OÉ Gaillimh
NUI Galway

Coláiste na hEolaíochta
College of Science

Advisory Session 2011/2012

Monday, 5th September 2011

10.00 am – 4.00 pm

Attendance is compulsory for students on programmes with subject choices

3rd Year Denominated Science Degree Programmes

ADVISORY SESSION 2011/2012
5th September 2011
Venue: Orbsen Foyer, Orbsen Building
Time: 10.00 am – 4.00 pm

INSTRUCTIONS/CONFIRMATION OF RECEIPT OF ADVICE
Only students on programmes with choices need attend the advisory session.

1. **Read all instructions carefully.**

2. **Look at the compatibility of subjects when making choices.**

3. **Attend the Advisory Session and obtain advice on subject choices.**

4. **Self-Service Registration takes place for all Denominated Science students between 23rd August and 16th September 2011.**

5. **Register for your subjects at Registration.**

The 2011-12 Information Booklet is valid for that Session. Whilst every effort is made to ensure the contents of the Information Booklet are accurate, the Information Booklet is issued for the guidance of students and staff only. The Information Booklet is not an offer to supply courses of study nor is it in any way to be construed as imposing any legal obligation on the College of Science or University to supply courses either at all or in part in respect of any subject. No guarantee is given that courses, syllabuses, fees or regulations may not be altered, cancelled or otherwise amended at any time. The Information Booklet confers no rights on any student registered for the Session 2011-12.

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Advisory Session
5th September 2011
Orbsen Foyer, Orbsen Building.

Welcome

Firstly, I would like to take this opportunity to welcome you back to University and to congratulate you on your achievements to date.

To assist you in a smooth return to your 3rd Year, the College of Science has compiled this Advisory Session booklet which will provide you with all the initial necessary information.

This year, self-service registration will take place during 23rd August – 16th September 2011. In this booklet, you will find a list of all the available subjects on offer for the academic session 2011/2012. Also included, where relevant, is a list of Incompatible Subject Combinations, a general timetable, guidelines on progression to 4th Year, etc. In programmes where choices are available, due to timetabling or examination constraints, some subject combinations are not possible. The list of Incompatible Subject Combinations shows which combinations are not possible for each subject. This information has been incorporated on the Student Record System and it will prevent you from registering for incompatible subjects. Therefore, when making a decision on your subject choices, please refer carefully to this list.

The College of Science Office staff will also be available to meet with students at the Advisory Session and to discuss any queries that may arise. We hope to make the Advisory Session and Registration process as smooth as possible for you.

I hope you find your 3rd Year of University life enjoyable and successful.

Professor Tom Sherry,
Dean, College of Science

Information for Students

Please read these instructions *carefully* before the Advisory Session on Monday, 5th September. Please note:

- **Students must attend the Advisory Session before being permitted to register.**
- **Students who do not register during the Registration Session will be liable for a Late Registration Fee.**

1. Subject Listing for 3rd Year.

A list of subjects together with their breakdown of modules, weightings, etc. is listed on pages 12 - 49. Students are required to register for 60 ECTS Credits, as outlined in the sections referring to their denominated degree programme.

Students must list all of their optional choices where options are available.

- In the case of a subject where all modules are obligatory, only the Level 1 code need be listed on the registration form, e.g., CH301: Chemistry (as students are obliged to take all sections of CH301 -CH307, CH311, CH313 and CH326).
- In the case of a subject where choices are available both the Level 1 code and the Level 2 codes must be indicated, e.g., AS300: Applied Mathematical Science has a list of choices of which students must select four. Therefore the choices must also be listed, e.g., AS300: MA301, MA302, MP363 and MP364.

2. Incompatible Subject Combinations

There is an Incompatible Options listing available also for each subject in programmes where choices are available. This means that if a student wishes to take, for example, MI330: Microbiology, he/she will be unable to select any of the subjects listed below MI330. This is due to timetabling clashes (lecture/examination) between subjects. The Student Record System will prevent students registering for incompatible subjects at registration. Therefore, when selecting subjects, this list of Incompatible Subject Combinations must be referred to carefully.

3. Advice on Subject Selection

At the Advisory Session, each discipline will have an advisory desk at which members of staff will be available for discussion of subject selection.

Please note, however, in the event you are given permission to take a module/subject for which you do not have the prerequisites as listed in this handbook, the following procedure must be followed:

- Written permission must be obtained from the relevant academic staff member or discipline involved.
- This letter must be presented to the College of Science Office as proof of permission.
- The College of Science Office will then give written authorisation to the Registration Office to register you for the subject at Registration..

4. Late Registration Fee

If you do not obtain advice at the Advisory Session and do not register on the day appointed, you will be liable for a **late Registration fee**.

Ollscoil na hÉireann, Gaillimh/National University of Ireland, Galway

Coláiste na hÉolaíochta/College of Science

1. The Academic Year

The session will be organised as follows:

Semester I:	5th September 2011 – 25th November 2011
Study Week:	begins Monday, 28th November 2011
Examinations:	5th December 2011 – 16th December 2011
Semester II:	9th January 2012 – 30th March 2012
Study Week and Easter Vacation:	2nd April 2012 - 20th April 2012
Examinations (Summer):	23th April 2012 – 18th May 2012

Examinations (Autumn Repeat): to be confirmed

2. Advisory Session and Registration:

You must attend the Advisory Session to obtain necessary and relevant up-to-date information on subject selection on the date stipulated (*Monday, 5th September 2011*). You are required to register on the date stipulated (*Self-service Registration between 23rd August and 16th September 2011*). The Registration Office is not empowered to accept registrations after the specified registration date.

Autumn Repeat Students

Autumn repeat students who have passed their autumn examinations must also begin classes at the start of term on 5th September. Autumn Repeat students will be given information on the date and venue for collecting their Registration Material Pack by the Registration Office at the beginning of the academic year.

Course Registration

Subject listings for your programme are enclosed. You must complete the subject registration in accordance with this instruction. Modules to a total of 60 ECTS Credits must be taken.

3. Lecture Timetables

A general timetable is enclosed on page 50. Detailed timetables for each subject containing venue, etc., will be available from discipline offices. **They will not be available from the College Office.**

4. Examination Timetable – Semester I

The examination timetable will be posted on notice boards during the semester.

5. Honours and Pass Level

All subjects are lectured on and examined at honours level with the exception of Mathematical Physics and Applied Mathematical Science which are available at pass level only. For the Subject Mathematics separate honours and pass level courses are available.

6. Subject and Course Changes

Changes will only be accepted by the Registration Office at a specific registration session (29th and 30th September 2011). Changes, for exceptional reasons, subsequent to this date must be approved by the College of Science Office.

7. Examination Entry

Subject registration also includes Examination Entry. You will not be required to complete another form. The importance of correct registration and course selection is therefore emphasised.

8. Examinations

8.1 Date

Examinations are held at the end of Semester I (December), in Spring (March) and Semester II (at the end of April/May). Please check the module listings on pages 13-23 for when your examinations will occur.

8.2 Autumn Examinations

There are Autumn (repeat) examinations in Third Science usually held in August. *Please note: students marked absent at the summer examination session and who have not received a deferral from the Dean will not automatically be called back for the autumn examination session. In this case, students must obtain permission from the College of Science Office before being allowed to re-sit in the autumn examination session.*

8.3 Time-limit

Students must complete the Third Science Examination within two academic years of having passed the Second Science Examination.

8.4 Deferral

The College of Science considers applications for the deferral of examinations, where grounds of ill health, bereavement or other circumstances can be established to the satisfaction of the College. If in doubt, please consult with a member of the College of Science Office. Application can be made by contacting the College of Science Office to arrange an appointment and completing a Deferral Form, which is available from the College Office. Deferred examinations are held in the Autumn examination session (August) only.

9. Calculation of Third Science Results

The results of the Semester I examinations will be combined with Semester II results to give an overall result.

(a) Students who **pass a 24/36 ECTS Credit subject on the average** between Semester I and Semester II whilst failing a 12 ECTS Credit component will not be required to repeat the failed component.

(b) Students who **fail a 24/36 ECTS Credit subject on the average** between Semester I and Semester II will be permitted to retain grades of the component(s) passed until the next sitting and will be required to repeat only

the failed element. A repeat examination for courses failed in Semester I will be held in Autumn.

Results of Semester I examinations should be regarded as **Provisional** as no Examination Board meeting will be held following the Semester I examinations. Grades will be communicated verbally to students by 1st February 2012 at the latest, by the Course Director listed in the Calendar if possible. Alternatively, grades may be posted on appropriate notice boards, listing all students taking the module together with their ID numbers (**not** students' names). Please note that these grades will **not** be issued to students by the Examinations Office or the College Office.

The Grades applicable will be as follows:

Percentage	**Grade**
70-100	A
60-69	B
55-59	C+
50-54	C-
40-49	D
35-39	E+
30-34	E-
0-29	F

10. Progression to Fourth Year

Students are required to achieve an overall result of pass in their third year examinations before being permitted to progress to the fourth year of the programme by attaining one of the standards below:

(i) Candidates who pass 3rd year at the first or subsequent sittings.

(ii) In the case of both the Undenominated and the Denominated programmes, candidates who attain an average mark of 40% or greater across all 60 ECTS whilst failing a Level 1 stand-alone subject provided that a minimum of 30% has been obtained in the failed module.

11. Information and Support Services

As a student of the College of Science, if you are confused by any aspect of your programme, by the registration requirements or if you are experiencing personal difficulties or any difficulties in your academic programme, you are strongly recommended to seek advice and support from the academic staff, the Dean, the University Offices and the Student Support Services of the University. Timely support may be the key to your success in the programme and to a level of achievement which does you justice.

College of Science Offices

Dean of Science	Professor Tom Sherry	Room 210 Concourse	Ext. 3615
Administrative Officer	Mr. Kilian Dooley	Room 208 Concourse	Ext. 4166
Administrative Assistant	Ms. Claire Mitchell	Room 207 Concourse	Ext. 3700
Administrative Assistant	Ms. Cora Costello	Room 209 Concourse	Ext. 3630
Administrative Assistant	Ms. Olive Mills	Room 211 Concourse	Ext. 2182

Code of Practice for dealing with Plagiarism

Introduction

1. Plagiarism is the act of copying, including or directly quoting from, the work of another without adequate acknowledgement. The submission of plagiarised materials for assessment purposes, plagiarism in publication or in public presentation, is fraudulent and all suspected cases will be investigated and dealt with appropriately by the University following the procedures outlined here and with reference to the Disciplinary Code.

2. All work submitted by students for assessment purposes, for publication or in public presentation, is accepted on the understanding that it is their own work and written in their own words except where explicitly referenced using the accepted norms and formats of the appropriate academic discipline.

3. Whilst some cases of plagiarism can arise through poor academic practice with no deliberate intent to cheat, this still constitutes a breach of acceptable practice and requires to be appropriately investigated and acted upon.

4. Regulations, guidelines and procedures regarding plagiarism should be made widely available and a statement included in course handbooks, websites, departmental noticeboards or appropriate handouts to students. Plagiarism can arise through ignorance and therefore it is important to ensure that students understand what is meant by the term and the seriousness of the offence.

5. Schools are recommended to consider requiring students to sign a short declaration that work submitted by them for assessment purposes, for publication or in public presentation, is their own and that such a statement may be attached to a submitted piece of coursework, essay or dissertation (or signed at the start of each course/ academic year, acknowledging that the student has read and understood the plagiarism regulations). The purpose of this statement is to reinforce the principle of statement (2) above and to remind students of the requirements for the submission of a formally marked assessment.

