semester 2

**Stage 3.** Optional Placement Year

BPIE331: Mathematics and Statistics Placement

**Stage 4.** HE Level 6. Modules are 20-credit, except the optional 40-credit MATH3628 Project module.

<b>Option</b>	<b>Option</b>	<b>Option</b>	Semester 1
<b>MATH3601</b> Mathematical Sciences in Context*	<b>Option</b>	<b>Option</b>	Semester 2

\* Could be replaced by MATH3603 or MATH3616 or MATH3628

### Stage 1 Core Modules

Module Code	Module Title	Credit	Semester
MATH1601	Mathematical Reasoning	20	S1
MATH1602	Calculus and Analysis	20	S1
MATH1603	Linear Algebra and Complex Numbers	20	S1
MATH1605	Probability with Applications	20	S2
MATH1610	Numerical and Computational Methods	20	S2
MATH1611	Geometry and Group Theory	20	S2
BPIE113	Stage1 Mathematics Placement Preparation	0	AY

### Stage 2 Core Modules

Module Code	Module Title	Credit	Semester
MATH2601	Advanced Calculus	20	S1
MATH2602	Statistical Inference and Regression	20	S1
MATH2603	Ordinary Differential Equations	20	S2
MATH2604	Mathematical Methods and Applications	20	S2
MATH2605	Operational Research and Monte Carlo Methods	20	S2
MATH2606	Real and Complex Analysis	20	S1
BPIE213	Stage2 Mathematics Placement Preparation	0	AY

### Optional Placement Year

BPIE331: Mathematics and Statistics Placement

## Stage 4 Modules

Students must take **one and only one** of the following modules.

Module Code	Module Title	Credit	Semester
MATH3601	Mathematical Sciences in Context	20	S2
MATH3603‡	Professional Experience in Mathematical Education	20	AY
MATH3616	Professional Experience in Industry	20	S1
MATH3628	Project	40	AY

**NOTE:** MATH3603 runs all year, students taking this module will have an imbalance between their first and second semester credits (50:70 or 70:50). MATH3616 is assessed in S1 on the basis of placement work in the summer. Students taking this module will therefore have an increased workload in S1 if they take 60 S1 credits. MATH3628 is a 40 credit module running all year.

Students can take at most two of the following modules (or transfer to BSc (Hons) Mathematics and Statistics).

Module Code	Module Title	Credit	Semester
MATH3623‡	Financial Statistics	20	S1
MATH3613‡	Data Modelling	20	S1
MATH3614‡	Medical Statistics	20	S2

**‡NOTE:** The following pairs of modules cannot be taken together:  
3623/3629, 3614/3612, 3611/3604, 3613/3603

### Optional modules

Module Code	Module Title	Credit	Semester
MATH3604‡	Geometry and Algebra	20	S2
MATH3605	Partial Differential Equations	20	S1
MATH3606	Classical and Quantum Mechanics	20	S1
MATH3609	Optimisation, Networks and Graphs	20	S2
MATH3629‡	Fluid Dynamics	20	S1
MATH3611‡	Electrodynamics and Relativity	20	S2

**‡NOTE: The following pairs of modules cannot be taken together:  
3623/3629, 3611/3604, 3613/3603**

## 7. Programme Aims

This programme aims to:

1. foster knowledge and understanding of a broad range of mathematical topics, techniques and skills;
2. foster an awareness of the power, breadth, range of applications and limitations of the subject;
3. encourage students to be independent and adaptable learners;
4. equip students with the skills necessary for future employment or further study.

## 8. Programme Intended Learning Outcomes

### 8.1. Knowledge and understanding

On successful completion graduates should have developed:

- 1) a good level of skill in deploying methods, techniques and results from a range of major areas of mathematics;
- 2) a systematic understanding of
  - the importance of logical argument in mathematics;
  - the processes and pitfalls of numerical computation;
  - the need to solve problems rigorously and in generality;
- 3) an appreciation of the process of mathematical thinking, an awareness of assumptions made and consequences of assumptions being violated;
- 4) an ability to formulate realistic problems mathematically using a range of techniques, and to interpret the results.

## **8.2. Cognitive and intellectual skills**

On successful completion graduates should have developed:

- 1) the ability to identify the essentials of a problem in mathematics;
- 2) formulate and solve such problems;
- 3) evaluate the limitations of the analysis;
- 4) to present arguments and conclusions effectively and accurately.

