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2010

Opening Statement – Mr Ned Costello

Thank you Chair for the opportunity to address the Committee. I will introduce my colleagues. Professor Paul Giller, Registrar and Deputy President at UCC, Dr Bairbre Redmond, Deputy Registrar and Head of Teaching and Learning at UCD, and Mr. Lewis Purser, Director of Academic Affairs at IUA.

In my opening statement I will summarise the main points of our detailed submission. Curriculum matters in higher education are wide ranging given the diversity of disciplines in today's universities. They are made even more so due to the growing inter-linkages between research and teaching, and the interconnectedness of the universities to the economy and society. The past decade has been one of enormous change in the academic activities of institutions, in how they are structured and in how teaching and learning takes place.

! : the number of students in our universities increased by approximately 20 percent over the past decade, continuing a long-run trend of the increased massification of higher education. The Department of Education and Skills predicts that this process will increase. Notably, this will come

about largely through increases in part time, mature and international student numbers. Fortunately, many of the recent developments in the design and delivery of higher education will assist in catering to this more diverse student mix.

" # The implementation of the National Framework of Qualifications has brought greatly enhanced structure and transparency to the educational offering. This is further built upon by the Bologna Process and the European Credit Transfer System.

These have been given practical effect in the move to semesterisation and modularisation on the part of the universities and the development of learning outcomes. As a result, students have greater clarity about what they will learn and how they will be assessed. In the latter context there has been a substantial move away from sole reliance on terminal exams towards more continuous assessment and project work. Modularisation has also allowed for greater student choice and interdisciplinarity.

\$! " : There is now a much greater emphasis on pedagogy and the practice of teaching as reflected in the establishment of the National Academy for Integration of Research, Teaching and Learning (NAIRTL) and other centres for teaching and learning at institutional level, such as the Centre for Excellence in Learning and Teaching at NUIG (CELT). Centres such as these have raised the

profile of teaching and learning and have made a significant input to the development of policy and practice in areas such as the specification of learning outcomes. There is also a concerted effort on the part of academic staff to acquire accredited professional qualifications in the specific area of teaching. Teaching practice has also become more structured through the development of teaching portfolios – with the latter being significant in the career development of academics.

How content is delivered and absorbed has also changed with the development of Virtual Learning Environments. These have progressed rapidly from being simple content repositories to becoming more interactive. These approaches to blended learning aim to leverage technology to enhance the student experience and are not a substitute for direct contact between students and staff.

\$ % " : As regards the evolution of the curriculum itself or, I should more accurately say, curricula; what is taught in universities is in a constant state of flux as the world of knowledge changes. Two major influences on the curriculum are new knowledge which is generated from research, both within the institutions themselves and globally. Participating in and maintaining currency with this development is an essential part of the academic's role. The second area is developments in the broader enterprise and professional environment. Finally,

there is feedback from students and, as such, most academic staff will update modules on an annual basis in light of these inputs.

& § : Student learning can also be broadened through work placements and service learning. Work placements are common across the universities. However, one inevitable difficulty in expanding placement programmes is their dependence on the economic cycle. Therefore, universities are also focusing on service learning which encourages students to learn and explore issues vital to society, inside and outside the classroom.

' " §: While the shorthand “third level” is often conveniently used to describe universities, postgraduate education is now of great significance. During the last six years doctoral education in Irish universities has undergone significant change. Annual graduations have also more than doubled, reaching 1,000 per annum. In these six years universities have introduced ‘structured programmes’ to better support students’ research and professional development.

() : operates through a twin pronged system – locally at institutional level with this activity validated by the Irish Universities Quality Board (IUQB). It should be stressed that both local and IUQB reviews have a strong external dimension and are made publically available.

' : is an important part of the quality improvement process. In our detailed submission we refer to the Irish Universities Study –the first cross sectoral

review of students and to work being undertaken by UCD to introduce a standardized online student feedback system. These approaches need to be extended and deepened over time.

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Finally, Chair, I would like to refer to a number of strategic issues which will impact on developments in this area. These are as follows:

- The continuing massification of the system and, in the context of the Employment Control Framework, the impact this is having on student:staff ratios and capacity to undertake small group teaching;
- The resourcing of the system overall and the matter of student contributions against the backdrop of both massification and the current financial crisis;
- The potential tension which exists between the development of broad skills and highly specialized qualifications;
- The debate as to whether second level education is excessively instrumentalist and how this impacts on the capacity for young people to engage in self directed learning;
- The relationship and balance between teaching and research and the achievement of transparency in that regard;

- Mathematics attainment and how this can be raised, and, finally:
- The important question of the macro level structuring of the Higher Education system in the context of the forthcoming Higher Education Strategy.

I thank the committee for their attention and we will be happy to address any points arising. That concludes my statement, Chair.

Curriculum matters in higher education are wide ranging given the diversity of disciplines in today's universities. They are made even more so due to the growing inter-linkages between research and teaching, and the interconnectedness of the universities to the economy and society.

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The past decade has been one of enormous change in the academic activities of institutions.

The number of students in our universities increased by approximately 20 percent over the past decade, continuing a long-run trend of the increased massification of higher education. The Department of Education and Skills predicts that this

process will increase. Notably, this will come about largely through increases in part time, mature and international student numbers. Fortunately, many of the recent developments in the design and delivery of higher education will assist in catering to this more diverse student mix. I will now briefly cover some of those developments. A breakdown of student numbers in the universities is appended in the background section of this document.

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Perhaps a good starting point is the NFQ - the national framework of qualifications. The NFQ provides a hierarchical structure through which the level of different qualifications can be assessed and compared. This is important for access, transfer and progression throughout the education system. The universities make the bulk of their awards from levels eight to ten on the framework and all university awards have now been placed on the framework. In addition, there are a number of programmes at levels 6 and 7, related to Adult and Continuing Education in response to the unemployment crisis and to support those who wish to return to college.

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Another important overarching development is the Bologna Process. This is a European initiative to bring about transparency and compatibility of higher

education across Europe. It defines three cycles of higher education: Bachelor's, Master's, and Doctoral. An important aspect of enabling student mobility, and particularly moving on to a further degree in another country, is a system of credits, used for recognition and accumulation - the European Credit Transfer and Accumulation System (ECTS). The ECTS is also important in the context of modularisation. The ECTS system provides for a 60 credit academic year at undergraduate level, and a 90 credit calendar year for masters and the taught structured elements of PhD programmes.

Semesterisation and modularisation have significantly changed the way in which curricula are structured and delivered and have allowed the universities to develop degree programmes which fit well with the Bologna process, thus facilitating the mobility of students both into and out of Irish universities. This increased ease of exchange of students across international programmes improves not only the educational experience of the individual student but also that of the host universities in which they study.

The universities have moved undergraduate teaching away from the old three term structure to a two semester structure – typically from October to December and January to June. In regard to examinations, in some institutions, these occur

at the end of each semester, in others end of year (summer) examinations remain.

In all cases there is also much greater emphasis on continuous assessment and project work. Early discussions are in progress at the moment across some of the Dublin universities to explore the possibility of common term dates to facilitate shared intra-institutional modules.

The structure of the academic year is assisted by modularisation – the process by which the curriculum is broken down into specific modules, each with clear objectives, assessment, teaching mode and learning outcomes. The credit value for a module corresponds to the amount of work that is expected for that module. Most modules are worth five ECTS credits, which require 100–125 hours of work (lectures, self-study, assessments and, where applicable, tutorials and lab work). To assist students in planning their study, there is a significant move to the specification of clear learning outcomes for each study - which are the outcomes a student is expected to have achieved on the successful completion of each module. Thus the focus shifts from the content of what is taught to the much clearer picture of how what the student has learnt.

Modularisation can also help to promote interdisciplinarity. In the supporting section of this document we have given the example of the UCD Horizons programme, which mirrors the structure of most modularized programmes across

the sector, where students can study elective modules outside their main degree area. This allows students to broaden their education by combining, for example, a module in entrepreneurship with an engineering degree or music with an architecture degree and the most popular elective is an Introduction to Applied Psychology. There is also the option for students to take all elective modules in one subject, thus allowing them to achieve a 'minor' specialisation alongside their degree; 'minors' such as a language or business enhance the major degree and increase student employability. This model of offering breadth in the curriculum is under consideration by a number of other universities. Importantly, I should say that the flexibility offered by modularisation plays an important role in facilitating the expansion of part time and further education provision since it allows students to study at module level, at their own speed, rather than necessarily being required to sign up for a full-time degree course.

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There is now a much greater emphasis on pedagogy and the practice of teaching as reflected in the establishment of the National Academy for Integration of Research, Teaching and Learning (NAIRTL) and other centres for teaching and learning at institutional level, such as the Centre for Excellence in Learning and Teaching at NUIG (CELT). The supporting section of this document contains

further details of these developments. I have already mentioned some of the key developments such as the specification of learning outcomes. Other important developments include the increasing role of research and teaching linkages through research led teaching where the findings from the academic's research are fed back into the content of modules and programmes. There is also a significant move to upskill academic staff through the development and deployment of academic programmes in professional practice (at Certificate, Diploma and Masters Level). Teaching competence is now well embedded in the promotional programmes of universities with applicants being required to submit a teaching portfolio. More details are given in the background section of this document. In addition, quality teaching is promoted by local and national awards – further details of the NAIRTL awards are in the background section of this document.

Finally, in this context, there is the continuing evolution of technology assisted learning and virtual learning environments (VLE's) such as Blackboard and Moodle. VLE's began as an electronic repository for course materials but are evolving and cross fertilising with social media through the use of blogs, podcasts and discussion forums. Such blended and on-line learning approaches are in development throughout the sector and they allow for much greater flexibility in the delivery of modules. Thus on-line components of modules can be completed by students at distance to the university and at times which best suit their learning.