6. Cases in which students knowingly permit others to copy their work shall also be subject to the procedures outlined here and considered an offence.

Procedures

7. A small number of staff should be identified in each College who would have responsibility for dealing with suspected and reported cases of plagiarism[1]. These staff are Designated Authorities, as described in the NUI Galway Student Code of Conduct.

[1] This is in keeping with best practice recommendations from the UK's JISC Plagiarism Advisory Service and also reflects practice in a number of institutions. Whilst it may seem like an additional burden in terms of administration, it offers a number of advantages of either leaving the responsibility to the lecturer involved or indeed, the Head of Department. In some universities each department identifies one such staff member, in others, a single staff member may span a number of subjects within a broad "cognate area." Further, having a small number of such staff clearly identified, across the university, who can readily be trained in such issues, ensures consistency of practice. It also enables "fast-tracking" of "minor" or admitted offences and responds to the outcome of Flanagan vs University College Dublin (1988, http://www.ucc.ie/law/irlii/cases/159jr-88.htm), as do the remainder of these guidelines.

8. These staff should be trained on the basic issues, be made aware of current best practice guidelines; techniques for minimising, detecting and responding to plagiarism; and current national and international developments across the HE sector.

9. A member of teaching staff who suspects that a submitted piece of student work may be plagiarised should notify the appropriate plagiarism advisor in their College/cognate area. A short report including a copy of the suspected example and any evidence for plagiarism should be forwarded to the advisor.

10. The plagiarism advisor shall conduct an investigation of the alleged plagiarism, firstly determining whether it represents a “minor” or “major” offence.

11. Minor cases are those in which the suspected plagiarism is a first offence and represents poor academic practice. Such cases include:
    - apparently innocent misuse of materials;
    - inadequate citation such as poor referencing, inappropriate paraphrasing;
    - over-reliance on sources without sufficient of the candidate’s own work;
    - those in which the suspected plagiarism represents only a small proportion of the work and/or an element in a piece of work which makes a small contribution to the mark for the module

12. The advisor will, in such cases, normally interview the candidate to discuss the suspected plagiarism.

13. If the advisor is satisfied that there is sufficient evidence of such an offence, the student will be given a written warning and provided with advice on avoiding plagiarism and the necessity of properly acknowledging and referencing sources.

14. Major cases are those which may include, for example:
    - copying multiple paragraphs in full without acknowledgement of the source;
    - taking essays from the Internet without revealing the source;
    - copying all or much of the work of a fellow student with, or without, his/her knowledge or consent;
    - submitting the same piece of work for assessment under multiple modules;
    - those involving a final year undergraduate or postgraduate student (taught or research);
    - a second offence where the student has been in receipt of an earlier written warning.

15. In consideration of possible major cases, the student will be notified, in writing, of the suspected offence, provided with a copy of the marked-up piece

of work and invited to attend an interview with the plagiarism advisor and an additional member of staff[2].

16. The student will have the right to be accompanied and assisted, at the interview, by a "friend."[3]

17. At the interview, the student will be given a clear explanation of what has been alleged, shown a copy of his/her work, given the opportunity to justify the work and be invited to admit or deny responsibility.

18. In such major cases, where the advisor is satisfied that an offence has occurred, the advisor is required to determine between three possible courses of action, depending on the apparent severity of the offence:

    (a) an opportunity to repeat and resubmit the work, but where the maximum mark that can be awarded is the pass mark appropriate to the module;

    (b) the immediate imposition of an academic penalty, which would normally be the award of zero marks to the plagiarised work, with no option to resubmit the work;

    (c) the submission of the case for consideration by the university's Discipline Committee.

19. In all cases, the student will be notified in writing of the decision of the advisor and any penalty imposed.

20. In keeping with the University's Code, the student shall be entitled to appeal a decision to the Appeals Board.

21. An appropriate record should be kept[4] in respect of any upheld allegation, which can be consulted by the plagiarism advisor to determine whether a new case is potentially a second, or subsequent, offence.

22. Basic statistical information covering the number of cases referred to advisors, the number of written warnings and other penalties applied and their distribution across Departments and Faculties, should be collated by the University to inform subsequent modifications to these regulations and ascertain the requirement for wider training and information dissemination on this topic.

[2] For example, the Head of Department, a senior staff member in the department, or another plagiarism advisor.
[3] As used in the University's Code. This may, for example, be a parent or guardian; a fellow student or other friend; a representative from the Students' Union; or a legal representative, if so desired.
[4] By the appropriate University office.

Denominated Degree Programme in

Biomedical Science

Denominated Degree Programme in Biomedical Science

Instructions for completing online Registration (between 23rd August and 16th September, 2011).

All students are automatically registered for MA323: Statistics and Bioinformatics and BM302: Research Methods in Biomedical Science. These subjects are worth 12 ECTS Credits each. Therefore, students do not have to list these on their Registration Form.

Students are required to select **one** major subject which is worth 24 ECTS Credits each from

- AN310: Anatomy;
- BI320: Biochemistry,
- PM302: Pharmacology
- SI330: Physiology.

Students are required to select **one** module to a value of 12 ECTS from the list of modules available (see next page).

Denominated Degree in Biomedical Science (3BO2)

Key:

AN:	Anatomy	MA:	Mathematics
BI:	Biochemistry	SI:	Physiology
BM:	Biomedical Science	SP:	Spring Examination

List of Third Year Subjects

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or II*	*Exam Sem I or II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
Core Subjects – to be taken by all students								
MA323	MA328	Statistics	6	I	I	2 hours	1	Prof. J. Hinde
	MA324	Bioinformatics	6	II	II	2 hours	1	Prof. C. Seoighe
BM302	BM302	Research Methods in Biomedical Science	12	II	CA	Project		Dr. L. O'Connor
Option: Students must select <u>one</u> major subjects to a value of 24 ECTS								
AN310	AN318	Advanced Anatomy Part I	12	I	I	2 hours	1	Mr. Black
	AN319	Advanced Anatomy Part II	12	II	II	2 hours	1	Mr. Black
BI320	BI314	Biochemistry I	12	I	I	3 hours	1	Dr. Nasheuer & Dr. Creighton
	BI315	Biochemistry II	12	II	II	3 hours	1	Dr. Nasheuer & Dr. Creighton
PM302	PM306	Pharmacology I	12	I	I	3 hours	1	Dr. Finn
	PM307	Pharmacology II	12	II	II	3 hours	1	Dr. Finn
SI330	SI311	Neurophysiology	6	I	I	2 hours	1	Dr. Roche
	SI312	Endocrinology	6	I	I	2 hours	1	Dr. Roche
	SI314	Integrative Physiology	6	II	II	2 hours	1	Dr. Roche
	SI319	Reproduction, Development and Aging	6	II	II	2 hours	1	Dr. Roche
Options: Students should select <u>one</u> module worth 12 ECTS Credits								
AN318	AN318	Advanced Anatomy Part I	12	I	I	2 hours	1	Mr. Black
BI314	BI314	Biochemistry I	12	I	I	3 hours	1	Dr. Nasheuer & Dr. Creighton
PM306	PM306	Pharmacology I	12	I	I	3 hours	1	Dr. Finn
SI321	SI311	Neurophysiology	6	I	I	2 hours	1	Dr. Roche
	SI312	Endocrinology	6	I	I	2 hours	1	Dr. Roche
BI306	BI306	Human Nutrition	12	I & II	II	3 hours	1	Ms. Nolan

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or II*	*Exam Sem I or II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
GT301	GT301	Genetics	12	I & II	SP	3 hours	1	Dr. C. Carroll
PM304	PM304	Basic Pharmacology	12	I	I	3 hours	1	Dr. McKernan
PM305	PM305	Principles of Toxicology	12	I	I	3 hours	1	Dr. Fearnhead
GR224	GR224	Beginners German for Science	12	I & II	II	3 hours	1	Dr. Ryan
GR252	GR252	German	12	I & II	II	3 hours	1	Prof. Bourke
GR353	GR353	German	12	I & II	II	3 hours	1	Prof. Bourke
FR365	FR365	Advanced French for Science	12	I & II	II	3 hours	1	Prof. O Gormaile
NS311	NS302	Neuropharmacology	6	I	I	1.5 hours	1	Dr. Kelly
	NS306	Neurophysiology	6	I	I	2 hours	1	Dr. Doyle
NS310	NS301	Neuroanatomy	6	I	I	1.5 hours	1	Dr. McMahon
	NS306	Neurophysiology	6	I	I	2 hours	1	Dr. Doyle
NS305	NS301	Neuroanatomy	6	I	I	1.5 hours	1	Dr. McMahon
	NS302	Neuropharmacology	6	I	I	1.5 hours	1	Dr. Kelly
SI323	SI312	Endocrinology	6	I	I	2 hours	1	Dr. Roche
	SI319	Reproduction, Development and Aging	6	II	II	2 hours	1	Dr. Roche

Incompatible Subject Combinations for 3rd Year Biomedical Science

Key:

AN: Anatomy
BI: Biochemistry
FR: French
GR: German
GT: Genetics
NS: Neuroscience
PM: Pharmacology
SI: Physiology

Subject Choice	AN310	BI320	PM302	SI330	BI306	FR365	GR353	GR252	GR224	GT301
Incompatible	AN318	AN310	AN310	AN310	PM302	GR252	FR365	FR365	FR365	PM302
Options	BI320	BI314	BI306	BI320		GR224	GR252	GR224	GR252	
	NS305	PM302	BI320	NS310		GR353	GR224	GR353	GR353	
	NS310	SI330	GT301	NS311						
	PM302		NS305	PM302						
	PM304		NS311	SI321						
	SI330		PM304	SI323						
			PM306							
			SI330							
Pre-requisites	AN202	BI201	PM202	SI201	BI201 *or*	FR252	GR252	None	None	BO101
					SI201					

Subject Choice	NS305	NS310	NS311	PM304	AN318	BI314	SI321	SI323	PM306	PM305
Incompatible	AN310	AN310	PM302	AN310	AN310	BI320	SI330	SI330	PM302	
options	PM302	SI330	SI330	PM302						
Pre-requisites	none	None	None	none	AN202	BI201	SI201	SI201	PM202	PM202

Denominated Degree Programme in

Physics with Astrophysics

Denominated Degree in Physics with Astrophysics (3BPA2)

Key:
PH: Physics
MP: Mathematical Physics

List of Third Year Courses

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or Sem II*	*Exam Sem I or Sem II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
PH305	PH362	Stellar Astrophysics	6	II	II	2 hours	1	Head of School of Physics
	PH363	Astronomical Data Analysis	6	I & II	I	1.5 hours	1	Head of School of Physics
	PH351	Wave Optics	6	I	I	2 hours	1	Head of School of Physics
	PH306	Nuclear and Particle Physics	6	II	II	2 hours	1	Head of School of Physics
	PH355	Computational Physics	6	I	I	1.5 hours	1	Head of School of Physics
	PH356	Quantum Physics	6	II	II	2 hours	1	Head of School of Physics
PH358	PH353	Systems and Signals	6	I	I	2 hours	1	Head of School of Physics
	PH354	Thermal Physics and Materials	6	II	II	2 hours	1	Head of School of Physics
MP362	MP363	Methods of Mathematical Physics I	6	I	I	2 hours	1	Head of School of Maths
	MP364	Methods of Mathematical Physics II	6	II	II	2 hours	1	Head of School of Maths

Instructions for Registration:
All subjects are obligatory and students are automatically registered for them. However, students must register on-line between **23rd August and 16th September 2011** in order to confirm return to University and to obtain a current student identification card.