## **8.3. Key and transferable skills**

On successful completion graduates should have developed the ability to:

- 1) use appropriate ICT such as spreadsheets, word-processors, the internet and specialist software;
- 2) communicate effectively through the spoken word and in a variety of written formats;
- 3) learn independently using a variety of media including books, journals and the internet;
- 4) work independently and organise his/her own learning;
- 5) transfer skills and apply them in new contexts.

## **8.4. Employment related skills**

On successful completion graduates should have developed:

- 1) the professional exercise of personal and inter-personal skills;
- 2) effective communication skills
- 3) the independent learning ability required for continuing professional development;
- 4) a broad knowledge of those aspects of mathematics which could be required in future employment.

## **8.5. Practical skills**

On successful completion graduates should be:

- 1) able to use specialist software accurately and effectively.

## 9. Admissions Criteria, including APCL, APEL and DAS arrangements

All applicants must have GCSE (or equivalent) Maths and English at Grade C or above. International students should have IELTS 6.0 or equivalent. APCL/APEL will be considered on an individual basis.

<b>Entry Requirements for all BSc (Hons) Programmes in Mathematics</b>	
A-level/AS-level	Normal minimum entry requirements are 120-128 points, a typical offer is 120 points to include minimum of 2 A Levels, including grade B in A Level Maths or B in further Maths or A Level Maths and Statistics or Math (Pure and Applied) excluding General Studies. Mathematics (Mechanics) accepted as Maths.
BTEC National Diploma/QCF Extended Diploma	All such candidates will be interviewed individually and a diagnostic test may be required. DDM grades are needed with a distinction in a mathematical subject.
Access to Higher Education at level 3	Acceptance is conditional upon an interview and, generally, a diagnostic test. The Access course must be passed with at least 33 credits at Merit and/or Distinction and should include at least 12 credits in Maths units with Merit.
Welsh Baccalaureate	Treat as standard offer, i.e. can accept as add on points of 120 but must have 2 A Levels and Mathematics grade A.
Scottish Qualifications Authority	320 points including Mathematics grade A in Advanced Highers Mathematics.
Irish Leaving Certificate	AABBB at Higher Level, to include grade A in Mathematics.
International Baccalaureate	30 overall to include 5 at HL Mathematics. If overseas and not studying English within IB, must have IELTS 6.0 overall with 5.5 in all other elements.
Progression from FPT	Students may progress automatically from the following pathways: Mathematics with Foundation Year and, also, from any of the Engineering with Foundation Year courses. It is required that they have gained at least 50% overall.
UPIC Integrated Programme	Admission to the programme is subject to successful completion of the University of Plymouth International College (UPIC) Foundation Year.

Applicants with non-standard qualifications are considered individually.

Applicants with disabilities are encouraged to talk to staff in Disability Assist about the assistance available from the University. Students with disabilities which they

feel will impact on their studies are usually invited for an information interview with members of Disability Assist and teaching staff in order to discuss the student's requirements in more detail. This would normally take place after an application has been made through UCAS, though informal discussions can take place before this.

### **UPIC Stage 1 Equivalent Integrated programmes**

On successful completion of their Stage 0 programme UPIC students progress to Stage 1 of their designated programme and are taught and assessed by UP staff. Additionally, the students will undertake a module (ILS 1005) of skills and support designed to facilitate their transition to the HE learning culture in the UK.

Progression to Stage 1 Integrated programmes is dependent upon achieving 50% in all modules of the UPIC Stage 0 programme.

Progression to UP Stage 2 is dependent upon successful completion of the UP Stage 1 and at least 60% in ILS 1005 (The UPIC DMD for ILS 1005 is appended).

### **10. Progression criteria for Final and Intermediate Awards**

**Honours degree:** 360 credits, including 120 credits at Level 6, 120 credits at Level 5 or above and 120 credits at Level 4 or above.

**Ordinary degree:** 320 credits, including 80 credits at Level 6, 120 credits at Level 5 or above and 120 credits at Level 4 or above.

**Diploma of Higher Education:** 120 credits at level 5.

**Certificate of Higher Education:** 120 credits at level 4

Integrated Programme only: Progression onto Stage 2 (Level 5) of the degree is subject to passing Stage 1 (Level 4) of the UPIC Equivalent Integrated Programme. This consists of the standard Stage 1 of the programme **plus** ILS1005: Interactive Learning Skills and Communications.