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As the Committee will be aware, unlike first and second level, there is no standard curriculum for universities. The disciplinary environment in universities is enormously diverse and subject to constant change. Universities have a pivotal role to play in the creation of knowledge as well as its dissemination. This happens through the research of academics working as individuals or teams, both within the university and globally. It must be noted that academic staff are not simply the transmitters of the curriculum but are the creators of it also. This is a key part of the rationale for academics being research active and keeping up to date with developments in their discipline – maintaining theoretical currency as it is known and delivering research-led teaching. The curriculum is also significantly influenced through the interaction of academics with industry and professional bodies. Thus in areas such as Engineering, Architecture, Law, Science, Medicine and Accounting to name but a few, the curriculum constantly evolves in response to developments in those professions.

The majority of academic staff will update modules on an annual basis in light of new knowledge, and feedback from students and employers for example.

Programmes accredited by professional bodies would undergo very regular reviews by the bodies and curricula would be updated in response to changing professional needs. Response to changes in the student body, and expansion of interdisciplinarity also lead to regular updating of programmes. On a more long-term basis the curriculum would evolve to reflect changing academic staff and their interests and expertise, as well as national needs and opportunities.

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Student learning can also be broadened through work placements and service learning. Work placements are common across the universities, and in the background section of this document we give the example of the DCU Intra programme which provides placements ranging in duration from two to eight months, with the longer duration being the more common. One inevitable difficulty in expanding placement programmes is their dependence on the economic cycle.

Therefore, universities are also focusing on service learning. Service Learning encourages students to learn and explore issues vital to society, inside and outside the classroom. Students learn from engaging with communities by active participation. Communities involved in Service Learning can be charities, non-governmental organisations, statutory bodies, community associations or organisations with a focus on social responsibility. For example, UCC has introduced a generic module framework to capture this learning opportunity in a more formal way, as well as a process to accredit prior experiential learning.

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While the shorthand “third level” is often conveniently used to describe universities, postgraduate education is now of great significance. During the last six years doctoral education in Irish universities has undergone significant change. Annual graduations have also more than doubled, reaching 1,000 per annum. In these six years universities have introduced ‘structured programmes’ to better support students’ research and professional development. These programmes also reflect the increasing priority of enabling PhD graduates to operate as researchers in research and development performing private sector companies and also to fully exploit any commercial potential that their research might have.

A structured programme is one in which to support the original research activity, the following elements are included: a formalised integrated programme of education, training and personal and professional development activities, the development of discipline-specific knowledge, research skills and generic/transferable skills, declared outcomes and graduate attributes in line with national and international best practice. Taught masters programmes provide universities with the means to react rapidly to emerging opportunities in terms of national and international needs and student and employer demand. Similarly, Postgraduate Diplomas allow for targeted retraining and establishment of a pool of expertise in emerging technologies and markets.

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The Irish Universities Quality Board (IUQB) was established in 2002 to externally validate the internal processes of quality assurance within the universities. It does this through commissioning reviews by expert panels with strong international membership. These reviews supplement the reviews undertaken by the universities themselves. These again involve external as well as local assessment and are conducted at a considerable level of detail. Both the IUQB's reviews and the reviews of the universities themselves are publicly available on the IUQB's website.

http://www.iuqb.ie/info/quality_reviews_introduction.aspx.

Engagement of external independent peer review through the programme cycle, from programme development to assessment, is a critical component of academic quality assurance in the universities. The second round of Reviews of the universities is now underway, with reviews of NUIM and DCU, completed and the review of NUIG underway at present.

Student feedback also plays an important part in the quality improvement process.

At an overall sectoral level, the ***Irish Universities Study*** conducted under the aegis

of the Strategic Innovation Fund is a broadly based attitudinal survey of students across a wide range of headings. Details of the relevant module is included in our submission. Within the institutions themselves there is an increasing emphasis on student feedback. At present UCD are running the first on-line standardised student feedback system that covers all modules, undergraduate and graduate, taught in the first semester of this academic year incorporating a total of over 1,400 modules. This is an area that is undergoing further development across all the universities.

In addition to this factual overview, we would highlight a number of important issues impacting on the curriculum, teaching and learning.

% : % % : The most significant of these is the interaction between the massification of higher education and resources, both physical and financial. Class sizes in universities are very large by international standards and have been moving progressively upwards. This is reflected in a student:staff ratio which is now heading for the region of 25-30:1. By comparison, top ranked international universities are in the region of 8-14:1. While this makes the Irish system very efficient in pure productivity terms, as evidenced by the

recent EU ECOFIN report, it does impact on, for example, the capacity to deliver the level of small group teaching which would ideally be desirable.

: As regards the matter of resourcing, the IUA submission to the Higher Education Strategy Group proposed the introduction of a system of income contingent loans and top up fees. While shorter term measures may be required to address the immediate crisis in the national finances, in our view, the income contingent loans system remains a desirable strategic goal to be achieved.

/ ! : A second issue, which is both philosophical and practical, is the balance between broad education and specialisation. Modularisation does attempt to address this, but it is fair to say that there may be some tension between the desire to see students who are broadly skilled and adaptable and yet also imbued with deep specialist knowledge in a vocational domain.

Learning Outcomes and Self-Directed Learning: Changing to a third level curriculum strongly based on learning outcomes poses significant challenges for universities. The claim that learning outcomes foster instrumentalist learning is unproven in international higher educational research. In fact well-designed learning outcomes, supported by sound assessment strategies, move the focus from the content of what is taught to a greater understanding of how students learn and which teaching and assessment approaches allow them to succeed. This is best demonstrated in the growing use of effective teaching approaches such as Enquiry Based Learning, proven to increase levels of critical thought and independent learning capabilities.

Such teaching approaches are being used particularly in First Year of undergraduate study where many students struggle with the transition to successful independent

third level study from the more didactic outputs and outcomes of the second level system. In that regard, it is fair to say that there are concerns on our part that the second level system has become even more instrumentalist in nature. It is undoubtedly delivering high levels of attainment in the terminal examination of the leaving certificate. However, it appears that this is at the detriment of other important qualities – in particular from our perspective – the capacity of students to engage in self directed learning which is at the core to the student experience at university

+ " # : There is also the question of the balance between teaching and research. As I have said earlier, universities see an intrinsic linkage between the two. We therefore feel that we need to continuously improve our performance in both domains. However, it is desirable that there be systems in place to ensure that there is confidence that this is being achieved. In our Public Sector Agreement (Croke Park) implementation plan, we have given a commitment that Workload Allocation systems will be fully put in place during 2011. During 2011, we will also deliver the first results of the Full Economic Costing system which will allow us to more accurately cost all university activities including teaching and research.

" : A further area of concern is mathematics attainment. In this regard, the universities recently announced the provision of a 25 points bonus for the attainment of a D3 or above in higher level maths in the Leaving Certificate. In addition, several of the universities have developed specific maths support centres to provide students with additional assistance to address weaknesses in their

maths competence. Ultimately however, these remedial measures will not substitute for the implementation of the suite of recommendations contained in the report of the Project Maths Implementation Support Group.

: Finally, there is a question of structures and whether our higher education system in its totality is optimally configured. We understand that this matter has been considered extensively by the Higher Education Strategy Group and it is perhaps something that the Committee may wish to explore further in its deliberations.

BACKGROUND DOCUMENT

Contents:

- Student Numbers (excel sheet)
- National Framework of Qualifications (pg 11)
- Modularisation & Semesterisation - - UCD Horizons Example (pg 13)
- Vocationally Oriented Degree Example – UCC/CIT Biomedical Science (BSc) (pg 15)
- *Part Time and Flexible Learning Example – UCC Flexi Options (Pg 18)*
- NUIG - Certificate/Diploma in Employee Assistance and Social Support (Pg 19)
- Teaching portfolio requirements for promotion (Pg 21)
- Development of Learning and Teaching – NAIRTL Mission & Awards (Pg 23)
- Support to build maths competence examples (Pg 25)
 - UL Maths Learning Centre
 - NUI Maynooth Maths Support Centre
- DCU Intra Programme (Pg 26)
- Student Feedback – The Irish Universities Study (Pg 27)

Student Numbers

For a breakdown of student numbers see excel sheet attached.

NFQ –the National Framework of Qualifications

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The National Framework of Qualifications (NFQ) is intended to put the learner at the centre of the education and training system in Ireland. It is important that you are aware of the NFQ, understand what it means for you, and the benefits it can bring.

The NFQ provides a structure (a framework) to compare and contrast the level and standard of different qualifications. This helps you to make informed decisions about your qualification choices and to consider progression opportunities available to you. The NFQ also makes it easier for you to explain to others what qualifications you hold, or are studying for. This becomes very important when you are considering further learning or when you are applying for a job - at home or abroad.



The NFQ, illustrated by the “fan diagram” above is a system of ten levels. It is based on standards of knowledge, skill and competence and it incorporates awards made for all kinds of learning, wherever it is gained. School qualifications awarded by the State Examinations Commission, further education and training qualifications awarded by FETAC and higher education and training qualifications awarded by HETAC, DIT, other Institutes of Technology and the Universities are all included in the Framework.