Please note the following lecture times for PH362 and PH363

- PH363 lecture Semester 1 Monday 11am,
- PH363 lecture Semester 1 Tuesday 1pm,
- PH363 laboratory Semester 1 Friday 11am – 2pm,
- PH362 lecture Semester 2 Monday 1pm,
- PH362 lecture Semester 2 Tuesday 1pm,
- PH222 lecture Semester 1 Monday 1pm, (part of the PH361 optional module)
- PH222 lecture Semester 1 Tuesday 1pm, (part of the PH361 optional module)

Denominated Degree Programme in

Biopharmaceutical Chemistry

Denominated Degree in Biopharmaceutical Chemistry

Key:
CH: Chemistry SP: Spring Examination
PM: Pharmacology

List of Third Year Courses

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or Sem II*	*Exam Sem I or Sem II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
CH315	CH311	Organic Chemistry 3	6	I	I	2 hours	1	Dr. Aldabbagh
	CH326	Analytical Chemistry and Molecular Structure	6	I	I	2 hours	1	Dr. Carroll
CH328	CH328	Molecular Modelling and Drug Design	12	I	I	2 hours	1	Prof. Woods
PM305	PM305	Principles of Toxicology	12	I	I	3 hours	1	Dr. Fearnhead
CH318	CH319	Inorganic Chemistry	4	II	SP	2 hours	1	Dr. Erxleben
	CH320	Physical Chemistry	4	II	SP	2 hours	1	Dr. Carroll
CH324	CH324	Validation and Industrial Chemistry	8	II	SP	2 hours	1	Dr. Jones
CH325	CH325	Biopharmaceutical Chemistry Work Placement	8	II	II	Con. Ass.		Dr. Crowley

Instructions for Registration:
All subjects are obligatory and students are automatically registered for them. However, students must register on-line between **23rd August and 16th September 2011** in order to confirm return to University and to obtain a current student identification card.

Denominated Degree Programme in

Physics with Medical Physics

Denominated Degree in Physics with Medical Physics (3BPM2)

Key:
PH Physics MP Mathematical Physics

List of Third Year Subjects

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or II*	*Exam Sem I or II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
PH350	PH351	Wave Optics	6	I	I	2 hours	1	Head of School of Physics
	PH306	Nuclear and Particle Physics	6	II	II	2 hours	1	Head of School of Physics
	PH353	Electronic Systems and Signals	6	I	I	2 hours	1	Head of School of Physics
	PH354	Thermal Physics and Materials	6	II	II	2 hours	1	Head of School of Physics
	PH355	Computational Physics	6	I	I	1.5 hours	1	Head of School of Physics
	PH356	Quantum Physics	6	II	II	2 hours	1	Head of School of Physics
MP362	MP363	Methods of Mathematical Physics I	6	I	I	2 hours	1	Head of School of MSAM
	MP364	Methods of Mathematical Physics II	6	II	II	2 hours	1	Head of School of MSAM
PH300	PH301	Radiation & Medical Physics	6	I	I	2 hours	1	Head of School of Physics
	PH302	Medical Imaging and Radiotherapy	6	II	II	2 hours	1	Head of School of Physics

Instructions for Registration:
All subjects are obligatory and students are automatically registered for them. However, students must register on-line between **23rd August and 16th September 2011** in order to confirm return to University and to obtain a current student identification card.

Denominated Degree Programme in

Physics and Applied Physics

Denominated Degree Programme in Physics and Applied Physics

Instructions for completing online Registration (between 23rd August and 16th September, 2011).

Students must take the following core subject:

PH350: Physics (36 ECTS)

Students are also required to select options to a value of 24 ECTS Credits. This must be done by selecting two 12 ECTS modules.

When completing the Registration Form, students are reminded to check their subject choices against the Incompatible Subject listings for this programme to ensure that all their choices are compatible with one another. The Student Record System will prevent students registering for incompatible subjects at registration. Therefore, when selecting subjects, this list of Incompatible Subject Combinations must be referred to carefully. Please note, all options are compatible with PH350: Physics.

There is also a Prerequisite listing for each subject. In order to register for a subject, the student must have taken the required prerequisite(s) in the previous year, e.g., MA357: Statistics - the prerequisite is ST299: 2nd year Statistics. If a student does not meet the prerequisite(s), he/she cannot register for the subject.

Denominated Degree Programme in Physics and Applied Physics (3BPP2)

Key:

PH: Physics FR: French MA: Mathematics
MM: Maths/Mathl. Physics GR: German MP: Mathematical Physics ST: Statistics

List of Third Year Subjects

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or II*	*Exam Sem I or II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
PH350	PH351	Wave Optics	6	I	I	2 hours	1	Head of School of Physics
	PH306	Nuclear and Particle Physics	6	II	II	2 hours	1	Head of School of Physics
	PH353	Electronic Systems and Signals	6	I	I	2 hours	1	Head of School of Physics
	PH354	Thermal Physics and Materials	6	II	II	2 hours	1	Head of School of Physics
	PH355	Computational Physics	6	I	I	1.5 hours	1	Head of School of Physics
	PH356	Quantum Physics	6	II	II	2 hours	1	Head of School of Physics
Options								
PH361	PH222	Astrophysical Concepts	6	I	I	2 hours	1	Head of School of Physics
	PH362	Stellar Astrophysics	6	II	II	2 hours		Head of School of Physics
PH327	PH328	Physics of the Environment I	6	I	I	1.5 hours	1	Head of School of Physics
	PH329	Physics of the Environment II	6	II	II	1.5 hours	1	Head of School of Physics
FR365	FR365	Advanced French for Science	12	I & II	II	3 hours	1	Prof. Ó Gormaile
GR353	GR353	Improvers II Science – German	12	I & II	II	3 hours	1	Prof. Bourke
MA357	MA337	Statistics I	6	I	I	2 hours	1	Head of School of MSAM
	MA338	Statistics II	6	II	II	2 hours	1	Head of School of MSAM
MP230	MP231	Mathematical Methods I	6	I	I	2 hours	1	Head of School of MSAM
	MP232	Mathematical Methods II	6	II	II	2 hours	1	Head of School of MSAM
MP362	MP363	Methods of Mathematical Physics I	6	I	I	2 hours	1	Head of School of MSAM
	MP364	Methods of Mathematical Physics II	6	II	II	2 hours	1	Head of School of MSAM
MP306	MP305	Modelling I	6	I	I	2 hours	1	Head of School of MSAM
	MP307	Modelling II	6	II	II	2 hours	1	Head of School of MSAM
MM255	MM245	Numerical Analysis I	6	I	I	2 hours	1	Head of School of MSAM

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or II*	*Exam Sem I or II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
MM255	MM246	Numerical Analysis II	6	II	II	2 hours	1	Head of School of MSAM
ST299	MA237	Statistics I	6	I	I	2 hours	1	Head of School of MSAM
	MA238	Statistics II	6	II	II	2 hours	1	Head of School of MSAM

Incompatible Subject Combinations for 3rd Year Physics and Applied Physics

Key:

PH: Physics
FR: French
GR: German
MA: Mathematics
MM: Mathematics/Mathematical Physics
MP: Mathematical Physics
ST: Statistics

Subject Choice	**PH327**	**PH361**	**FR365**	**GR353**	**MA357**	**MM255**	**MP230**
Incompatible options			GR353	FR365	MM255	MA357	
						MM354	
Pre-requisites	PH101 *or*	PH201	FR252	GR252	ST299	MA100 *or*	MA100 *or*
	PH110					MA180 *or*	MA180 *or*
						MA102*or*	MA102 *or*
						MP103	MP103

Subject Choice	**MP362**	**ST299**
Incompatible options		MA357
Pre-requisites	MP201 or	MA100 *or*
	MP200 or	MA180 *or*
	MP280 or	MA102
	MA201 or	
	MA200 or	
	MA280	

Denominated Degree Programme in

Biotechnology

Denominated Degree in Biotechnology (3BY2)

Key:

BI:	Biochemistry	PM:	Pharmacology
GT:	Genetics	BG:	Biotechnology
MI:	Microbiology	SP:	Spring Examination

List of Third Year Courses

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or II*	*Exam Sem I or II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
BI316	BI316	Biochemistry	12	I & II	SP	3 hours	1	Dr. Flaus/Dr. Creighton
MI312	MI312	Microbiology	12	I & II	SP	3 hours	1	Dr. Barry
GT301	GT301	Genetics	12	I & II	SP	3 hours	1	Dr. C. Carroll
PM304	PM304	Basic Pharmacology	12	I	I	3 hours	1	Dr. Kelly
BG301		Biotechnology 3:	12				2	Dr. Flaus
	MG529	Business	6	I	I	2.5 hours		Dr. Hilliard
	GR328	German	6	I & II	SP	3 hours		Dr. Brennan
	FR364	French for Biotechnology III	6	I & II	SP	3 hours		Dr Rodgers

Instructions for Registration:

All subjects are obligatory and students are automatically registered for them. However, students must register on-line between **23rd August and 16th September 2011** in order to confirm return to University and to obtain a current student identification card.

Denominated Degree Programme

in

Computing Studies/ Mathematical Science

Denominated Degree Programme in Computing Studies/Mathematical Science

Instructions for completing online Registration (between 23rd August and 16th September, 2011).

All students are automatically registered for CS320: Computing Studies. This subject is worth 24 ECTS Credits. Therefore, students do not have to list this subject on their Registration Form.

Students are required to select from the following:
MM391: Mathematical Science (Honours) (24 ECTS Credits)
or
MM392: Mathematical Science (Pass) (24 ECTS Credits).

Students should note that if they select MM392: Mathematical Science (Pass), they will graduate with a B.Sc. General and will not be eligible to proceed to the 4th Year Honours programme.

Students are also required to select options to a value of 12 ECTS Credits. This must be done by selecting modules from MM393: Mathematical Science (options) to a value of 12 ECTS Credits.