### **11. Exceptions to Regulations**

None

### **12. Transitional Arrangements**

None

### 13. Mapping and Appendices:

#### 13.1. ILO's against Modules Mapping

Intended Learning Outcomes Map	Honours Degree Level		
	2	3	4
<b>1 Graduate Attributes and Skills</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Core Programme Intended Learning Outcomes</b> (as worded in the Programme Specification)	<b>Aim(s)</b>	<b>Subject Benchmark</b>	<b>Related Core Modules</b>
<b>Knowledge/ Understanding</b>			
1) a high level of skill in deploying methods, techniques and results from a range of major areas of mathematics;	1	B 3.9,-11 5.13/15	MATH1601-1611 MATH2601-2606 MATH3601-3629
2) a systematic understanding of			
○ the role of logical argument in mathematics;	1	B 3.14-15, 5.13/15	MATH1601-2606 MATH3601-3629
○ the processes and pitfalls of numerical computation;	1	B 3.16-17	MATH1610/2603,5 MATH3628/3605
○ the need to solve problems rigorously and in generality.	1	B 3.24	MATH1601,1602,1611 MATH2605 MATH3604
3) an appreciation of the process of mathematical thinking, an awareness of assumptions made and consequences of assumptions being violated;	2	B 3.14-15	MATH2601-2606 MATH3601-3629
4) an ability to formulate	2	B 3.16-17	MATH2601-2606

realistic problems mathematically using a range of techniques, and to interpret the results.			MATH3601-3629
<b>Cognitive / Intellectual Skills</b>			
1) the ability to identify the essentials of a problem in mathematics;	2	ALL: B 3.23 B 5.13/15	ALL: MATH1601-1611 MATH2601-2606 MATH3601-3629
2) formulate and solve such problems	2		
3) evaluate the limitations of the analyses	2		
4) to present arguments and conclusions effectively and accurately	2,4	B 5.13/15	MATH3601-3629
<b>Key / Transferable Skills</b>			
1) use appropriate ICT such as spreadsheets, word-processors, the internet and specialist software;	4	B 3.27	MATH1601/1605/1610 MATH2602/2603/2605 MATH3601/3628/3605
2) communicate effectively through the spoken word and in a variety of written formats;	4	B 3.25	MATH1601-2607 MATH3601/3628/3603 With personal tutors
3) learn independently using a variety of media including books, journals and the internet;	3	B 3.27	With personal tutors MATH3601/3628
4) work independently and organise his/her own	3	B 3.27, 5.13/15	With personal tutors MATH3601/3628

learning;			
5) transfer skills and apply them in new contexts.	3	B 3.25, 5.13/15	MATH3601-3629

<b>Employment-related Skills</b>			
1) the professional exercise of personal and inter-personal skills	3,4	B 3.27	MATH3601/3628/3616
2) effective communication skills	4	B 3.16- 17 B 3.27	MATH3601/3628 With personal tutors
3) the independent learning ability required for continuing professional development	3,4	B 3.27	MATH3601-3629
4) a broad knowledge of those aspects of mathematics which could be required in future employment	4	B 3.23 B 3.25	MATH3601-3629
<b>Practical Skills</b>			
1) able to use specialist software accurately and effectively.	1,4		MATH1601/1605/1610 MATH2602/2603/2605 MATH3601/3602/3605

### 13.2. Assessment against Modules Mapping

Module	Title	C/W	Test	Practice	Exam
MATH1601	Mathematical Reasoning	60	40	0	0
MATH1602	Calculus and Analysis	40	0	0	60
MATH1603	Linear Algebra and Complex Numbers	40	0	0	60
MATH1605	Probability with Applications	40	0	0	60
MATH1610	Numerical and Computational Methods	40	0	0	60
MATH1611	Geometry and Group Theory	20	20	0	60
MATH2601	Advanced Calculus	30	0	0	70
MATH2602	Statistical Inference and Regression	30	0	0	70
MATH2603	Ordinary Differential Equations	30	0	0	70
MATH2604	Mathematical Methods and Applications	30	0	0	70
MATH2605	Operational Research and Monte Carlo Methods	75	0	25	0
MATH2607	Mathematical Programming	100	0	0	0
MATH3601	Mathematical Sciences in Context	70	0	30	0
MATH3628	Project	80	0	20	0
MATH3603	Professional Experience in Mathematics	80	0	20	0