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The National Framework of Qualifications has been built around an agreed architecture, as a result of an extended consultative period with a range of stakeholders. The following points illustrate the central features of its construction:

- The Framework is comprised of levels, award-types and named-awards
- It has ten levels covering the very initial stages of learning to the most advanced
- Four classes of award-type have been determined for the Framework - major, minor, special-purpose and supplemental. This is to ensure that the Framework can capture all types and sizes of learning undertaken by a learner

- Award-types are independent of a particular discipline. For example, an 'Advanced Certificate' is an award-type at Level 6. There are a number of 'Advanced Certificates' available for a number of different disciplines at Level 6. The named-award indicates the discipline in which the 'Advanced Certificate' was achieved e.g. 'Advanced Certificate Craft - Electrical'
- Each award-type (e.g. Advanced Certificate) has its own award-type descriptor. This means that the overall standard of knowledge, skill and competence is set out. These overall standards can then be used to indicate the standard that a named-award should be at (e.g. Advanced Certificate Craft –Electrical). This ensures that there is consistency across qualifications at a given level on the Framework.

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The National Framework of Qualifications (NFQ) is intended to put the learner, at the centre of the education and training system in Ireland.

Some of the benefits for learners include:

- Qualifications in the NFQ are [quality assured](#). This means that the learner, can have confidence that your course, and the institution at which you are studying, are reviewed on an ongoing basis. Quality assurance is intended to ensure that all learners have a high quality learning experience regardless of where you are studying.
- From a learner perspective, the NFQ can help individuals to plan their education and training and career progression and provide value for different types of learning.
- Learners can make informed choices about the qualifications they choose, whilst taking into account the progression routes that may be open to them upon completion.

4. Who can make awards in the NFQ?

As a result of the Qualifications (Education and Training) Act, 1999, a number of awarding bodies have a statutory (legal) basis to make awards in Ireland and have had their qualifications included in the NFQ. These bodies are:

- The State Examinations Commission which makes school awards, e.g. Junior Certificate (NFQ Level 3) and Leaving Certificate (NFQ Levels 4/5)
- The Further Education and Training Awards Council which make all further education and training awards from NFQ Levels 1-6
- The Higher Education and Training Awards Council which make higher education and training awards outside of the university sector from NFQ Levels 6-10
- The Institutes of Technology make their own awards at specified levels under delegated authority from HETAC at NFQ Levels 6-10

- The Dublin Institute of Technology which makes awards at NFQ Levels 6-10
- The Universities which make awards at NFQ Levels 7-10
- A limited number of professional bodies also have statutory (legal) rights to make awards in the State and can apply to have their awards included in the Framework, e.g. the Associate of the Institute of Chartered Accountants of Ireland has been recognised as equivalent to an award at Level 9 on the National Framework of Qualifications

Modularisation

UCD Horizons Example

UCD Horizons is the name given to the structure for undergraduate taught degrees at UCD. The UCD Horizons programme is modular and based on credits. This is much more flexible than traditional degree structures and allows you to individualise your studies.

With UCD Horizons you select your preferred degree as usual through the CAO system, but when you arrive at UCD you will have greater flexibility and choice in how and what you study within your chosen degree. Rather than entering a fixed degree programme, where you will know in September 2009 precisely what you will be studying in March 2012, UCD offers you the opportunity to get involved in shaping your own degree. As the modular, credit-based system is aligned to best international standards, it also makes it much easier if you want to study abroad for part of your degree.

So How Does It Work?

Each full-time student takes 12 modules each year, over two semesters. Generally, 10 of the 12 modules will be in your core area of study; some may be compulsory (i.e. core modules), others will be what are called options, where you choose modules that interest you from a list of modules in the subject.

In addition, you generally also have a choice of two 'elective' modules (subject to module entry requirements, timetable and availability of places), which can either be taken from within your main subject area to deepen your learning, or from outside it to broaden your learning. The choice is yours. A degree will normally be three to four 'stages' in duration. The diagram above shows the typical structure of a three-stage degree. A four-stage degree would generally require another 12 modules/60 credits in Stage 4 to give a total requirement of 240 credits.

SO HOW DOES IT WORK?

Please note: This example is for illustrative purposes only as the sequencing of elective modules may vary from programme to programme



Semesterisation

The academic year now has two distinct parts called semesters. The semesters generally run from September to December and from January to June with a mid-semester study and fieldwork break in the second semester. Normally a semester is 15 weeks long, which includes 12 weeks of teaching and learning, one week of revision and two weeks of assessments.

You will generally take six modules per semester and most modules are finished at the end of a semester. You may, however, decide to take fewer or more modules in a given semester depending on your circumstances and the flexibility of the programme.

This semesterised structure will allow you to balance your learning workload evenly over the course of the year and monitor your own progress. As semesters are self-contained you will find it easier to undertake a period of international study for a semester as part of your degree programme.

Student-Centred Approach

In addition, all degrees are now designed to take a student-centred approach in the way they are taught. This means that modules are designed and taught with the focus on what the students will learn at the end of the modules, rather than what material the lecturer will teach. Each module has a set of learning outcomes that describe the skills and knowledge you should acquire when you take a module.

Credit-Based

Further, all modules now have a credit value. The credit value for a module corresponds to the amount of work that is expected for that module. Most modules are worth five credits, which require 100–125 hours of work (lectures, self-study, assessments and, where applicable, tutorials and lab work). For each module you successfully complete, you will gain credit towards your overall degree. Credits have an international currency, which means it is much easier to spend some time at another university under the UCD Horizons system.

You will get your degree when you have gathered the required number of credits for your programme. If, however, you choose not to complete your degree the credits you have gained will be recorded on your academic record and may be used to undertake another programme of study.

Elective Choice

Finally, UCD Horizons allows you to develop more flexible and interesting degree combinations by allowing you to choose your elective credits from any subject area. You can use your elective modules to either deepen your study of a given subject or you could use these electives to broaden your interests.

Simply put, you now have a greater degree of choice in how, when and what you study. Elective choice can also provide you with a richer learning experience as you will be learning with students from a wide range of backgrounds and interests.

For example, in following their broad interests, Medicine students, in 2007, took electives in Business, Music, Languages, English and Nursing, to name but a few. Sociology students took lots of electives in Sociology, Social Policy and Psychology, but also electives in History, Biology, Drama and Archaeology. Law and Medical students may be able to study a Philosophy module or Science students could take a Business module. Another way of looking at this is that Arts, Business, Science, Engineering, Medicine, Architecture, Nursing, Sociology, Agriculture and Veterinary Medicine students took electives in Psychology.

In September 2007, some 63% of our first-year students opted to deepen their knowledge by choosing electives within their own core study areas – for example, Economics & Finance students chose noncore modules in areas such as Business Studies. Some 60% preferred to spread their knowledge and opted for electives in completely different areas outside of their core area of study. Examples of this were Science students choosing Psychology, and Medicine students taking modules from Applied Languages. When you look at these two figures you can see that some students took one of their electives in their core study area and one outside it – it is your choice.

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2010/2011

BSc (Hons) (BIOMEDICAL SCIENCE) DEGREE [CR320]

NFQ Level 8, Major Award

(Joint Degree Between Cork Institute of Technology and University College Cork)

Biomedical Science is a continually changing dynamic profession and involves study of the diverse areas of medical science including Biochemistry, Microbiology, Cellular Pathology, Haematology and Transfusion Science. Biomedical Scientists work in partnership with doctors and other healthcare professionals in investigate samples of tissue and body fluids in order to diagnose disease and monitor patient treatments.

The aim of this programme is to prepare students for a career in laboratory medicine and related areas in the healthcare and biopharmaceutical industries. The programme is

offered jointly by UCC and Cork Institute of Technology (CIT) and entry is via entry code CR320.

All students are offered the possibility of an in-service training placement in a designated hospital laboratory at the end of the honours degree programme. This in-service training must be completed for accreditation to enable graduates to work as a Medical Scientist in a hospital laboratory. Progress is monitored during the training and a final exit examination must be completed.

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In Second Biomedical Science, students take the prescribed modules to the value of 60 credits as follows (module codes marked with * indicate the code of the coordinating institution):

UCC Code	CIT Code	Module run by:	Module Title	Credit
BM2003	GENE7001*	CIT	Introductory Molecular Biology	5
BM2004	CHEA7001*	CIT	Analytical Chemistry	5
BM2005	BIOL7002*	CIT	Analytical Science and Instrumentation	5
BM2006	BIOL7007*	CIT	Introduction to Clinical Biochemistry	5
BM2007	BIOL7012*	CIT	Haematology and Transfusion Science I	5
AN2004*	BIOL7025	UCC	Mammalian Cell and Tissue Structure	5
BC2001*	BIOL7003	UCC	Biomolecules	5
BC2002*	BIOL7020	UCC	Principles of Metabolic Pathways	5
MB2003*	BIOM7004	UCC	Fundamental Principles of Microbiology	10
PL2021*	PHOL7001	UCC	Introductory Physiology I	5
PL2022*	PHOL7002	UCC	Introductory Physiology II	5

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In Third Biomedical Science, students take the prescribed modules to the value of 60 credits as follows (module codes marked with * indicate the code of the coordinating institution):

UCC Code	CIT Code	Module run by:	Module Title	Credit
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BM3006	CHEM8005*	CIT	Pharmacology	5
BM3007	GENE8002*	CIT	Molecular Biology	5
BM3008	BIOM8004*	CIT	Diagnostic Microbiology	5
BM3009	BIOL8015*	CIT	Haematology and Transfusion Science II	5
BM3010	BIOM8009*	CIT	Research Design and Statistics	5
MB3001*	BIOM8005	UCC	Medical Microbiology	5
MB3008*	BIOM8007	UCC	Immunology: Host Response to Pathogens	5
MB3012*	BIOM8008	UCC	Transmission and Epidemiology of Infectious Diseases	5
BC3001*	BIOL8018	UCC	Structural Biochemistry	5
BC3002*	BIOL8020	UCC	Advanced Metabolism	5
BC3004*	BIOL8019	UCC	Cell Signalling	5
BM3001*	BIOL8021	UCC	Cellular Pathology I	5

Module descriptions are contained in the [***Book of Modules, 2010/2011.***](#)

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Full details of regulations governing Examinations for each programme will be contained in the ***Marks and Standards 2011 Book***, and for each module in the [***Book of Modules, 2010/2011.***](#)

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On successful completion of this programme, students should be able to:

- Demonstrate a comprehensive knowledge of the theory, concepts and methods related to biomedical science with particular relevance to the areas of clinical biochemistry, pathology and transfusion science
- Develop the ability to acquire and evaluate current theory in the field of biomedical science through research, critical thinking and problem solving.
- Design and conduct specialized research in the field of biomedical science and present a clear conclusion in written and oral forms.
- Develop the ability to manage, evaluate complex biomedical problems and to exercise appropriate judgment in such situations.
- Develop the ability to use advanced research, analytical and problem solving skills in a professional and accountable manner in a wide range of contexts within the area of biomedical science.