Denominated Degree in Computing Studies (3CS2)

Key:

CS: Computing Studies
MA: Mathematics
MP: Mathematical Physics
MM: Mathematics/Mathematical Physics
IE: Industrial Engineering

List of Third Year Courses

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or II*	*Exam Sem I or II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
CS320	CS304	Mathematical & Logical aspects of Comp	6	I & II	II	3 hours	1	Head of School of MSAM
	CS402	Cryptography	6	I & II	II	3 hours	1	Head of School of MSAM
	CT351	Networking	6	I	I	2 hours	1	Ms. Griffith
	CS427	Elements of Software Engineering	6	II	II	2 hours	1	Head of School of MSAM
MM391	MA343	Groups I	6	I	I	2 hours	1	Head of School of MSAM
(Hons)	MA344	Groups II	6	II	II	2 hours	1	Head of School of MSAM
	MP363	Methods of Mathematical Physics I	6	I	I	2 hours	1	Head of School of MSAM
	MP364	Methods of Mathematical Physics II	6	II	II	2 hours	1	Head of School of MSAM
MM392	MA313	Linear Algebra I	6	I	I	2 hours	1	Head of School of MSAM
(Pass)	MA314	Linear Algebra II	6	II	II	2 hours	1	Head of School of MSAM
Options	**Select options to a value of 12 ECTS Credits**							
MM393	MA237	Statistics I	3	I	I	2 hours	1	Head of School of MSAM
	MA238	Statistics II	3	II	II	2 hours	1	Head of School of MSAM
	MA387	Statistics I (Hons)	3	I	I	2 hours	1	Head of School of MSAM
	MA391	Statistics II (Hons)	3	II	II	2 hours	1	Head of School of MSAM
MM393	MA341	Metric Spaces	3	I	I	2 hours	1	Head of School of MSAM
	MA342	Topology	3	II	II	2 hours	1	Head of School of MSAM
	MA482	Functional Analysis	3	I	I	3 hours	1	Head of School of MSAM
	MA490	Measure Theory	3	II	II	3 hours		Head of School of MSAM
	MA313	Linear Algebra I	3	I	I	2 hours	1	Head of School of MSAM

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or II*	*Exam Sem I or II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
	MA314	Linear Algebra II	3	II	II	2 hours	1	Head of School of MSAM
	MA301	Advanced Calculus	3	I	I	2 hours	1	Head of School of MSAM
	MA302	Complex Variable	3	II	II	2 hours	1	Head of School of MSAM
	MA337	Statistics I	3	I	I	2 hours	1	Head of School of MSAM
	MA338	Statistics II	3	II	II	2 hours	1	Head of School of MSAM
	MA484	Statistics I (Hons)	3	I	I	2 hours	1	Head of School of MSAM
	MA486	Statistics II (Hons)	3	II	II	2 hours	1	Head of School of MSAM
	MA385	Numerical Analysis I	3	I	I	2 hours	1	Head of School of MSAM
	MA378	Numerical Analysis II	3	II	II	2 hours	1	Head of School of MSAM
	MM245	Numerical Analysis I	3	I	I	2 hours	1	Head of School of MSAM
	MM246	Numerical Analysis II	3	II	II	2 hours	1	Head of School of MSAM
	IE332	Quality Management	3	I	I	2 hours	1	
	IE433	Quality Engineering	3	II	II	2 hours	1	
	MP235	Mechanics	6	I & II	II	3 hours	1	Head of School of MSAM
	IE321	Operations Research I	3	I	I	2 hours	1	Dr. Sheil
	IE324	Systems Simulation	3	I & II	SP	2 hours	1	Dr. Sheil
	IE317	Business Logistics	3	II	II	2 hours	1	Dr. Sheil
	IE879	Statistical Quality Control II	3	II	II	2 hours	1	Dr. Sheil
	CS401	Fractal Geometry	3	I	I	2hours	1	Head of School of MSAM
	CS407	Computer Algebra	3	II	II	2hours	1	Head of School of MSAM
	CS423	Neural Network	3	II	II	2hours	1	Head of School of MSAM
	FR365	Advanced French for Science	6	I & II	II	2 hours	1	

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or II*	*Exam Sem I or II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
MM393	MA338.II	Statistics II	3	II	II	2 hours	1	
	MA381	Metric Spaces & Topology	6	I & II	II	2 hours		
	GR252	German	6	I & II	II	2 hours	1	
	GR353	German	6	I & II	II	2 hours	1	
	MA401	Combinatorial Mathematics	3	I	I	2hours	1	Head of School of MSAM
	MA412	Fourier Analysis	3	I	I	2 hours	1	Head of School of MSAM

Denominated Degree Programme in

Earth and Ocean Sciences

Denominated Degree Programme in Earth and Ocean Sciences

Instructions for completing online Registration (between 23rd August and 16th September, 2011).

All students are automatically registered for EOS316: Fundamental Skills in Earth and Ocean Sciences (12 ECTS Credits). Therefore, students do not have to list this subject on their Registration Form.

- Students are required to select **one** of the following 24 ECTS options:
  EOS307: Earth Sciences II
  EOS308: Ocean Sciences
  EOS309: Environmental Geosciences

- Students must select **one or two** of the following 12 ECTS options
  (Please ensure that the 12 ECTS EOS option is not already selected as part of the 24 ECTS EOS option above):
  EOS311: Environmental Geosciences
  EOS312: Sediments and Biosphere 2
  EOS313: Marine Geoscience
  EOS314: Igneous and Metamorphic Petrology

- Students may select **one** further 12 ECTS option from the list provided on the following pages.

When completing the Registration Form, students are reminded to check their subject choices against the Incompatible Subject listings for this programme to ensure that all their choices are compatible with one another. The Student Record System will prevent students registering for incompatible subjects at registration. Therefore, when selecting subjects, this list of Incompatible Subject Combinations must be referred to carefully. Please not all options are compatible with EOS316 Fundamental Skills in Earth and Ocean Sciences.

There is also a Prerequisite listing for each subject. In order to register for a subject, the student must have taken the required prerequisite(s) in the previous year, e.g., CH301: Chemistry - the prerequisite is CH201: 2nd Year Chemistry. If a student does not meet the prerequisite(s), he/she cannot register for the subject.

Denominated Degree in Earth and Ocean Sciences (3EH2)

Key:

BT:	Botany	EOS:	Earth & Ocean Sciences	MA:	Mathematics
CH:	Chemistry	PH:	Physics	MM:	Maths/Maths Physics
EH:	Eng. Hydrology	FR:	French	MP:	Mathematical Physics
		GR:	German	ST:	Statistics

List of Third Year Courses

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or II*	*Exam Sem I or II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
EOS316	EOS316	Fundamental Skills in Earth and Ocean Sciences	12	II	II	3 hours		Dr John Murray
Please select <u>one</u> of the following 24 ECTS subjects								
EOS307	EOS312	Sediments & Biosphere 2	12	I	I	3 hours		Prof. Mike Williams
	EOS314	Igneous & Metamorphic Petrology	12	I	I	3 hours		Dr. Kathryn Moore
EOS308	EOS312	Sediments & Biosphere 2	12	I	I	3 hours		Prof. Mike Williams
	EOS313	Marine Geoscience	12	II	II	3 hours		Dr. Martin White
EOS309	EOS311	Environmental Geosciences	12	II	II	3 hours		Mr. Tiernan Henry
	EOS313	Marine Geoscience	12	II	II	3 hours		Dr. Martin White
Options	**Students must select one or two of the following modules**							
EOS311	EOS311	Environmental Geosciences	12	II	II	3 hours	1	Mr. Tiernan Henry
EOS312	EOS312	Sediments & Biosphere 2	12	I	I	3 hours		Prof. Mike Williams
EOS313	EOS313	Marine Geoscience	12	II	II	3 hours		Dr. Martin White
EOS314	EOS314	Igneous & Metamorphic Petrology	12	I	I	3 hours		Dr. Kathryn Moore
Options	**Students may select from the following options to a maximum value of 12 ECTS Credits**							
BT316	BT316	Plant Ecology and Palaeoecology	12	I	I	3 hours	1	Prof. M. O'Connell
BT312	BT312	Advanced Aquatic Plant Science	12	II	II	3 hours	I	Dr Stengel

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or II*	*Exam Sem I or II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
EH305	EH305	Hydrology and Hydrogeology	12	I & II	II	3 hours	1	Prof. Cunnane & Prof. Ryan
PH327	PH328	Physics of the Environment I	6	I	I	1.5 hours	I	
	PH329	Physics of the Environment II	6	II	II	1.5 hours	I	
PH357	PH351	Wave Optics	6	I	I	2 hours	1	Head of School of Physics
	PH306	Nuclear and Particle Physics	6	II	II	2 hours	1	Head of School of Physics
PH358	PH353	Electronic Systems and Signals	6	I	I	2 hours	1	Head of School of Physics
	PH354	Thermal Physics and Materials	6	II	II	2 hours	1	Head of School of Physics
PH359	PH355	Computational Physics	6	I	I	1.5 hours	1	Head of School of Physics
	PH356	Quantum Physics	6	II	II	2 hours	1	Head of School of Physics
FR365	FR365	Advanced French for Science	12	I & II	II	3 hours	1	Prof. Ó Gormaile
GR224	GR224	Beginners German for Science	12	I & II	II	3 hours	1	Dr. Ryan
GR353	GR353	Improvers II Science – German	12	I & II	II	3 hours	1	Prof. Bourke
GR252	GR252	German	12	I & II	II	2 hours	I	
MA303	MA313	Linear Algebra I	6	I	I	2 hours	1	Head of School of MSAM
	MA314	Linear Algebra II	6	II	II	2 hours	1	Head of School of MSAM
MA304	MA301	Advanced Calculus	3	I	I	2 hours	1	Head of School of MSAM
	MA302	Complex Variable	3	II	II	2 hours	1	Head of School of MSAM
MM255	MM245	Numerical Analysis I	3	I	I	2 hours	1	Head of School of MSAM
	MM246	Numerical Analysis II	3	II	II	2 hours	1	Head of School of MSAM
MP230	MP231	Mathematical Methods I	6	I	I	2 hours	1	Head of School of MSAM
	MP232	Mathematical Methods II	6	II	II	2 hours	1	Head of School of MSAM
MP362	MP363	Methods of Mathematical Physics I	6	I	I	2 hours	1	Head of School of MSAM
	MP364	Methods of Mathematical Physics II	6	II	II	2 hours	1	Head of School of MSAM

Incompatible Subject Combinations for 3rd Year Earth and Ocean Sciences

Key:

BT: Botany
CH: Chemistry
EH: Hydrology
EOS: Earth and Ocean Sciences
PH: Physics
FR: French
GR: German
MA: Mathematics
MM: Mathematics/Mathematical Physics
MP: Applied Mathematics
BI: Biochemistry

Subject Choice	**EOS307**	**EOS308**	**EOS309**	**EOS311**	**EOS312**	**EOS313**	**EOS314**	**BT316**	**BT312**	**PH357**
Incompatible Options	BT316	BT316	EOS308	EOS309	BT316	EOS308	EOS307	EOS307	PH357	BT316
	EOS308	EOS309	EOS311	MA303	EOS307	EOS309	MA304	EOS308	PH358	BT312
	EOS312	EOS312	EOS313	MP362	EOS308			EOS312	PH359	
	EOS314	EOS313	MA303		PH358			PH357	MA303	
	PH358	PH358	MM354					PH358	MM255	
	MA304		MP362					PH359	MP230	
								MM255		
								MP230		
Pre-requisites	EOS218 and	EOS218 and	EOS218 and	EOS218	EOS218 and	EOS213 and	EOS218	BT201 *or*	BT201 *or*	PH201
	EOS212	EOS212 and	EOS213		EOS212	EOS218		BT217	BT216	
		EOS213								

Incompatible Subject Combinations for 3rd Year Earth and Ocean Sciences

Subject Choice	**PH358**	**PH359**	**FR365**	**GR224**	**GR252**	**GR353**	**MA304**	**MA303**	**MM255**	**MP230**	**MP362**
Incompatible options	BT316	BT316	GR224	FR365	GR224	GR224	EOS307	BT316	BT316	BT316	EOS309
	BT312	BT312	GR252	GR252	GR353	GR252	EOS314	BT312	BT312	BT312	EOS311
	EOS307		GR353	GR353	FR365	FR365	MA303	EOS309	MA303		
	EOS308						MM255	EOS311	MA304		
	EOS312							MA304	MM354		
								MM255			
Pre-requisites	PH201	PH201	FR252	None	None	GR252	MA201	MA293	MA100 *or*	MA100 *or*	MP201 *or*
									MA180 *or*	MA180 *or*	MP200 *or*
									MA102 *or*	MA102 *or*	MP280 *or*
									MP102 *or* AM100	MP102 *or* AM100	MA201 *or* MA200 *or*
											MA280

Denominated Degree Programme in

Environmental Science

Denominated Degree Programme in Environmental Science

Instructions for completing online Registration (between 23rd August and 16th September, 2011).

All students are automatically registered for the core/obligatory modules, i.e., CH328, EV301, MI303 and MA419. Therefore, students do not have to list these subjects on their Registration Form.