	Education				
MATH3604	Geometry and Algebra	30	0	0	70
MATH3605	Partial Differential Equations	30	0	0	70
MATH3606	Classical and Quantum Mechanics	30	0	0	70
MATH3623	Financial Statistics	30	0	0	70
MATH3609	Optimisation, Networks and Graphs	30	0	0	70
MATH3629	Fluid Dynamics	70	0	30	0
MATH3611	Electrodynamics and Relativity	30	0	0	70
MATH3613	Data Modelling	30	0	0	70
MATH3614	Medical Statistics	30	0	0	70
MATH3616	Professional Experience in Industry	100	0	0	0

### 13.3. Skills against Modules Mapping

Module	Presentation skills	ICT programming	Team work	Reflective Skills	Research Skills
MATH1601	✓	✓	✓	✓	✓
MATH1602	✓		✓		
MATH1603				✓	
MATH1605		✓			
MATH1610	✓	✓	✓		
MATH1611				✓	✓
MATH2601		✓	✓		
MATH2602		✓			
MATH2603	✓	✓	✓	✓	
MATH2604	✓	✓	✓		✓

MATH2605	✓	✓	✓	✓	✓
MATH2606	✓		✓	✓	✓
MATH3601	✓	✓	✓	✓	✓
MATH3628	✓	✓		✓	✓
MATH3603	✓			✓	✓
MATH3604	✓			✓	
MATH3605	✓	✓	✓		
MATH3606		✓			
MATH3623	✓	✓	✓		
MATH3609	✓	✓	✓	✓	✓
MATH3629	✓	✓	✓	✓	✓
MATH3611		✓			
MATH3613	✓	✓	✓		
MATH3614	✓	✓	✓		
MATH3616	✓	✓	✓		

## 13.4 ILS1005 Module Record

<b>DMD ILS1005</b>			
<b>Module Interactive Learning Skills and Communication Code ILS1005</b>			<b>FHEQ 4</b>
Version	Current Version	2.14	October 2014
	Prior Version/s	1.14	September 2014
		1.13	October 2013
		1.12	July 2012
<p>This Definitive Module Document (DMD) is designed for all prospective, enrolled students, academic staff and potential employers. It provides a concise summary of the main features of the module and the Specific Learning Outcomes (LOs) that a typical student might reasonably expect to achieve and demonstrate if he/she takes full advantage of the learning opportunities. Detailed information regarding the content and assessment criteria of this module should be considered alongside the appropriate Programme Specifications (PSs) and Module Guide (see MG ILS1005).</p>			
<b>Module Name</b>	<b>Interactive Learning Skills and Communication (ILSC)</b>		
<b>Module Code</b>	<b>ILS1005</b>		
Module Duration (per semester)	Thirteen (13) weeks		
Contact Hours (per semester)	52		
Directed Study Hours (per semester)	-		
Self-directed Study Hours (per semester)	98		
Notional Hours (per module)	150		
Teaching Rotation	01,03		
Teaching Body	UPIC		
Articulating Institution	University of Plymouth		
Articulating Faculty	Faculty of Science and Engineering; Faculty of Arts and Humanities; Plymouth Business School		
University Campus	Drakes Circus		
Pathways (on which this module is offered)	All Integrated Pathways		
Credit Points	Zero		
Pathway Stage	UPIC Stage 2 (University of Plymouth Stage 1)		
Stage FHEQ Level	4		
Language of Delivery	English		
Language of Assessment	English		
E-Learning	IT software packages (Word, PowerPoint, Excel), internet access; College Portal; University Student Portal.		
Moderation	See CPR QS9		
Standard Progression Criteria	Summary: minimum overall pass mark of 65% (Grade C*) across all assessment events and a minimum of 65% in assessments B, D and E. See CPR QS9.		
Failure to Progress	[Summary: a student may not fail a module assessment on more than one (1) occasion, failure of the module assessment once requires that a student re-sit the failed assessment thereafter re-take the entire module at full cost; failure of a student to complete a module on the re-take of that module will result in referral to the College Learning and Teaching Board for a student management decision. The University will not be incumbent to progress students who fail].		
<b>Aims</b>	<p>This module has been designed to be delivered in conjunction with the Integrated FHEQ Level 4 (equivalent) first year degree and associated programmes in order to benchmark and satisfy the transfer criteria with regard to student communication and learning skills competency. This module is part of a wider pedagogic approach taken by NAVITAS UK to ensure the preparedness of its students and graduates with a focus on the relevant transferable and portable skills of effective and professional communication to support further study at a variety of levels, whether it involves higher education or further post-degree vocational programmes and/or professional awards, as well as providing a basis to foster career and life-building skills.</p> <p>Utilising a number of practical activities to allow candidates to achieve these essential skills, students will be introduced to techniques and strategies to manage speech anxiety; enhance grammar and vocabulary; think critically under pressure; research, package and deliver logical and persuasive communication both orally and in a variety of written formats (inclusive of dissertation); summarise; become an effective listener; understand cultural and gender differences; and work effectively in a team.</p> <p>This module ensures that graduates have attained the prescribed level of inter-disciplinary communication competence described as Level B2 'Proficient User' by the Council of Europe, see <i>Common European Framework of Reference for languages: Learning, teaching assessment</i></p>		