- Foster an ability to work ethically and professionally as an individual or as a member of a multidisciplinary team with the capacity for leadership and innovation.
- Demonstrate the ability to evaluate, articulate and defend learning needs at the professional and personal levels in the workplace.
- Develop the ability to evaluate, articulate and defend the need for high ethical standards in professional practice.

Entry Requirements - Irish School Leavers:

HC3 in two subjects and passes in four other subjects at H or O level in the Leaving Certificate from Irish, English, Mathematics, one Laboratory Science (Chemistry, Physics, Biology, Chemistry with Physics (joint) or Agricultural Science and two other subjects recognised for entry purposes. At least a HC3 must be obtained in Chemistry, Physics, Biology, or Physics with Chemistry (joint).

Below are the Irish Leaving Certificate points that were required in 2009 for CR320.

	2006	2007	2008	2009
Points	NA	NA	NA	410

Postgraduate Opportunities

A wide range of postgraduate opportunities is available to honours degree graduates in Biomedical Science in the life sciences, health sciences and related subjects.

Career Opportunities

Biomedical Science graduates work as Medical Scientists in hospitals, and in research, biopharmaceutical and biotechnology industries, public health and sales and marketing of medical products.

Part Time and Flexible Learning Example – UCC Flexi Options

What is Flexi-Options?

Flexi-Options provides a way for you to study what you are interested in or to meet a shortfall in your qualifications as a non-degree student. You can study up to thirty credits of a degree, but not the full degree.

What are the benefits?

As a registered UCC student, you have access to campus facilities. On successful completion of the module, students receive a transcript of results. This is your certificate of attendance, an official record of having completed the module. It is worth noting that studying by Flexi-Options will not involve the award of degree or diploma.

What can I study?

You may take up to but no more than 30 credits which could be used to gain an exemption if you are subsequently admitted to a relevant degree programme.

Are all modules available to study under Flexi-Options?

The majority of modules are available subject to approval by the Head of Department

and to there being space available. Non-degree students are not normally accepted for admissions to professional programmes, e.g. Medicine, Engineering.

What is the time commitment?

This varies according to each module's timetable. See the Book of Modules for details. You can expect lectures per module to be spread out over the course of the week, i.e., not blocked together on one day.

Will I have to sit exams?

Yes, and you will also be expected to attend lectures and complete assignments as outlined in the online Book of Modules.

How much will this cost?

You will be liable to pay per module, in proportion to the full-time fees for the programme it is part of, e.g., if First Arts costs €5,200, is equal to 60 credits, and you are sitting one module from it equal to 15 credits, then you are liable to pay €1,300. Costs per programme vary across the University.

Am I suitable for Flexi-Options?

While no formal qualifications are required to take a module, your place on the module is subject to approval by the Head of Department, and you would be expected

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Entry requirements

Applicants must have reached 21 years of age by January 1 of the year of entry.

Applicants should have appropriate experience in some area of Human Resources or Employee Assistance and should be in a position to undertake course assignments and projects in Human Resources or EAP setting.

ECTS weighting: 90 ECTS (45 ECTS per each academic year)

NFQ Level: 7

Duration: 2 years, part-time

Mode of study: Blended Learning

Available places: 25

Next start date: September 2010

\$ \$ +

The Diploma in Employee Assistance and Social Support is a two-year, blended learning training programme for staff working or intending to work in Employee Assistance Programmes (EAPs). The programme provides knowledge and basic training in the skills necessary to fulfil the role of an EAP practitioner. The programme is broadly based in

recognition of the very different functions and responsibilities allocated to the EAP support role in different types of enterprise and organisations.

On successful completion of the course, participants will be able to:

- Describe and explain the origins of Employee Assistance and differing national approaches to EAP policies, legislation and practice in the European Union.
- Demonstrate in their work an ability to use a wide range of interpersonal skills appropriate to the needs of their clients.
- Demonstrate the ability to respond with appropriate skills to a wide range of frequently occurring workplace problems.
- Describe and advise on different ways of providing EAP services in a workplace.

The following are the range of modules (five per year) available on this programme:

Year 1

The modules in the Certificate year (Year 1) focus on the basic knowledge and skills for the practice of employee assistance:

- Individual Help in the Employee Assistance Process
- Employee Assistance: Origins, Principles and Organisation
- Problem Management and Creativity
- Negotiations and Negotiation Skills
- The Legal and Policy Framework of EAP
- Work-based Project

Year 2

In the Diploma year (Year 2), the focus is on workplace problems that are encountered particularly frequently. Processes and procedures for managing and coping with these problems are explained and the interpersonal skills needed at the various stages of these procedures identified and practised. The modules in the second year are:

- Practical Research and Writing
- Employee Assistance – Psychological Trauma
- Depression and Common Mental Disorders in EAP
- Responding to Substance Misuse in the Workplace
- Employee Assistance – Bullying and Harassment
- Work-based Project (Credits: 10 ECTS) Course outline

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Participants are required to attend five, two-day, module workshops each year guided by tutors from NUI Galway. Workshop locations are selected to be geographically accessible to the majority of students. Attendance at workshops is a key programme requirement. A full set of self-instructional learning material is provided at the start of each module. The time it takes to work through each module depends on the individual student.

Assessment is by means of an assignment for each module plus an end of year project.

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Application forms are available from and should be returned to the Course Administrator, together with course deposit (€500), copy of birth certificate and a passport size photograph.

Example – teaching portfolio requirements for promotion

Teaching and Examining

Evidence provided by applicants in relation to their teaching and examining should be submitted in the form of a Teaching Portfolio. This portfolio is a relatively brief document which aims to provide both a summary of the teaching experience of the applicant and evidence of critical, reflective practice in teaching. Typically, the body of the portfolio will be around 58 pages, with further pages in appendices, containing examples of teaching materials, student feedback and other appropriate evidence. The portfolio should include a summary of teaching experience and responsibilities, a reflective statement of teaching philosophy and goals, a brief discussion of teaching methods and strategies, as well as activities undertaken to improve teaching, and a statement of goals and plans for the future. Guidelines for the construction of Teaching Portfolios are available from the college website.

For the purposes of applications for promotion to Senior Lecturer the portfolio should address the following areas:

- 1. Teaching: details of** student contact hour per annum over at least three years.
- 2. Examining:** responsibilities in examining and assessment at undergraduate and postgraduate levels.
- 3. Quality of Teaching:** independent evidence of good teaching as demonstrated by student evaluation/quality review (using, for example, feedback forms, grouped student evaluation, peer observation, or other techniques), evidence of integration of research with teaching.

4. Maintaining Theoretical Currency: command of subject, regular reflection on and updating of lecture content, teaching materials, reading lists and other exercises to reflect current international research, awareness of related policies or other applications of new knowledge.

5. Scholarship of Teaching and Learning: refereed publications on teaching and learning, authorship of internationally recognised textbooks, conference organisation/presentations and evidence of other significant scholarly contributions to teaching and learning, e.g. teaching awards and fellowships. International invitations to participate as a visiting Lecturer.

6. Teaching Development: evidence of participation in, or contribution to, courses and seminars in teaching and course development. Details, where appropriate, of any qualifications obtained in teaching and learning in higher education. Evidence of supporting colleagues in the development of their own teaching skills, either locally or within a wider national or international subject network.

7. Innovation in Teaching, Learning and Assessment Methodology: evidence of development of or adoption of novel approaches to teaching and learning, collaborative initiatives, introduction of new methods of assessment; preparation of novel course materials or websites; application of information and communication technologies to teaching and learning.

8. Curriculum Design: review and revisions of existing modules and programmes; design and introduction of new modules and programmes.

9. Leadership: holding positions of responsibility in relation to courses/programmes; organisation of international exchange programmes; membership of curriculum committee (internal/external).

10. Advising Students: accessibility to students, contribution to student affairs/activities, mentoring students in a formal and informal capacity.

11. Supervision of projects: at undergraduate and postgraduate levels. Applicants should show achievement in as many areas as possible. Applications will be assessed in the context of the capacity of each applicant to meet these guidelines within his/her School/disciplinary circumstances.

Example – Development of Learning and Teaching

NAIRTL Mission

The National Academy (NAIRTL) works with Irish higher education institutions to develop and implement policy and practices aimed at enhancing the student learning experience at both undergraduate and graduate level. The Academy supports institutions through investigation and dissemination of national and international examples and models of good practice.