Students are required to select **two** options worth 9 ECTS Credits each from the list of choices.

Denominated Degree in Environmental Science (3EV2)

Key:

BT:	Botany	EOS:	Earth & Ocean Sciences	ZO:	Zoology
CH:	Chemistry	EV:	Environmental Science	SP:	Spring Examination
EH:	Hydrology	MT:	Meteorology		

List of Third Year Courses

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or Sem II*	*Exam Sem I or Sem II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
CH327	CH327	Validation and Industrial Chemistry	12	II	II	3 hours	1	
EV301	EV302	Environmental Management	9	I	I	2 hours	1	Dr. Gormally
	EV303	Environmental Legislation	3	II	II	2 hours	1	Dr. Gormally
MI303	MI318	Environmental Microbiology I	6	I	I	2 hours	1	
	MI319	Environmental Microbiology II	6	II	II	2 hours	1	
MA419	MA419	Statistics	6	I	SP	3 hours	1	Head of School of MSAM
Options: Select <u>two</u> options to a value of 18 ECTS Credits								
BT316	BT316	Plant Ecology and Palaeoecology	9	I	I	3 hours	1	Prof. M. O'Connell
EH305	EH305	Hydrology and Hydrogeology	9	I & II	II	3 hours	1	Mr. Henry
EOS213	EOS213	Introduction to Ocean Science	9	I	I	2 hours	1	Dr. Cave
EOS311	EOS311	Environmental Geosciences	9	I	I	3 hours	1	Mr. Henry
TI223	TI233	Introduction to GIS	9	II	II	3 hours	1	Dr. Zhang
ZO314	ZO314	Principles of Animal Ecology	9	II	II	3 hours	1	Dr. Power

Denominated Degree Programme in

Financial Mathematics and Economics

Denominated Degree in Financial Mathematics and Economics (3FM2)

Key:

MA: Mathematics EC: Economics
MP: Mathematical Physics CS: Computing Studies

List of Third Year Courses

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or Sem II*	*Exam Sem I or Sem II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
EC428	EC425	Topics in Microeconomic Theory	5	I	I	2 hours	1	Dr. Twomey
	EC424	Topics in Macroeconomic Theory	5	II	II	2 hours	1	Dr. Twomey
MA365	AY208	Business Finance I	5	II	II	2 hours	1	Dr. Twomey
	MA322	Applied Statistics	5	I	I	2 hours	1	Head of School of Maths
EC389	EC362	Economics of Financial Markets	5	II	II	2 hours	1	Dr. Twomey
	EC369	Money and Banking	5	I	I	2 hours	1	Dr. Twomey
MA381	MA341	Metric Spaces	5	I	I	2 hours	1	Head of School of Maths
	MA342	Topology	5	II	II	2 hours	1	Head of School of Maths
MM350	MP391	Mathematical Modelling	5	II	II	2 hours	1	Head of School of Maths
	MA343	Groups	5	I	I	2 hours	1	Head of School of Maths
MA309	MA311	Annuities and Life Assurance	5	I	I	2 hours	1	Head of School of Maths
	MA310	Actuarial Mathematics I	5	II	II	3 hours	1	Head of School of Maths

Instructions for Registration:

All subjects are obligatory and students are automatically registered for them. However, students must register on-line between **23rd August and 16th September 2011** in order to confirm return to University and to obtain a current student identification card.

Denominated Degree Programme in

Health & Safety Systems

Denominated Degree in Health & Safety Systems (3HF2)

Key:
IE: Industrial Engineering
PH: Physics
SP: Spring Examination
HP: Health Promotion
LW: Law

List of Third Year Courses

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or Sem II*	*Exam Sem I or Sem II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
HP302	HP302	Occupational Health	12	I & II	SP	3 hours	1	
PH317	PH317	Occupational Hygiene	12	I & II	SP	3 hours	1	Head of School of Physics
IE346	HP303	Environmental Epidemiology	6	I	I	2 hours	1	
	LW480	Legal Studies	6	I	I			
IE347	IE448	Safety and Construction	6	I	I	2 hours	1	Mr. Fallon, Mechanical and Biomedical Engineering
	IE342	Safety Systems Design	6	I & II	SP	2 hours	1	
IE417	IE417	Ergonomic Design of the Workplace	12	I & II	SP	2 hours	2	Martina Kelly, Mechanical and Biomedical Engineering

Instructions for Registration:
All subjects are obligatory and students are automatically registered for them. However, students must register on-line between **23rd August and 16th September 2011** in order to confirm return to University and to obtain a current student identification card.

Denominated Degree Programme in

Marine Science

Denominated Degree Programme in Marine Science

Instructions for completing online Registration (between 23rd August and 16th September, 2011).

All students are automatically registered for MR314: Introduction to Marine Ecology (24 ECTS Credits) and EOS313: Marine Geosciences (12 ECTS Credits). These subjects are worth 36 ECTS Credits in total. Therefore, students do not have to list these subjects on their Subject Selection Form.

Students are required to select an option to a value of 24 ECTS Credits. This must be done by selecting **one (1)** subjects from the list of options worth 24 ECTS Credits each.

Denominated Degree in Marine Science (3MR3)

Key:

AS:	Applied Mathematical Science	MP:	Mathematical Physics	SP:	Spring Examination
BT:	Botany	MI:	Microbiology		
EOS:	Earth and Ocean Sciences	MR:	Marine Science		
MA:	Mathematics	ZO:	Zoology		

List of Third Year Courses

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or Sem II*	*Exam Sem I or Sem II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
MR314	MR325	Introduction to Marine Ecology I	12	I	I	3 hours	1	
	MR326	Introduction to Marine Ecology II	12	II	II	3 hours	1	
EOS313	EOS313	Marine Geosciences	12	II	II	3 hours	1	Dr. Martin White
Options	**Select <u>one</u> option to a total of 24 ECTS Credits**							
AS300	Please select any **two** subjects from the options available within AS300 to a total of 24 ECTS Credits							
	MA301	Adv. Calculus	6	I	I	2 hours	1	Head of School of MSAM
	MA302	Complex Variable	6	II	II	2 hours	1	Head of School of MSAM
	MA313	Linear Algebra I	6	I	I	2 hours	1	Head of School of MSAM
	MA314	Linear Algebra II	6	II	II	2 hours	1	Head of School of MSAM
	MA337	Statistics I	6	I	I	2 hours	1	Head of School of MSAM
	MA338	Statistics II	6	II	ÌI	2 hours	1	Head of School of MSAM
	MP363	Methods of Mathematical Physics I	6	I	I	2 hours	1	Head of School of MSAM
	MP364	Methods of Mathematical Physics II	6	II	II	2 hours	1	Head of School of MSAM
BT350	BT316	Plant Ecology and Palaeoecology	12	I	I	3 hours	1	Prof. M. O'Connell
	BT318	Applications of Plant Science in Biotechnology and Ecology	12	II	II	3 hours	1	Dr. Stengel

Level 1	*Level 2*	*Module Name*	*ECTS Credits*	*Taught Sem I or Sem II*	*Exam Sem I or Sem II*	*Exam Duration*	*No. of Exam Papers*	*Course Director*
MA300	MA301	Adv. Calculus	6	I	I	2 hours	1	Head of School of MSAM
	MA302	Complex Variable	6	II	II	2 hours	1	Head of School of MSAM
	MA313	Linear Algebra I	6	I	I	2 hours	1	Head of School of MSAM
	MA314	Linear Algebra II	6	II	II	2 hours	1	Head of School of MSAM
MP300	MP305	Modelling I	6	I	I	2 hours	1	Head of School of MSAM
	MP307	Modelling II	6	II	II	2 hours	1	Head of School of MSAM
	MP363	Methods of Mathematical Physics I	6	I	I	2 hours	1	Head of School of MSAM
	MP364	Methods of Mathematical Physics II	6	II	II	2 hours	1	Head of School of MSAM
MI330	MI316	Industrial & Environmental Microbiology	12	I	I	3 hours	1	Dr. Barry
	MI317	Molecular & Cell Microbiology	12	II	II	3 hours	1	Dr. Barry
ZO301	ZO313	Evolutionary and Developmental Zoology	12	I	I	3 hours	1	Dr. Power
	ZO314	Principles of Animal Ecology	12	II	II	3 hours	1	Dr. Power

Please note: Under AS300: students must take two of the following module combinations:
MA301 + MA302 MA313 + MA314
MA337 + MA338 MP363 + MP364

However,students **cannot** take the following combination of modules:
MA301 + MA302 and MA313 + MA314

3rd YEAR TIMETABLE 2010/2011

AN: Anatomy
AS: Applied Mathematical Science
BI: Biochemistry
BT: Botany
CH: Chemistry
CS: Computing Studies
EH: Hydrology
EOS: Earth & Ocean Sciences
FR: French
GR: German
GT: Genetics
MA: Mathematics
MI: Microbiology
MM: Mathematics/Mathematical Physics
MP: Mathematical Physics
NS: Neuroscience
PH: Physics
PM: Pharmacology
SI: Physiology
ZO: Zoology

L = Lecture; PR = Practical; T = Tutorial; S1 = Semester 1; S2 = Semester 2

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9.00 – 10.00	L CH301 L PH350 L PH359 L ZO301	L CH328 (S1) L CH327 (S2) L GT301 L MA380 (S2) L MR323 (S1) L MR324^ (S2) L PM302	PR AN310 L BT301 L BT316 (S1) L BT312 (S2) L CH328 (S1) L CH327 (S2) L MP239 L MR324^ (S2) L NS305 (S1) L NS311 (S1) L PM302 L SI317 (S1)	L CH 328 (S1) L CH327 (S2) L MI330 L PH350 L PH359 L PH317 L SI317 (S1)	L BI320 L CS321 L EOS307 (S1) L EOS309 (S2) L EOS311 (S2) L EOS314 (S1) L MR323 (S1) L MR324 (S2)
10.00 – 11.00	L BI306 L BT301 L BT316 (S1) L BT312 (S2) L CS322 (S2) L MP239 L MR324^ (S2) L NS305 (S1) L NS311 (S1) L PM302	L CH301 L PH350 L PH357 L ZO301	PR AN310 L BI306 L CH301 L EOS213 (S1) L GR353 L MA380 (S1) PR MM355 (S2) PR ZO301	L EOS307 (S1) L EOS308 (S1) L EOS309 (S2) L EOS311 (S2) L EOS312 (S1) L MA357 PR MI330 L PH317	PR AN310 L CH301 L EOS213 (S1) L PH350 L PH359 PR ZO301
11.00 – 12.00	L BI320 L CS322 (S2) L EOS307 (S1) L EOS308 (S1) L EOS309 (S2) L EOS311(S2) L EOS312 (S1) L MR323 (S1) L MR324 (S2) L SI317 (S1)	PR AN310 L BT301 L BT316 (S1) L BT312 (S2) L CH301 L EOS307 (S1) L EOS308 (S1) L EOS312 (S1) L MR324^ (S2) L NS311 (S1) L NS310 (S1) L PH350 L PH358 L SI330 L SI321 (S1) L SI323	PR AN310 L CH301 L EOS307 (S1) L EOS308 (S1) L EOS312 (S1) PR MM355 (S2) PR ZO301	L PH350 L PH358 PR MI330	PR AN310 L CH301 PR ZO301
12.00 – 1.00	L MA300 L MA304 L MA357 L MA380 L MI330 L MM255 L PM305 (S1)	PR AN310 L BI320 L CS322 L CS321 L EOS307 (S1) L EOS314 (S1) L EOS316 (S2) PR FR365 L MR323 (S1) L MR324 (S2) L SI317 (S1)	PR AN310 L EOS307 (S1) L EOS314 (S1) L MA300 L MA304 L MA380 L MI330 L PM305 (S1) L ST299	L GR353 L MA380 PR MI330 L PH350 L PH357 L PM305 (S1)	PR AN310 L BT301 L BT316 (S1) L BT312 (S2) L MA300 L MA303 L MA380 L MM255 L MR324^ (S2) L NS311 (S1) L NS310 (S1)