2001, Council of Europe, CUP, Cambridge, p. 24, Table 1. *Common Reference Levels: global scale*. This module is ACL accredited and benchmarked: ACL is a leading provider of English language provision to students seeking entry to Australian HEIs and a variety of levels. ACL now forms part of Navitas English and carries dual accreditation by the Australian National ELT Accreditation Scheme (NEAS) and the NSW Government's Vocational Education and Training Accreditation Board (VETAB). Navitas English is also a Registered Training Organisation (RTO) under the Australian Quality Training Framework (AQTF).

Successful completion of this module indicates that students have obtained a good understanding of and ability to apply the requisite knowledge and skills to enable them for successful onward study at undergraduate degree level.

#### Topics

- ⇒ Preparation for college and university programmes
- ⇒ Personal development planning (PDP)
- ⇒ Presentation skills
- ⇒ Listening skills
- ⇒ Skills for self-directed study
- ⇒ Appropriateness
- ⇒ Library induction
- ⇒ Writing at university
- ⇒ Analysing questions/titles
- ⇒ Planning written work projects
- ⇒ Teamwork
- ⇒ Composition and style
- ⇒ Summarising techniques
- ⇒ Revision techniques
- ⇒ Examination overview and techniques
- ⇒ Critical analysis and use of evidence

#### Specific Learning Outcomes

##### A Knowledge and Understanding

*Upon completion of this module students will be able to demonstrate their knowledge and understanding of the following:*

1	The structure of the UNIVERSITY degree programmes and classification.
2	UNIVERSITY undergraduate degree scheme structures and awards.
3	UNIVERSITY laboratory, library and e-learning facilities; College resources and personal resources to support study.
4	Time management and its application to notional hours of study and assessment events.
5	Public speaking techniques and managing communication apprehension.
6	Non-verbal communication techniques.
7	Listening skills and knowledge dissemination and retention techniques.
8	The importance of ensuring a clear basic understanding of the history of scholarship with regard to certain subject areas and/or the use of appropriate nomenclature to aid communication.
9	What language styles to employ in a variety of situations to ensure appropriateness and clarity of communication.
10	A comprehensive set of clear writing techniques (plain English, factual and persuasive writing) that can be applied to a variety of written formats.
11	How to create appropriate and effective document layouts.
12	The importance and basic precepts of style when composing written work in a variety of forms.
13	How to embed the concept of continuous improvement and objectivity in relation to an individual's academic performance.
14	Professional communication and presentation.
15	How to enhance personal creativity and lateral thought processes.
16	Examination techniques and skills.
17	Design and communicate effective messages to a variety of audiences.
18	How to work effectively as a team member.
19	How to work effectively as an individual.
20	How to apply basic research and referencing techniques to formulate reasoned academic opinion in a variety of forms so as to avoid plagiarism and collusion.

##### B Intellectual / Cognitive Skills

1	Ability to employ appropriate nomenclature and terminologies across subject contexts.
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2	Ability to analyse various modes of information when delivered in different formats.
3	Make full use of library and e-learning search (catalogue and bibliographic) resources.
4	Ability to effectively retain and communicate knowledge and understanding of topics covered in the module in a comprehensive manner under timed conditions without re-course to learning aids.
<b>C</b>	<b>Practical Skills</b>
1	Develop organisational skills for deadline submission.
2	Proficiently use techniques and technology in the collation, interpretation and presentation of data in oral and written formats.
3	Develop oral presentation skills.
4	Develop written skills for a variety of formats and requirements.
<b>D</b>	<b>Transferable Skills</b>
1	Select, read, digest, summarise and synthesise information material in a variety of forms, both qualitative and quantitative (text, numerical data and diagrammatic) and in an appropriate manner to identify and determine key facts/themes, relevancy and assessment of problems and identification and implementation of solutions.
2	Use and clearly communicate discursive, numerical, statistical and diagrammatic ideas, concepts, results and conclusions using appropriate technical and non-technical language and language style, structure and form.
3	Apply basic research and referencing techniques to all aspects of study, information collation, information presentation and formulation of academic opinion.
4	Embedding the importance of self-study and reliance. This involves cultivating and developing a responsibility within each student to take cognizance for their own learning, initiative, effective time-management and self-discipline within the academic and professional environments.