The National Academy's mission is:

- To enhance higher education in Ireland by working in collaboration with institutions to promote innovation, support development and sustain good practice in the integration of research and teaching and learning.
- To build capacity of academic staff and graduate students that will contribute to an innovative work force.
- To provide an efficient, cost effective and quality service to the Irish Higher Education sector.
- To promote a greater awareness of the forms of integration of research, teaching and learning and to encourage all:

Research-led teaching and learning: The curriculum is informed by the research interests of academic staff. Teaching emphasises the understanding of research findings. Research findings are used to inform the curriculum.

Research-oriented teaching and learning: The curriculum emphasises the processes by which knowledge is produced in the field as much as on learning the content of a subject. Teaching focuses on enquiry skills and on acquiring a 'research ethos'.

Research-based teaching and learning: The curriculum contains many activities in which students actually conduct research e.g. enquiry based projects. These activities are based on authentic processes of enquiry and are connected to the research of the institute.

Research-informed teaching and learning: The curriculum is informed by a systematic enquiry into the teaching and learning process itself. The 'scholarship of teaching' approach relates to teachers who are actively involved in evidence-based efforts to establish the effects and effectiveness of student learning, teaching and academic practice.

- Establish a centre of excellence for professional academic development in higher education institutions, targeted at the integration of research and teaching and learning, to support the enhancement of the student experience at third and fourth level.
- Play a key role in establishing best practice and in developing a cohort of academic staff with the requisite skills to deliver "Fourth Level Ireland".
- Provide an authoritative and independent voice on policies that influence student learning experiences.

- Support the development of capacities of colleges, faculties, schools and departments to align research and teaching.
- Act as a conduit for disseminating best practice throughout higher education institutions in Ireland.
- Hold international conferences workshops and seminars on the integration of research and teaching and learning, multiple approaches to teaching and learning and learner diversity.

NAIRTL Awards

Five inspirational individuals were honoured at the National Academy's Annual Awards for Excellence in Teaching ceremony which was held in Dublin Castle on November 9th. The Awards were presented by the Hon. Mrs Justice Catherine McGuinness who noted the outstanding contribution of the award recipients to both teaching and research in Higher Education.



Award Recipients

The award winners come from diverse disciplinary backgrounds but display a shared commitment to and passion for teaching while also being innovative researchers.

Dr Conor Carroll from Kemmy Business School in the University of Limerick has received numerous accolades for both his case study writing and his teaching. His case studies have been adopted by institutions nationally and worldwide ensuring that his contribution to the teaching of marketing extends far beyond the boundaries of his own university.

Westport native, Dr Eilish McLoughlin is a leading figure in science education research nationally and has been described by her students as one of the major positive influences for them over the course of their studies in Dublin City University.

Dr Ann O'Shea is credited with the establishment of a Mathematics Support Centre in NUI Maynooth which facilitated over 7,000 visits this year. Dr O'Shea has played a key role in redesigning curricula and in developing courses and teaching resources to enhance the teaching of Mathematics both in her institution and in second and third level institutions nationwide.

English literature is the disciplinary focus of Dr Patricia Kennon an Award recipient from Froebel College of Education. Among her numerous accolades Dr Kennon has been described as someone who "incites curiosity and instils enthusiasm in her students by virtue of the love and passion she has for her subject".

Dr Dagmar Stengel from NUI Galway received specific praise for her approachable and empathetic manner with students "which encourages them to strive for her high standards of excellence". Her inclusion of new research in lectures and her ability to relate marine botany and plant science to the local area was also noted particularly as this enables the students to investigate the topics for themselves and greatly enhances their own learning and their interest in the subject.

The winners of the five Awards were nominated by their institutions and selected by a committee which included international representatives as well as representatives of the Irish University Association, the Institutes of Technology Ireland and the Union of Students in Ireland. The committee was chaired by Áine Hyland, Emeritus Professor of Education, University College Cork.

These Awards testify to the fact that excellence in teaching and in creative and scholarly work go hand in hand. They also highlight the inspirational benefits of

bringing cutting edge research into third level classrooms, an activity that is supported by the National Academy in all Higher Education Institutes in Ireland.

Support to build maths competence examples

UL Maths Learning Centre

See - <http://www.ul.ie/~mlc/>

The Mathematics Learning Centre is a special initiative of the Department of Mathematics and Statistics in the Faculty of Science and Engineering.

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The purpose of the centre is to support students' mathematics learning across all programmes in UL by:

- providing a dedicated area with supervised access to help and resources in a relaxed environment,
- delivering appropriate support services for students on service mathematics courses,
- addressing the mathematics needs of special groups e.g. mature students, adult returners, transfer students,
- researching the needs of learners in terms of materials, pedagogy, delivery systems and other supports.
- All UL students studying programmes with a component of mathematics/statistics may avail of the centre's services **Free of Charge**.
- The Mathematics Learning Centre operates a **Drop-in service** for students and the centre will be staffed and supervised throughout the day during term time at published times Services available for students include:

Individual consultation	Computer-based tutorials
Individual tutorial assistance	Study area
Additional tutorial support	Access to relevant text material

- All services are based on a supervised self-help model that integrates faculty, students, media and ICT inputs and approaches.

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The main service that the MSC provides during term time is a drop-in centre in Classhall E. The sessions provide a relaxed, friendly and non-judgemental atmosphere for students who need assistance with any aspects of Mathematics or Mathematics related subjects. Students will be helped on a first come, first served basis.

Students are advised to bring their lecture notes, along with a calculator and any other relevant material, including homeworks and all attempted work. " !!

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Students are strongly encouraged to attend the centre as soon as they have a query/problem; the earlier you come the easier it is to sort out! Students who gain the most from the drop-in sessions are those who attend regularly. So attend as early in the week as you can and attend often. We welcome any student to the MSC regardless of their level of question or query. We are here to help.

Additional online resources are also available.

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DCU is committed to ensuring the relevance to the industrial and commercial world of its educational programmes and an important element in this philosophy is the INTRA programme.

INTRA formally integrates the student's academic study with closely co-ordinated realistic jobs, based on the work abilities of the student and the objectives of each programme. The student develops an understanding of the professional, practical world of industry. The blending of theory and practice increases student motivation and allows a clearer view of a career path.

The advantages of participation for employers are also numerous. It offers a unique opportunity to identify skills and talent among potential employees. It provides an extra resource to fulfil your recruitment needs and can be an excellent way to meet the demands of peak work-loads or to complete special projects.

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This report is one of a series drafted by the Irish Universities Study (IUS) which is funded by the Strategic Innovation Fund (SIF). The aim of this study is to collate a substantial amount of information on students and researchers and their experience at university. It is envisioned that this information will help bridge the gap in our knowledge in this area and in doing so help policy makers and university administrators make better informed and more effective decisions.

This report is based on round two of the IUS survey which was collected between January and June 2009. This second round covers a broad range of topics including income sources, grade attainment, time use, college choice process and opinions and satisfaction with various aspects of university life. Over 4,500 students responded to the second round survey.

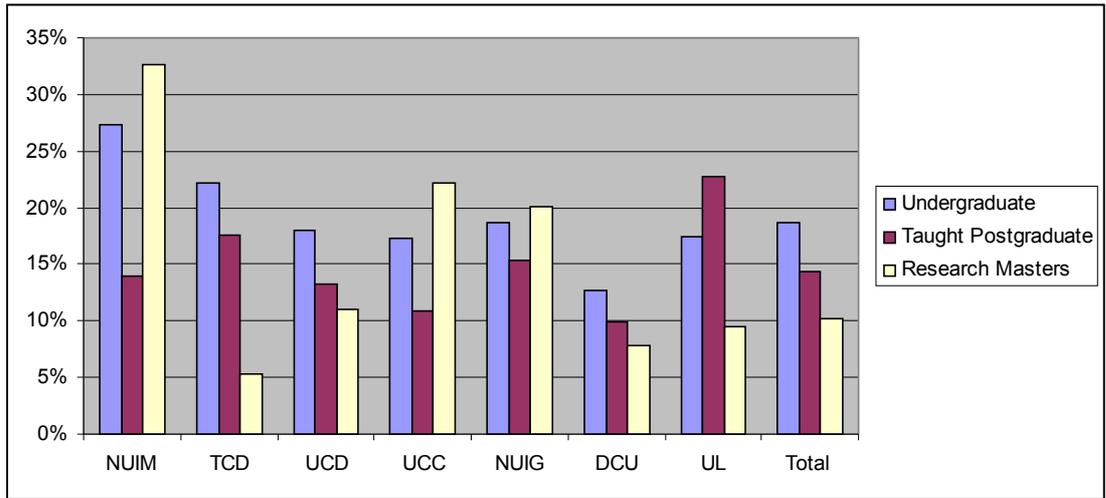
The reports drafted based on the previous round of the survey are as follows:

- Report on Taught Programme Students in Irish Universities
- Report on PhD Students in the Irish Universities
- Report on International Students in the Irish Universities
- Gender at a Glance: Evidence from the Irish Universities Study
- Undergraduate Research Experience: Benefits and Good Practice