					L SI330 L SI321 (S1) L SI323
Time	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
1.00 – 2.00	L PH361 L EOS308 (S2) L EOS309 (S2) L EOS313 (S2) L MA380 L SI330 L SI321 (S1) L SI323	L AN310 L PH361 L EOS213 (S1) L EOS309 (S2) L EOS311 (S2) L MA209 L MA300 L MA303 L NS305 (S1) L NS310 (S1)	L AN310 L EOS308 (S2) L EOS309 (S2) L EOS313 (S2) L MA380 (S2) L PM304 (S1) L CS321	L AN310 L EOS308 (S2) L EOS309 (S2) L EOS313 (S2) L MA209 L PM304 (S1)	L AN310 L EOS308 (S2) L EOS309 (S2) L EOS313 (S2) L NS305 (S1) L NS310 (S1) L PM304 (S1)
2.00 – 3.00	PR BI320 PR EOS309 (S2) PR EOS311 (S2) L GR353 L GT301 L MP362 PR PM302	PR CH301 L MI330 L MP311 (S1) L MP362 PR PH317 (S1) L PH327 (S2) L ST299	PR BI320 PR CH301 PR CS321 (S1) L MM354 L ZO301	PR BT301 PR BT316 (S1 PR BT312 (S2 PR CH301 L MA380 (S1) PR PH317 (S2) L SI330 PR SI321 (S1) PR SI323	L MM354 L MP311 (S2) L NS305 (S1) L NS311 (S1) L PM302 L ZO301
3.00 – 4.00	PR BI320 L CS322 (S1) PR EOS307 (S1) PR EOS308 (S1) PR EOS309 (S2) PR EOS311(S2) PR EOS312 (S1) L GR353 PR PM302	PR CH301 PR EOS213(S1) PR EOS307 (S1) PR EOS308 (S2) PR EOS309 (S2) PR EOS313 (S2) PR EOS314 (S1) PR MI330 PR PH317(S1) L PH327	PR AN310 PR BI320 PR CH301 PR CS321 (S1) PR EOS313 (S2) PR PH350 PR PH357 PR PH358 PR PH359	PR AN310 PR BT301 PR BT316 (S1 PR BT312 (S2 PR CH301 L CS322 (S1) PR PH317(S2) PR PH350 PR PH357 PR PH358 PR PH359 PR SI330 PR SI321 (S1) PR SI323	L CS322 (S1) PR EOS213 (S1) L GT301
4.00 – 5.00	PR BI320 PR CS322 (S1) PR CS3221(S1) PR EOS307 (S1) PR EOS308 (S1) PR EOS309 (S2) PR EOS311(S2) PR EOS312 (S1) L GT301 L MA380 L ST299 PR PM302	PR CH301 PR EOS213(S1) PR EOS307 (S1) PR EOS308 (S2) PR EOS309 (S2) PR EOS313 (S2) PR EOS314 (S1) PR MI330 PR PH317(S1) L PH327 (S1) L ST299	PR AN310 PR BI320 PR CH301 PR EOS313 (S2) PR PH350 PR PH357 PR PH358 PR PH359	PR AN310 PR BT301 PR BT316 (S1) PR BT312 (S2) PR CH301 PR PH317(S2) PR PH350 PR PH357 PR PH358 PR PH359 PR SI330 PR SI321 (S1) PR SI323	PR EOS213 (S1)

5.00 – 6.00	PR CS322 (S1) PR CS321 (S1) PR EOS307 (S1) PR EOS308 (S1) PR EOS312 (S1) PR FR365	PR EOS307 (S1) PR EOS308 (S2) PR EOS309 (S2) PR EOS313 (S2) PR EOS314 (S1) PR MI330 PR MM354 (S2) PR PH317 (S1)	L CS322 (S1) PR EOS313 (S2) PR PH350 PR PH357 PR PH358 PR PH359	PR BT301 PR BT316 (S1) PR BT312 (S2) PR PH317(S2) PR PH350 PR PH357 PR PH358 PR PH359 PR SI330 PR SI321 (S1) PR SI323	

Practicals:

AN310 Students must attend two practical sessions per week, chosen by the Discipline of Anatomy on the basis of their other subject combinations.

BI320 Monday or Wednesday

CH301 Students must attend one practical session per week – whichever fits in best with their timetable

CS321 Monday 4 – 6 or Wednesday 2 - 4

PH350 Wednesday and Thursday

MM354 Offered by Disciplines of Mathematics (MA) and Mathematical Physics (MP) – MA: SEM I; MP: SEM II. Students must attend one practical session each week in Semester II. Wednesday 10.00 – 12.00 noon or Wednesday 5.00 – 6.00 pm.

MI330 Students must attend both Lab Practicals

MP230 Repeated on Monday 10.00 – 11.00 am

PM302 Students must attend Monday session.

SI330 Students must attend Thursday session.

ZO301 Wednesday or Friday

MR324^: **Lecture Timetable is as follows:**

Weeks 1 – 6:	**Weeks 7 – 12**
Monday 10 – 11	Monday 11 - 12
Tuesday 11 – 12	Tuesday 9 – 10
Wednesday 9 – 10	Tuesday 12 – 1
Friday 12 – 1	Friday 9 – 10

MARKS AND STANDARDS 2010/2011

THIRD UNIVERSITY EXAMINATION IN SCIENCE (Including Denominated Degree Programmes)

Course Instance	• 3BO2, 3BPA2, 3BPC2, 3BPM1, 3BPP2, 3BS3, 3BS4, 3BS9, 3BS10, 3BY2, 3CS2, 3EH2, 3EL2, 3EV2, 3FM2, 3HF2, 3MR3, 3PT2	**Duration of Course**	12 months
Course Type	**Bachelor**	**NQAI Level**	Level 8
Title (in full)		**Full/Part Time**	Full Time
ECTS (per yr)	**60 ECTS**	**Mode of Study**	Taught
Marks	Marks returned out of 100%		
Board Meetings	1st Sitting - ☐ Spring ☒ Summer ☐ Autumn ☐ Winter 2nd Sitting - ☐ Spring ☐ Summer ☒ Autumn ☐ Winter		
Marks Entry	☒ Results will be returned at level 2 and an aggregated result will be calculated up to Level 1.		

Honours	Honours awarded at the subject level (level 1)
Honours and Pass Standards ***Please choose the appropriate % for each Grade relevant to this course instances***	H1 70% H2 N/A H21 60% H22 50% Pass 40% *Honours will be removed at every level where a student fails overall.*
<u>All Years: 1/2/3</u> **Passing on the Aggregate Rules**	A student can reach a 40% pass on the aggregate mark within a group or subject (from level 2 to level 1 only) where a student has excess credits in other modules within that same group / subject which are equal to single deficiency, minimum mark 30%.
<u>Years 1 and 2 only</u> **Pass by Compensation**	Candidates who do not fall below 35% (at level 1 only) in 15 ECTS (Year 1) / 20 ECTS (Year 2) may be deemed to have passed if they obtain excess marks above the pass standard in the other groups / subjects equivalent to double the deficiency
<u>Year 3 only</u> **Pass on 40% Average Rule**	A student who has failed a Level 1 stand-alone subject of 12 ECTS value or less will be deemed to have passed the Third Year Examination provided: • An average mark of 40% or more is obtained across all 60 ECTS Credits and • Provided that a minimum mark of 30% has been obtained in the failed stand-alone subject.
Honours Rules	Honours can be awarded in 1st ☒ and / or 2nd ☐ Sitting **NOTE:** Candidates who pass by compensation are not eligible for honours.
Award ***(where applicable)***	**Based on final year -or-** **Final year and penultimate year to the benefit of the student** ☐ Final Year alone (100%) ☒ 20% of the overall results for the penultimate year (3rd Year) and 80% of the overall results for final year (4th Year) ☐ Either of the above to the benefit of the student
Carrying Forward	Yes ☒ A candidate fails the examination as a whole, but has obtained a passing mark or more in one or more subjects, they can be carried forward. No ☐
Progression Rules	☒ Candidates must clearly pass one year in order to progress to the next year ☐ Not Applicable
Special	**3HF2: Health & Safety Systems**

Requirements *(where applicable)* ***No longer than 3 lines***	Note: (i) Third Year Health & Safety Systems (3HF) students must complete the Professional Experience Programme (PEP) element of the course, or equivalent exercise as specified by the programme director, in the period between Semester II (Spring) examinations and commencement of the following academic year. Except in exceptional circumstances, approved by the College of Science, students who fail to meet this requirement will not be permitted to proceed to Fourth Year. (ii) Third Year Health & Safety Systems (3HF) Examinations take place in Semester I and in Spring, with supplemental/repeat examinations in Autumn. Students failing more than two Level 2 subjects (24 ECTS) at the Summer examination board, will not normally be allowed to re-sit at that Autumn's examinations. ***Note: Where there are specific Course Requirements to be passed outright or 0 ECTS (Pass/Fail) modules on the course structure please give details including the module code***

ADDITIONAL INFORMATION

THIRD UNIVERSITY EXAMINATION IN SCIENCE
(Including Denominated Degree Programmes)

Results of Semester I examinations will be communicated to students by means of the following grades:

Percentage	Grade
70-100	A
60-69	B
55-59	C+
50-54	C-
40-49	D
35-39	E+
30-34	E-
0-29	F

Examinations for Third Science will be held at the end of Semester I, Spring or the end of Semester II. The results of Level 2 component modules will be aggregated to Level 1 to give an overall result. A candidate who passes a Level 1 subject on the average whilst failing a Level 2 module component at not less than 30%, will not be required to repeat the failed component. A candidate who fails a Level 1 subject on the average will be permitted to retain any passed Level 2 module component, but will be required to repeat the failed component. Repeat examinations for subjects failed either in Semester I, Spring or Semester II will be held in the Autumn.

Progression to Final Year Honours of the B.Sc. degree on the basis of the Third University Examinations in Science

Students are required to achieve an overall result of pass in their third year examinations before being permitted to progress to the fourth year of the programme by attaining one of the standards below:

(i) Candidates who pass 3rd year at the first or subsequent sittings.

(ii) In the case of both the Undenominated and the Denominated programmes, candidates who attain an average mark of 40% or greater across all 60 ECTS whilst failing a Level 1 stand-alone subject of 12 ECTS value or less provided that a minimum of 30% has been obtained in the failed module.

NOTE: Undenominated Science students who wish to take a biological subject *(i.e., Anatomy, Biochemistry, Botany, Microbiology, Pharmacology, Physiology and Zoology)* in third year must select another 24 or 36 ECTS major subject. ECTS Credits choices therefore are 36 + 24 or 24 + 24 + 12.
Students who wish to specialise in the following subjects will be exempt from this requirement: Chemistry, Computer Science, Earth and Ocean Sciences *(EOS307 or EOS308 or EOS309)*, Mathematics (Honours), Mathematical Physics (Honours), Physics.