#### Generic Learning Outcomes

Key skills demonstrated:

Key skills demonstrated by the ability to:

Personal organisation and time-management skills to achieve research goals and maintain solid performance levels;	Meet converging assessment deadlines – based on punctuality and organisation with reference to class, group and individual sessions within a dynamic and flexible learning environment with variable contact hours and forms of delivery.
Understanding of the importance of attaining in-depth knowledge of terminology as used in a given topic area, as a basis to further study;	Communicate clearly using appropriate nomenclature to enhance meaning in all oral and written assessments with no recourse to collusion or plagiarism.
Understanding, knowledge and application of appropriate and effective methods of communication to meet formal assessment measures;	Present clearly, coherently and logically in a variety of oral and written formats using a variety of appropriate qualitative and quantitative tools and evidence bases.
Understanding and knowledge as to the development of the industry and/or scholarship in relation to a given topic under study;	Demonstrate an understanding of the current themes of a given topic, the academic and practical foundation on which they are based – demonstrated by a lack of plagiarism and need for collusion in both individual and group work.
Understanding of the rules applying to plagiarism and collusion;	Collate, summarise, reason and argue effectively on a given topic without reference to another's work or ideas/concepts.
Ability to work as an individual, in a small team and in a larger group to effect data collation, discussion and presentation of evidence;	Meet and succeed in each of the varied assessments presented.

#### Assessment

Type	Duration	Method	Topic	Schedule	Weighting
Assessment E	10 weeks	efficacy of individual PDP	Attendance and participation in PDP	NA	10%
Assessment A	Nine (9) weeks	research project (1,500 – 2000 words)	Computing/engineering /biological or biomedical/environment studies	Set session 2.2 Submission session 11.1	30%
Assessment B	1 session (1 hour)	Listening assessment	Listen to a lecture (computing/engineering /biological or biomedical/environment studies) and answer set questions.	Session 10.2	10%
Assessment C Individual presentation	1 session	Presentation	Project presentation and defence	Session 11.2	20%

Assessment D Final Examination	Two (2) hour (closed- book) examination	Examination	Final summative examination covering academic reading and writing skills; history of scholarship and academic debate and critical analysis	Week 13	30%
Total Weighting					100%

#### Standard Progression Criteria

For the purposes of UPIC this module carries a standard minimum progression requirement: [grade C\* / pass mark 65%].

For University of Plymouth this is a Pass/Fail zero credited module that the student must pass to progress into University Stage 2.

Grade	Classification	Mark
A*	High Distinction	80% – 100%
B*	Distinction	70% - 79%
C*	Pass	65% - 69%
F	Fail	Less than 65%

#### Bibliographic Resources

##### Essential Reading

##### Essential Reading

Module Guide – see MG ILS1005

##### Recommended Reading

Cottrell, S., *The Study Skills Handbook*, 3<sup>rd</sup> ed., Macmillan, 2008.

Fry, R., *How to Study*, 6<sup>th</sup> ed., Delmar Learning, 2005.

Race, P., *How to Get a Good Degree – Making the most of your time at university*, 2<sup>nd</sup> ed., Open University Press, 2007.

##### Further Sources

Baker, E., Barrett, M., and Roberts, L., *Working communication*. Milton, 2002.

Berko, R. M., Wolvin, A. D., and Wolvin, D. R., *Communicating: A social and career focus*, Boston, 8<sup>th</sup> ed., 2001.

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Daly, J. A., and Engleberg, I. N., *Presentations in everyday life: Strategies for effective speaking*, Boston, 2001.

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##### Journals (general reading)

Asian Journal of Communication

Communication Education

Journal of Communication

Relevant computing/engineering/biological or biomedical/environment journals – supplied as focus by Instructor

List