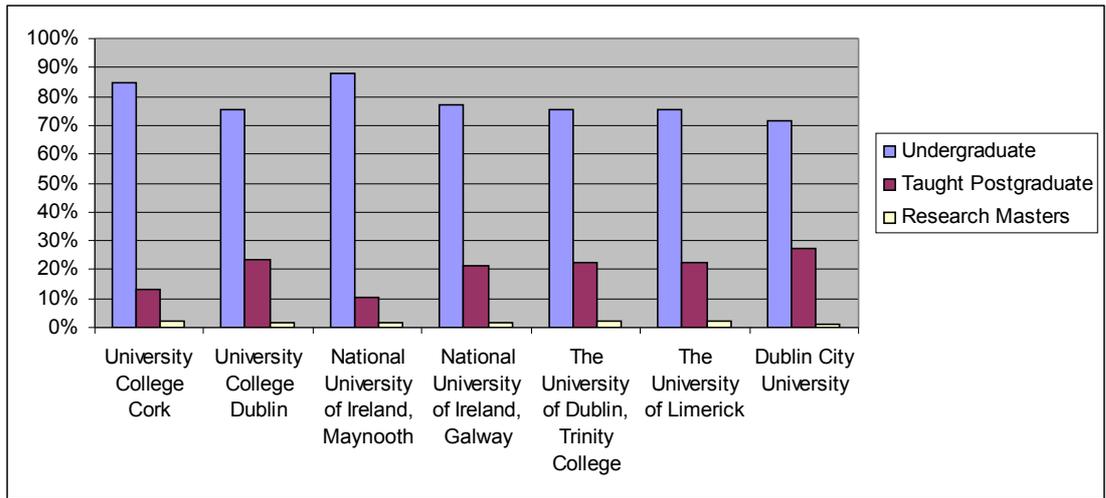
There is also a separate survey for researchers in the Irish Universities. In order to achieve the SSTI research goals mentioned earlier; to develop world class research capabilities within Ireland, and to double the number of PhD students, we need to know more about the experience of researchers in terms of their motivation, satisfaction, and opinions on how the system can be improved upon.

The following material shows some of the sample responses to the study.

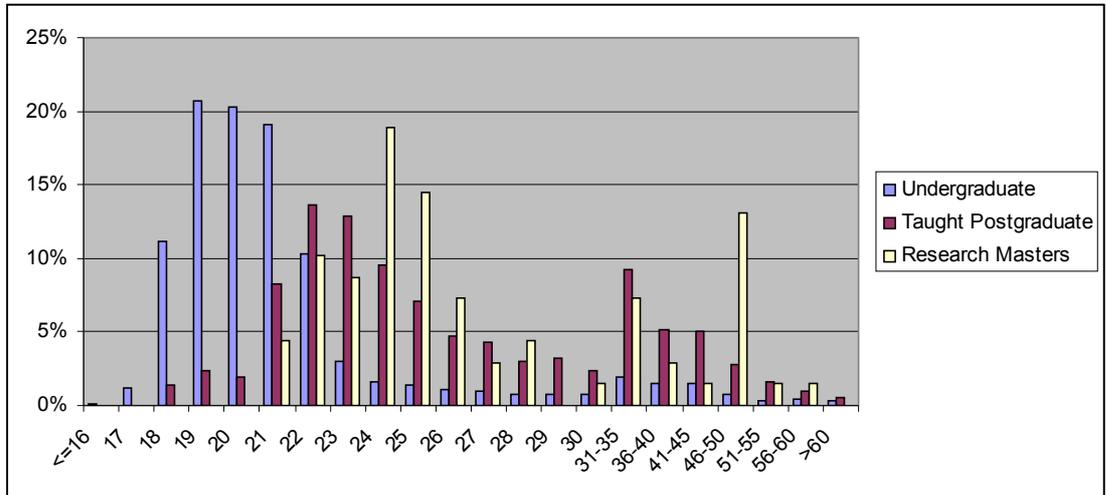
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(3098, 809, 69)



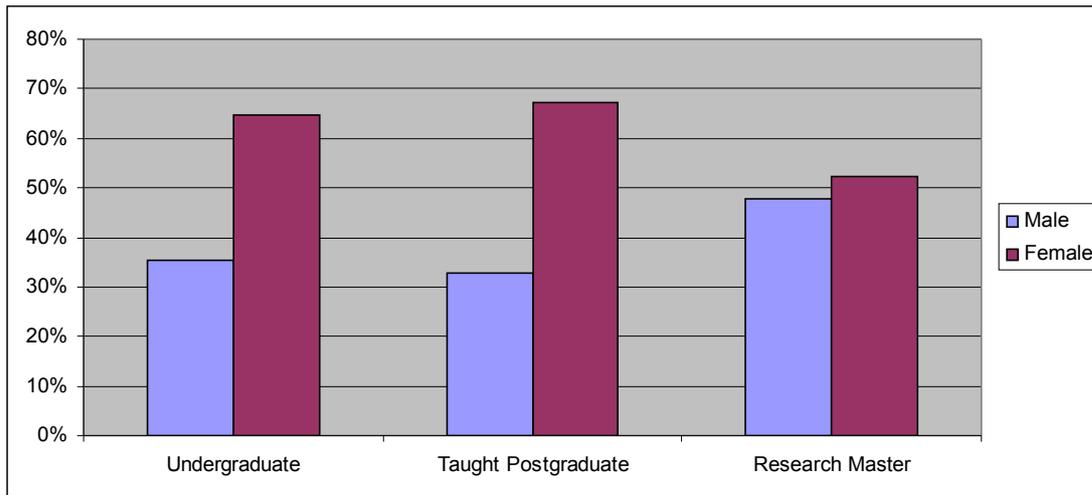
2. # ! "
i) University (3098, 809, 69)



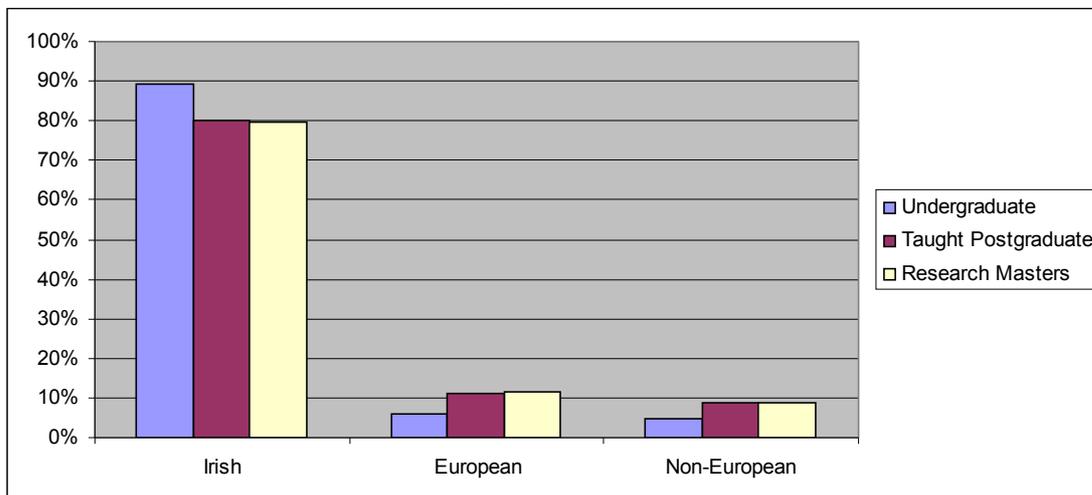
ii) Age (3139, 809, 69)



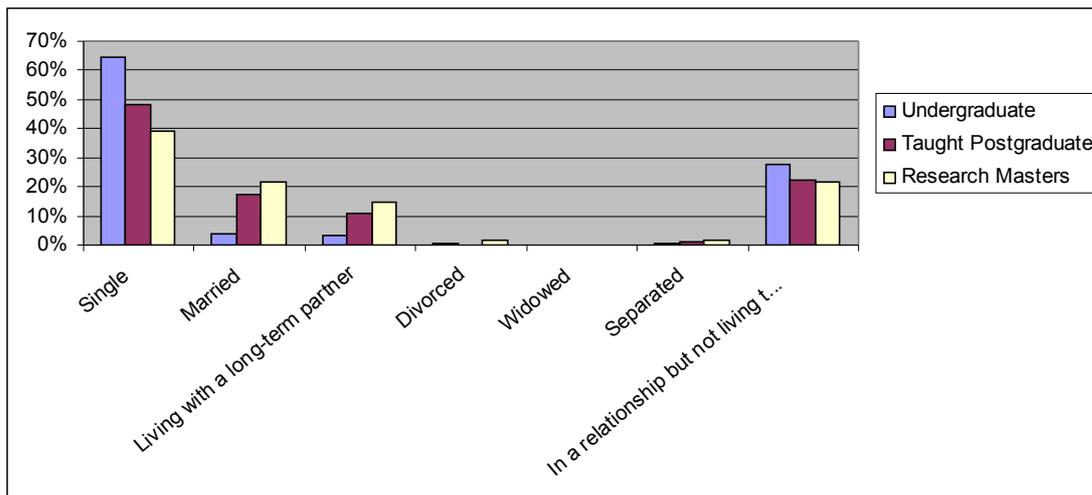
iii) Gender (3151, 809, 69)



iv) Nationality (3115, 809, 69)