Students who pass third year as outlined above will be guaranteed a place in 4th Year. However, students are not necessarily guaranteed their first choice of subject. If a student achieves 45% overall in his/her third year examinations at

the first sitting, he/she will be guaranteed his/her first choice of subject. If a student achieves less than 45% overall in his/her third year examinations, he/she will be allocated a subject from the major subjects taken in third year.

Calculation of 4th Year (Honours) Degree Results (to be implemented from 2009/10)

For students in Third Year from 2009/2010: The overall degree result will be based on 80% of overall 4th Year results + 20% of overall 3rd Year results.

Detailed distribution of marks for written and practical examinations in the Third University Examination in Science

	Written	**Practical and/or Oral**
Anatomy, Chemistry (Third Year only), Earth and Ocean Sciences, Zoology	70%	30%
Physiology (Third Year only)	85%	15%
Botany	60%	40%
Physics and Applied Physics, Physics with Astrophysics	A proportion of marks, up to a maximum of 60% may be awarded for any combination of course work, orals, practicals and projects.	
Modules involving Practical Work	70%	30%

Recognised Subjects for the Postgraduate Diploma in Education

Extract from PAC Information Booklet

For further information on application procedures, candidates should refer to the Postgraduate Applications Centre website for up-to-date official information: http://www.pac.ie/hdip.php. The extract below is for general information only.

Necessity for approval of degrees and subjects by the Teaching Council for the purposes of Registration as a Post Primary Teacher

In order to be eligible for appointment to an incremental salaried teaching position in a State funded Post Primary school, a teacher must be registered with the Teaching Council. Once Section 30 of the Teaching Council Act is commenced, Registration will be a mandatory requirement for all teachers.

Each applicant for registration as a post primary teacher must possess, among other things, a third-level degree *(or equivalent)* which the Teaching Council considers to be adequate to enable the holder to teach at least one of the approved second level curricular subjects.

Recognised Degrees:

List A *(extract of Science Degrees, NUI Galway listed below)* overleaf outlines the degree qualifications which may be recognised by the Teaching Council as being appropriate to teaching in a recognised post primary school. This List must however be read in conjunction with the ***General and Special Requirements for Teachers of Recognised Subjects in Mainstream Post Primary Education*** (see Blue pages) to ensure your degree, including subject and module options taken, meets all the requirements for Post Primary teaching.

All degrees listed are also recognised for the purposes of admission to the Postgraduate Diploma in Education course as offered by any constituent College of NUI or University of Dublin, Trinity College.

NATIONAL UNIVERSITY OF IRELAND, GALWAY
Science Degrees only

Qualification code	Qualification Title	Subjects
GY03P	Bachelor of Science [1]	See below
GY04P	Bachelor of Science Degree in Marine Science [2]	Biology
GY05P	Bachelor of Science Degree in Environmental Science [3]	Biology
GY06P	Bachelor of Science Degree in Computer Studies	Mathematics and Computer Studies
GY10P	Bachelor of Science Degree in Biotechnology	Biology
GY11P	Bachelor of Science Degree in Physiology	Biology
GY12P	Bachelor of Science Degree in Anatomy	Biology
GY13P	Bachelor of Science Degree in Microbiology	Biology
GY18P	Bachelor of Science – Applied Physics and Electronics	Physics
GY22P	Bachelor of Science Degree – Applied Mathematics	Mathematics & Applied Mathematics
GY23P	Bachelor of Science Degree in Chemistry & Applied Chemistry	Chemistry
GY24P	Bachelor of Science in Biomedical Science [4]	Biology
GY25P	Bachelor of Science – Financial Mathematics and Economics	Economics and Mathematics
GY30P	Bachelor of Science in Physics and Astronomy	Physics

1 Provided one or more of the following subjects are taken in the third or fourth year of an honours degree or the third year of a general degree:
Microbiology, Biotechnology, Physiology, Anatomy, Biochemistry, Biology, Botany, Chemistry, Experimental Physics, Food Chemistry, Geography, Mathematics, Mathematical Physics, Applied Mathematical Science, Plant Science, Science of Materials, Statistics, Theoretical Physics, Zoology.

2 Recognised in the subject area Biology provided that the 3rd year of the honours degree (Final year of B.Science General degree) contains in addition to the Fundamentals of Marine Science, one of the core subject 24 ECTS courses (Botany or Zoology).

3 Recognised in the subject area Biology provided that the 3rd Year of the honours degree (Final year of B.Science General degree) contains in addition to stated obligatory subjects, both of the 9 ECTS courses Botany (BT303) **AND** Zoology (ZO303)**.**

4 Subject to an applicant taking the following modules in 3rd and 4th year. Anatomy, Biochemistry or Physiology.

Queries regarding teacher registration and information on recognised courses should be directed to:

The Teaching Council
Block A
Maynooth Business Campus
Maynooth
Co. Kildare

Telephone: LoCall 1890 224 224 or +353 1 6517900

Fax: +353 1 6517901

E-mail info@teachingcouncil.ie

Web Address: http://www.teachingcouncil.ie

Scholarships and Prizes available to College of Science students

University Scholar Scheme

1. Number

Údarás na hOllscoile will confer the title University Scholar on students who obtain the minimum requirement at the relevant examination as specified at 5.2 below.

The title University Scholar may be held with other Scholarships or Grants awarded by the University or by an external body.

2 Value

An award of €250 will be made to each University Scholar.

3 Tenure

The title is tenable only at National University of Ireland, Galway.

4 Condition of Award

To register as a student of the University in the College in which the title is awarded by the due registration date. Failure to complete the registration requirement will render the student ineligible without further notice.

5 Basis of Award

5.1 The award will be made on the results of fulltime undergraduate degree examinations other than the degree examination itself.

5.2 In September 2011, the title will be awarded to students who obtained the following minimum standards in the session 2010/11.

College	Examination	Minimum Requirement
Science	First, Second and Third	An overall average of at least 70% including First Class Honours (at Level 1) in at least 48 of the total 60 ECTS

SCOLÁIREACHTAÍ BHORD NA GAEILGE

1 Scoláireachtaí iad seo atá á dtairiscint ag Údarás na hOllscoile, ar mholadh Bhord na Gaeilge san Ollscoil mar thacaíocht don chlár teagaisc trí Ghaeilge san Ollscoil, agus ar mhaithe le céimithe ar ardchaighdeán acadúil agus Gaeilge a chur ar fáil in ábhair éagsúla.

2 Bronnfar na Scoláireachtaí ar mhic léinn a bheas cláraithe sa chéad, sa dara nó sa tríú bliain de chúrsa fochéime san Ollscoil faoi na coinníollacha seo a leanas:-

(*a*) go bhfuil siad ag freastal ar chúrsaí a gcéime trí mheán na Gaeilge.

nó

(b) go leanfaidh siad an chéad, an dara agus an tríú bliain dá gcúrsa céime trí Ghaeilge, nó an méid den chúrsa a bheas ar fáil trí Ghaeilge san Ollscoil ó thráth go chéile, agus air sin go seasfaidh siad scrúduithe an chúrsa trí Ghaeilge nó an méid díobh a bheas á réachtáil trí Ghaeilge ó thráth go chéile.

(c) gur éirigh go maith leo i scrúdú na hArdteistiméireachta (i gcás na mac léinn chéad bhliana agus sa scrúdú deiridh ollscoile i gcás na mac leínn dara agus tríú bliana).

3 Is fiú €1600 an Scoláireacht agus íocfar mar a leanas í, faoi réir tuairisc shásúil a fháil ón a Ranna cuí maidir le dul chun cinn an tsealbhóra.

Samhain – €800 Márta – €800

An Coiste Scoláireachta, ar chomhairle ó na ranna cuí, a chinnfeas íocaíocht do gach sealbhóir scoláireachta ar leith, nuair a bhíonn an Coiste sásta go bhfuil cúrsaí trí Ghaeilge á ndéanamh ag an sealbhóir i rith na bliana acadúla i gceist.

4 Féadfar an Scoláireacht a athnuachan faoi na coinníollacha céanna i leith an dara bliain den chúrsa Céime ach tuairisc shásúil a fháil ó na Ranna cuí maidir le dul chun cinn an tsealbhóra. Is ar thorthaí scrúduithe an chéad bhliain ollscoile a bhronnfar scoláireachtaí sa dara bliain agus is ar thorthaí scrúduithe na dara bliana a bhronnfar scoláireachtaí sa tríú bliain orthu siúd a dhéanann freastal ar na cúrsaí trí Ghaeilge.

5 Coiste Scoláireachta, arna cheapadh ag an Uachtarán, a bhronnfaidh na Scoláireachtaí ar fad. Cuirfidh an Coiste san áireamh:

(i) torthaí na hArdteistiméireachta agus torthaí agallaimh i gcás mhic léinn don chéad bhliain agus torthaí an scrúdaithe deiridh ollscoile i gcás na mac léinn don dara agus tríú bliain.
(ii) tuairisc ó chomhaltaí den fhoireann teagaisc;
(iii) oiriúnacht an chláir oibre ó thaobh aidhmeanna na scoláireachta.

Féadfar agallamh a chur ar iarrthóirí freisin.

6 Le haghaidh 2004-05, féadfar fiche a cúig (25) Scoláireacht a bhronnadh ar mhic léinn sa chéad, dara agus tríú bliain.

7 Féadfaidh an Coiste an Scoláireacht a tharraingt siar tráth ar bith má tharlaíonn nach bhfuil coinníollacha na scéime á gcomhlíonadh ag an sealbhóir.

8 Ní bheidh dul thar bhreith an Choiste i bhfeidhmiú na scéime.

THE BLAYNEY EXHIBITION

(Founded by the late Lord Blayney)

An Examination for one Exhibition, originally established under the Blayney Bequest and now valued at €1,000, is held in the month of June in each year, on the following conditions:

1. The Exhibition is awarded in alternate years for proficiency (1) in Greek, Latin, and one other language set forth in 4; and (2) in any two subjects for the B.Sc. Degree set forth in 4; the standard required is that of the Pass Degree.

2. Should no candidate present himself or should insufficient merit be shown, the Exhibition may be held over for one year and offered again in the following year in the same course of study.

3. The Examination will be held in June. Candidates must enter their names with the Dept. on or before 31st March.

4. The Courses for the Academic Year 2007-08, 2009-10, etc., will be the B.A. Courses in the following subjects for the Session:—

(1) Greek; (2) Latin; (3) French; (4) German; (5) Irish; (6) Italian; (7) English; (8) Spanish.

The Courses for the Academic Year 2006-07, 2008-09, etc., will be the B.Sc. Pass Courses in any two of the following subjects for the Session:—

(1) Mathematics; (2) Mathematical Physics; (3) Experimental Physics; (4) Chemistry; (5) Zoology; (6) Botany and Plant Physiology; (7) Geology and Mineralogy; (8) Anatomy and Anthropology; (9) Physiology; (10) Pathology and Bacteriology; (11) Biochemistry.

(The maximum number of marks obtainable is the same in each subject.)

5. No student of Medicine may take Anatomy and Physiology for the Examination if more than three years have elapsed from the date of his registration as a student of Medicine. No other student may enter for the Examination if more than three years have elapsed from the date of his Matriculation.

6. No candidate will be admitted to the examination for the Exhibition who has not attended Honours Classes of the First and Second Years in the subjects in which he intends to compete.

7. Údarás na hOllscoile retains the power of withholding, or of awarding only a portion of, the Exhibition.

8. The Blayney Exhibition may be held along with any Scholarship.

9. The Exhibition will be paid in July.

(**Please note:** The Blayney Exhibition will be amended for 2011/12 See website of respective Colleges for updated entry)

PRIZES AWARDED BY ALLTECH BIOTECHNOLOGY INC.