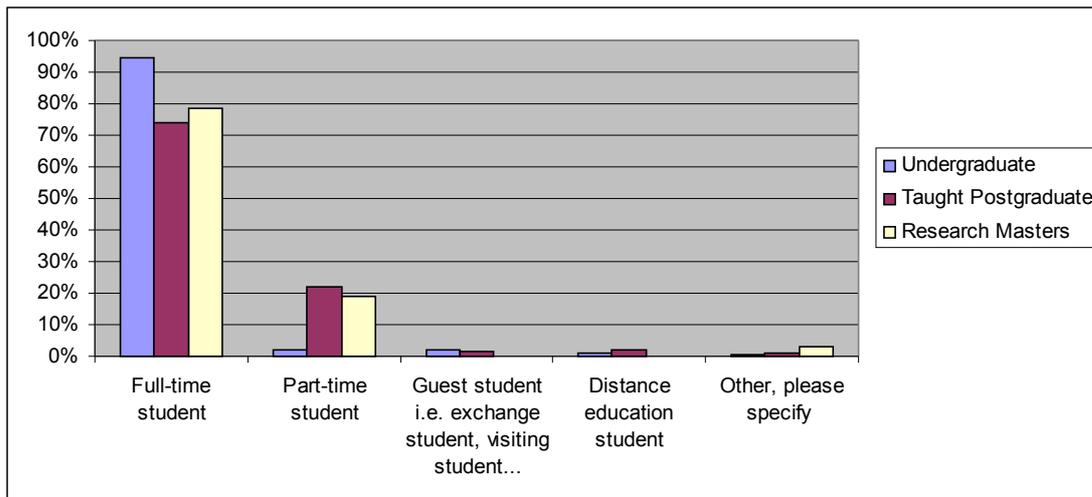


v) Marital Status (3110, 809, 69)

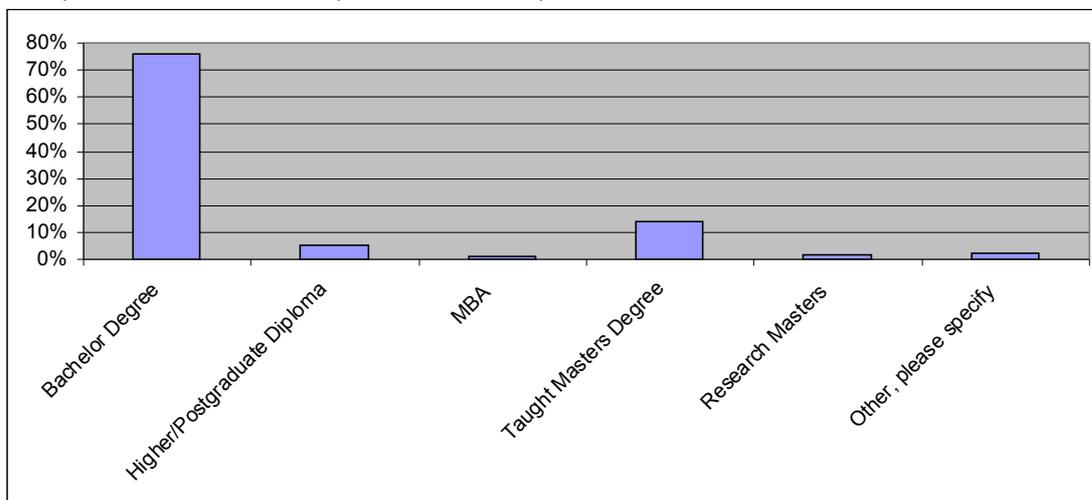


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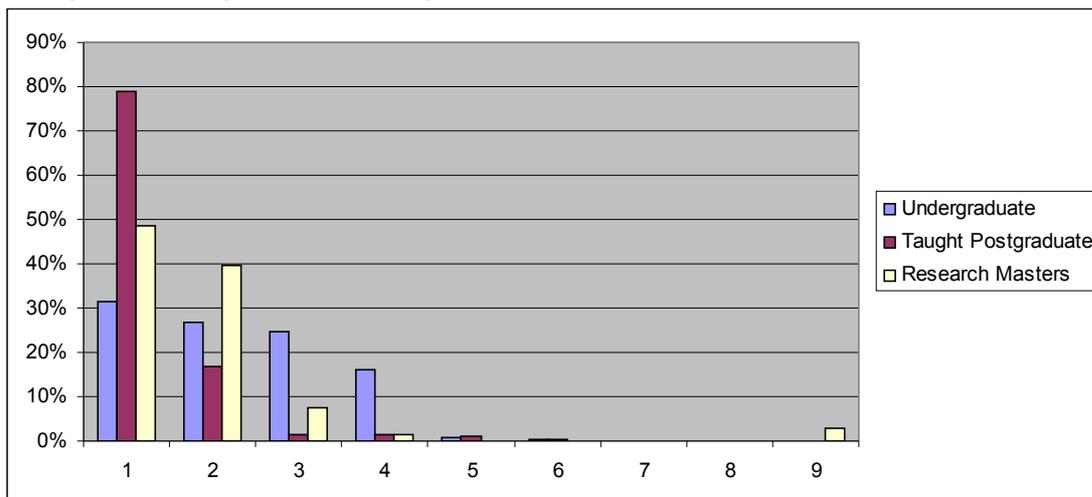
i) Student Status (3088, 809, 69)



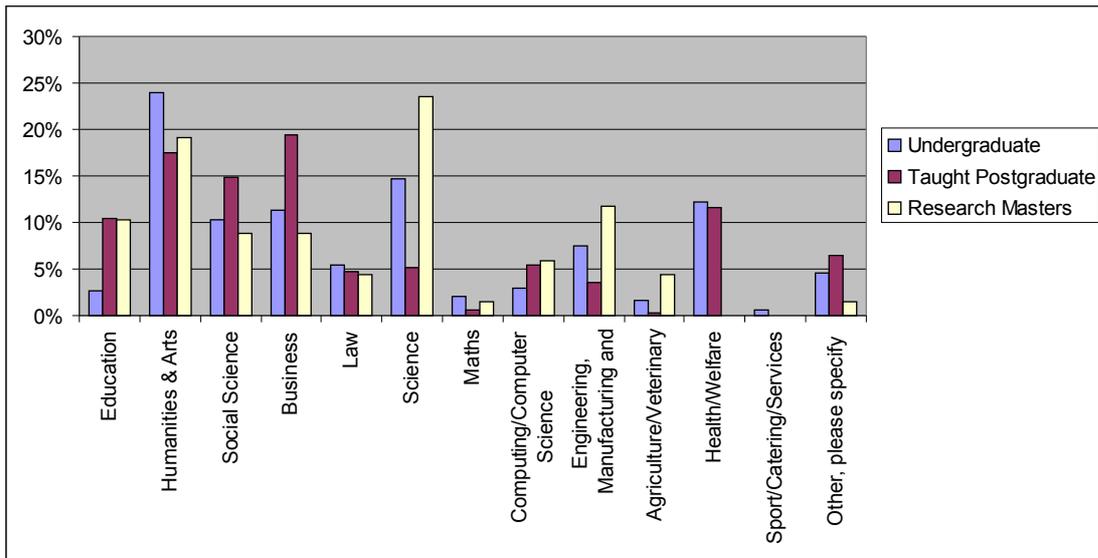
ii) Qualification (3077, 809, 69)



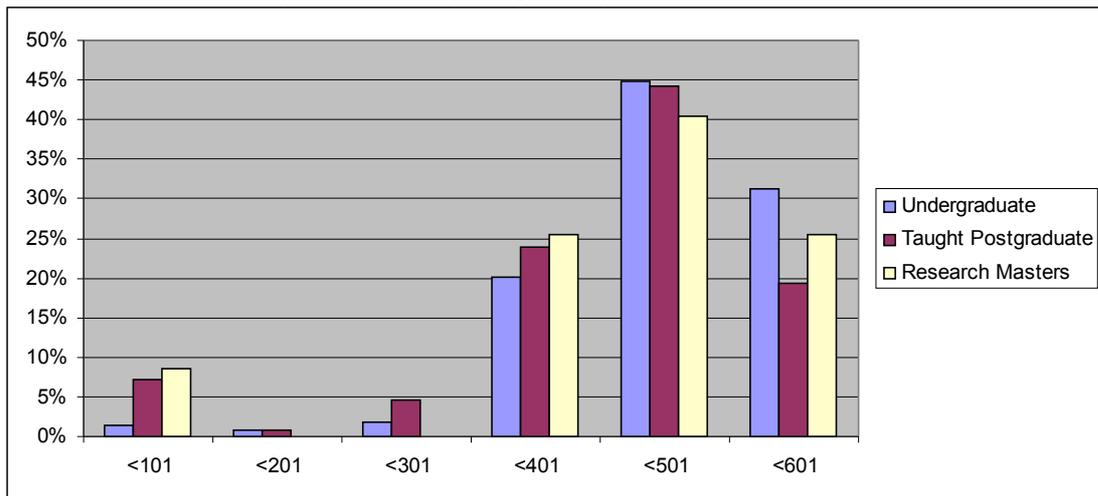
iii) Year (3074, 808, 68)



iv) Subject (3067, 807, 68)

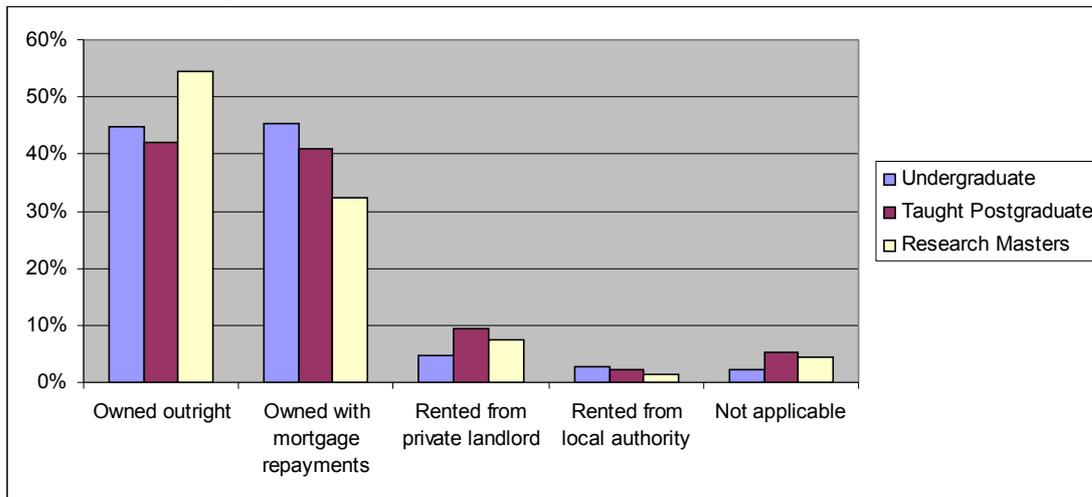


i) How many points did you get in your LC? (2727, 580, 47)