Each Prize is valued at €1270.

The Prizes will be awarded annually to two Third Year Biotechnology students based on the combined scores achieved in the First and Second University Examinations in Science (Biotechnology) and an interview with a member of the College and an Alltech representative. The students will also avail of a 4-month placement in the corporate headquarters of Alltech Research International in Lexington Kentucky, USA, after their Third Year examinations.

CHARLES RIVER LABORATORIES & MASON TECHNOLOGIES PRIZES

Charles River Prizes valued in total at €500, will be awarded annually to the top three students in the 2nd Year and also in the 3rd Year of the undergraduate Pharmacology programme. In addition, prizes will be awarded for best final year laboratory project in the Undenominated Science and also in the Biomedical Science cohorts. Mason Technology has put up a prize of €250. Sigma Aldrich has put up a prize for €300.

HAMILTON PRIZES (ROYAL IRISH ACADEMY)

The Royal Irish Academy/Acadamh Ríoga na hÉireann (National Committee for Mathematics) has obtained sponsorship from DePfa Bank Europe plc, a German financial institution with headquarters in the IFSC in Dublin, to provide prizes annually to students of Mathematics in each of the nine Irish Universities and to fund an annual lecture, the Hamilton Lecture, to be given by a distinguished international mathematician. The sponsorship commenced in 2002 and is to be provided for the next five years. The student prize will be called the Hamilton Prize in Mathematics and is worth €1,000 to each student. It is hoped that both of these initiatives will form part of a new range of activities to celebrate Hamilton's life and contribution to Mathematics and will as far as possible be scheduled on or around October 16th, the day Hamilton scratched his fundamental formula for quaternion multiplication on Broome Bridge in Dublin.

Nine prizes will be awarded each year. Each University Mathematics Department will be invited to nominate its "best" student in the penultimate year of undergraduate mathematical studies. It is not envisaged that the prize within each University be restricted to "single honours" students of Mathematics, or indeed that any special competition be devised. The selection of the best student will normally be based either on the results of the annual assessment of the year's performance or on the best performance in the ordinary University examinations in Mathematics at the end of the penultimate year. However, it is left to the discretion of the Department of Mathematics in each of the Universities to decide on the most appropriate method of selecting which student should be awarded the prize in each case.

It is envisaged that each Department will publicise the award, and announce the criteria used to determine the prize-winner within each University. The Academy wishes to receive from each Head of Department the name of one, and only one, prizewinning student by the end of June each year, on completion of the student's penultimate year of study of Mathematics. The Academy intends to hold a prize-giving ceremony in Academy House on or near October 16th in each year, the anniversary of Hamilton's famous walk. It is expected that all nine prize-winners, who should then be in their final year of study, will attend this ceremony.

Hamilton Lecture

The Academy is in a position, thanks to the sponsorship of DePfa Bank, to fund the visit of an eminent mathematician from abroad to participate in the day's activities. This person, possibly a Fields Medallist or a mathematician of similar stature, will deliver a public lecture at a venue in central Dublin. He/she will also present the Hamilton Prizes to the students. It may also be possible to have the visitor deliver a seminar in Academy House, to an invited audience of professional mathematicians, around the same time. Further details will be advised when available.

SCHOOL OF PHYSICS THIRD YEAR LABORATORY GOLD MEDAL.

This medal is awarded to the student who achieves the highest mark in the third year physics laboratory, provided that a high overall mark is obtained in the subject.

SPORTS SCHOLARSHIPS

The University offers a number of sports scholarships to student-athletes of outstanding calibre who register as students of the University. These scholarships are aimed at persons who have the potential to achieve a high level of performance in sport while pursuing a full-time undergraduate degree course, postgraduate degree course, or postgraduate diploma course.

Scholarship Application Forms are available from the Sports Officer, National University of Ireland, Galway. Tel: (091) 524411, Extn. 2165; Fax (091) 750545.

UNIVERSITY PRIZES

Students of this University may compete for the Prizes, Medals, Scholarships and Studentships offered for competition by the National University of Ireland.

For information regarding these Prizes, etc., students are referred to the Registrar, The National University of Ireland, 49 Merrion Square, Dublin 2; Tel. No. 01 - 4392424.

SCOLÁIREACHTAÍ NA GAELTACHTA CURTHA AR BUN AG ÚDARÁS NA hOLLSCOILE

Fuagraí Faoi Leith

Ní bheidh costas taistil ná costas aíochta le fáil ag aon duine dá dtiúrfaidh Coiste Scoláireachtaí na Gaeltachta cuireadh dhó teacht ag an scrúdú Gaeilge le haghaidh na Scoláireachtaí.

Caithfear iarratais le haghaidh na Scoláireachtaí a chur isteach ar 1 Meán Fómhair nó roimhe, chuig an Oifig Iontrála, Ollscoil na hÉireann, Gaillimh

I.

Is ionann an "Ghaeltacht", maidir leis an gCóras seo, agus an chuid d'Éirinn atá fá dhath dearg agus buí ar léarscáil Choimisiúin na Gaeltachta.

II.

1. Tá Údarás na hOllscoile ag tairscint roinnt áirithe Scoláireachtaí san Ollscoil do chainteoirí dúchais Gaeilge a rugadh nó a tóigeadh sa nGaeltacht, a bhfuil Scrúdú na hArdteistiméireachta bainte amach acu.

Má bhíonn iarrthóirí istigh as an mbreac-Ghaeltacht nach bhfuil ina gcainteoirí dúchais amach agus amach agus má bhíonn an scrúdaitheoir Gaeilge sásta gur Gaeilgeoirí maithe iad, tig leis an gCoiste, má bhíonn airgead sparála sa gciste, scoláireachtaí a thabhairt do dhaoine den tsórt seo.

2. Is fiú €254 sa mbliain ar feadh cheithre mblian gach Scoláireacht acu seo, ach beidh cead ag Coiste Scoláireachtaí na Gaeltachta scoláire a bhfuil an chéim bainte amach aige nó aici, d'ainmniú, ar chuntair áirithe, le haghaidh Scoláireachtaí den 5ú bhliain.

3. Duine ar bith atá ag cur isteach ar cheann de na Scoláireachtaí seo ní mór dhó Foirm Iarratais a fhail ón Oifig Iontrála, agus é a bheith istigh aige, líonta go dlisteanach, ar 1 Meán Fómhair, nó roimhe.

4. Ní mór don Iarrthóir na scrúduithe seo a sheasamh:—

(a) Scrúdú na hArdteistiméireachta.

(b) Scrúdú béil agus scríofa i nGaeilge.

Bronnfar na Scoláireachtaí do réir iarmhartha na scrúduithe tuasríofa. Ligfear 300 marcanna le haghaidh na Gaeilge ag an Scrúdú béil agus scríofa i nGaeilge ((b) thuas). Cuirfear na gráid a bainfear amach (taobh amuigh den Ghaeilge) ag Scrúdú na hArdteistiméireachta san áireamh le haghaidh na Scoláireachtaí.

Má bhíonn pas faighte ag iarrthóir i níos mó ná cúig ábhair (taobh amuigh den Ghaeilge) is iad gráid na gcúig n-ábhar is fearr ar éirigh leis an iarrthóir iontu, a cuirfear san áireamh.

5. Ní mór d'iarrthóirí an Ardteistiméireacht a bhaint amach in aon iarracht amháin, na hábhair a bheith do réir mar tá luaite i riail 4 thuas.

6. Gheobhaidh gach iarrthóir dlisteanach cuireadh go dtí an scrúdú Gaeilge le haghaidh na Scoláireachtaí.

7. Beidh an scrúdú seo i nGaeilge ar bun san Ollscoil chomh luath agus faightear toradh Scrúdú na hArdteistiméireachta. Is é Ollamh na Nua-Ghaeilge san Ollscoil a chuirfeas na hiarrthóirí faoi scrúdú. Gheobhaidh gach iarrthóir fuagra roimh ré fá dháta an scrúduithe.

8. Ní bronnfar scoláireacht ar aon duine nach sroicheann an caighdeán atá ceaptha, le haghaidh na Scoláireachtaí, ag an gCoiste.

Ní bheidh feidhm le scoláireacht ach amháin sa mbliain ina mbronntar í — muna mbí cúis an-speisialta leis.

9. An té a n-éireoidh leis Scoláireacht a bhaint amach, cuirfidh sé/sí in iúl don Oifig Iontrála, i dtosach an tSeisiúin cé na hábhair léinn ar mian leis/léi freastal orthu.

Pér bith cúrsa a shocraíos Scoláire a dhéanamh, is ar na léachtaí i nGaeilge le haghaidh an chúrsa sin a dhéanfas sé/sí freastal. Mura bhfuil cúrsa iomlán le fáil i nGaeilge, déanfaidh sé/sí freastal ar phér bith léachtaí atá le fáil i nGaeilge le haghaidh an chúrsa.

Ní bheidh cead ag aon scoláire a chúrsa léinn d'athrú gan cead faoi leith ó'n gComhairle Acadúil.

10. Ina fo-choda a híocfar an Scoláireacht. Is féidir fochuid nó an t-iomlán dá Scoláireacht a bhaint de mhac léinn, (a) mura mbí iompar ceart, oiriúnach air/uirthi, (b) má mbíonn sé/sí faillíoch ag freastal na léachtaí, (c) mura n-éirí leis/léi i bhfo-scrúduithe na dtéarmaí.

11. Is ar scrúdú na hOllscoile nó san Ollscoil a sheasamh don mhacléinn i ndeireadh na bliana atá coinneáil ar aghaidh na Scoláireachta dhó an bhliain dár gcionn, is é sin, mura dtuga an Chomhairle Acadúil toil ar a mhalairt.

12. Ní ghlacfaidh an Coiste le haon fhoirm iarratais nach bhfuil líonta go cúramach agus go hiomlán.

III.

Beidh cead ag Údarás na hOllscoile scoláireachtaí na Gaeltachta a bhronnadh ar Ghaeilgeoirí ó dhúchas ar éirigh leo an Chéad Scrúdú Ollscoile a bhaint amach, má mholann Coiste Scoláireachtaí na Gaeltachta a leitheid seo de dhaoine chuige.

Tá tuilleadh eolas faoi Scoláireachtaí Gaeltachta ar fáil ó Peadar Uas. Mac an Iomaire, Stiúrthóir na Gaeilge Labhartha.

AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA

Scoláireachtaí Ollscoile

Bronnann an Roinn Oideachais agus Eolaíochta Scoláireachtaí Ollscoile atá intsealbhaithe i Ollscoil na hEireann, Gaillimh faoi réir an dá scéim seo a leanas:
Scoláireachtaí Ollscoile do Mhicleinn ón nGaeltacht *agus*

Scoláireachtaí chun cur ar chumas Macléinn Cúrsaí Ollscoile a dhéanamh trí Ghaeilge.

Is féidir tuilleadh eolais a fháil faoi na Scoláireachtaí seo ó: An Rúnaí, An Roinn Oideachais agus Eolaíochta, Brainse an Iarbhunoideachais, Teach Apollo, Baile Átha Cliath 2.

ALIVE VOLUNTEERING PROGRAMME

The ALIVE Programme at NUI Galway seeks to support and recognise student volunteering through an integrated programme including:

- **volunteer opportunity** matching service,
- series of **volunteer training** workshops,
- **peer support** reflection sessions and social gatherings,
- **recognition** through the ALIVE Certificate

Contact name: Lorraine Tansey, Student Volunteer Coordinator, Community Knowledge Initiative.
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