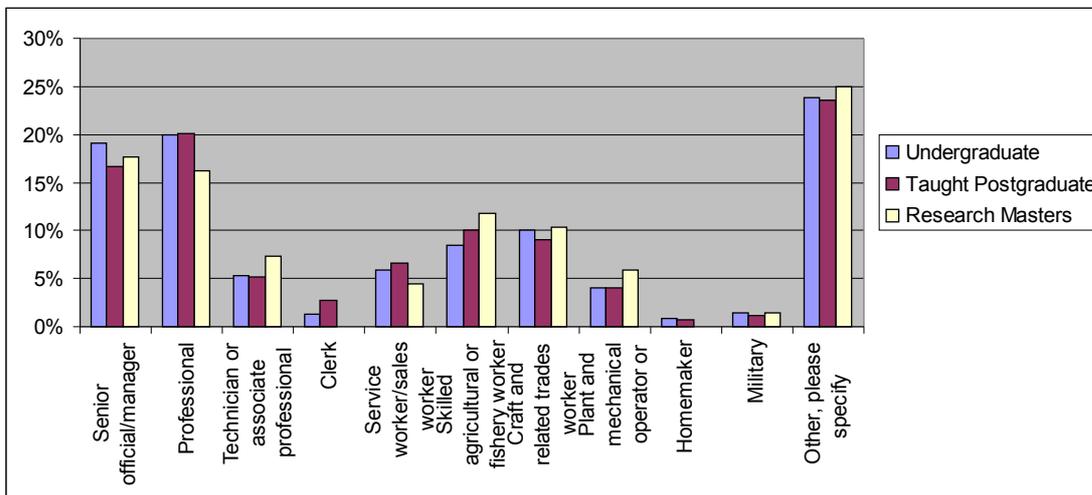


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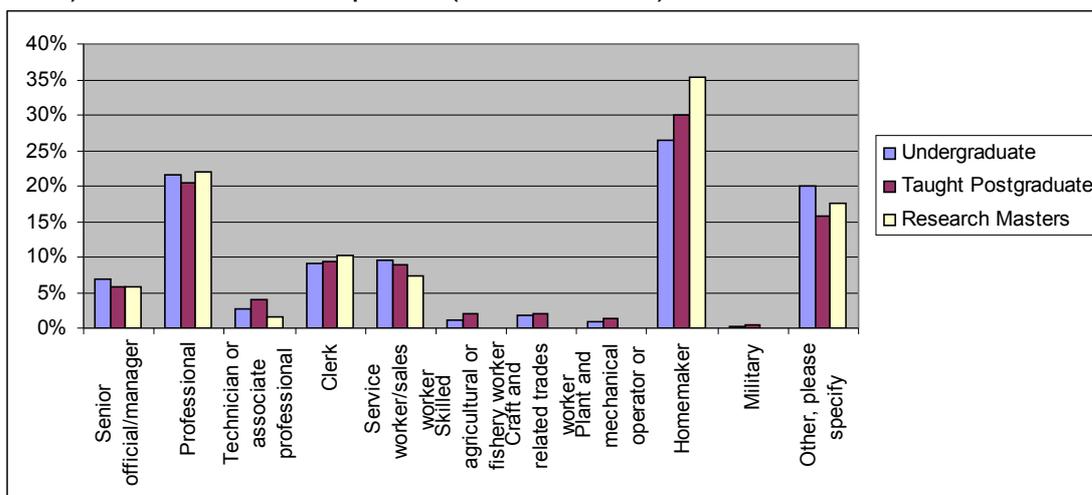
i) Family Home (3028, 799, 68)



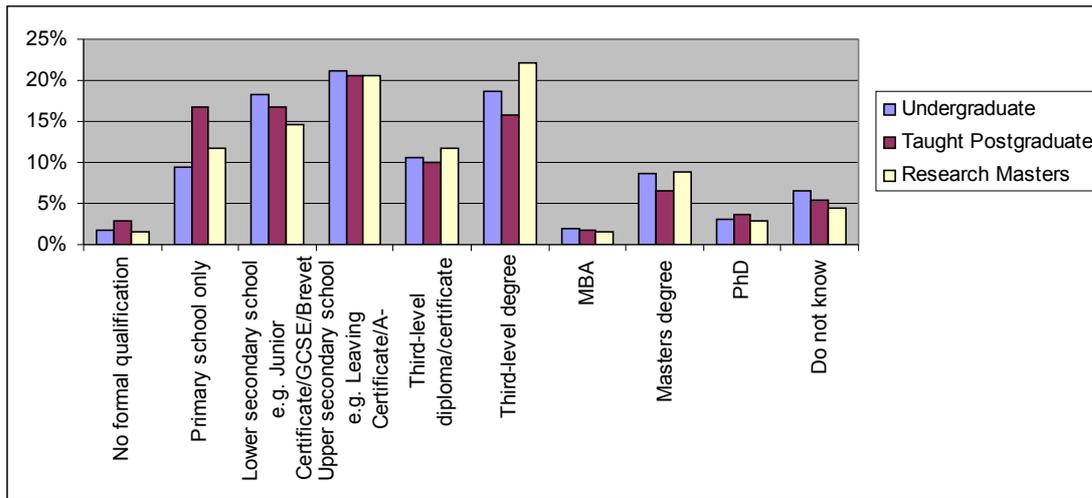
ii) Father's Occupation (2983, 784, 68)



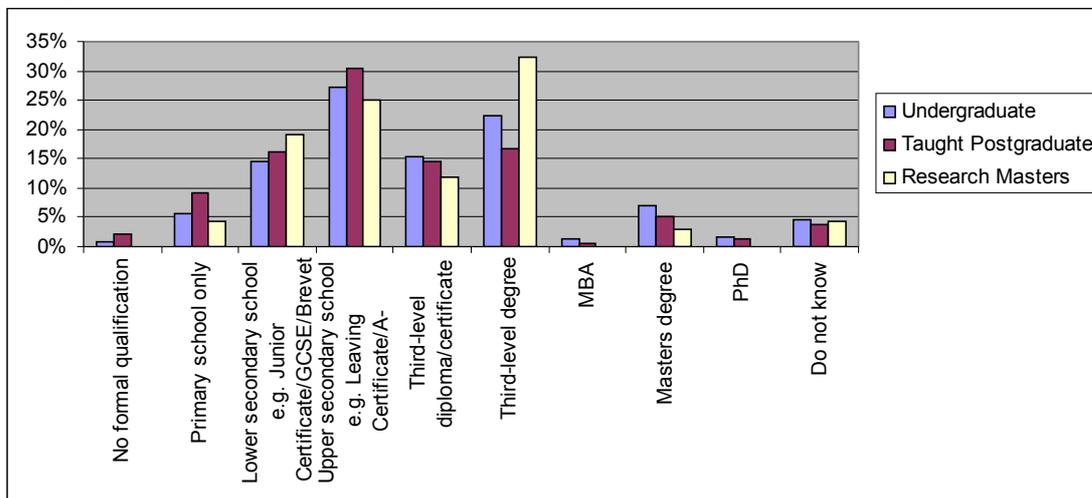
iii) Mother's Occupation (2990, 785, 68)



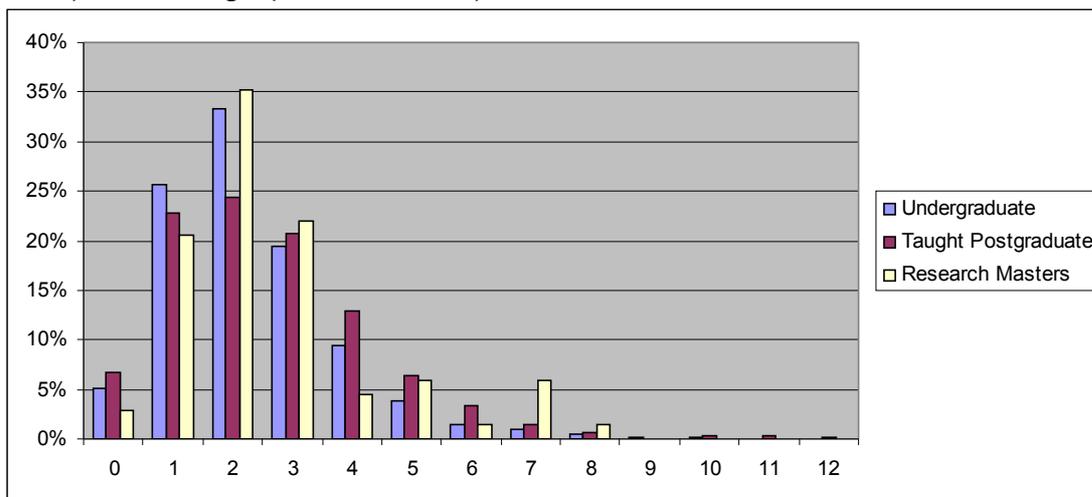
iv) Father's Education (2993, 786, 68)



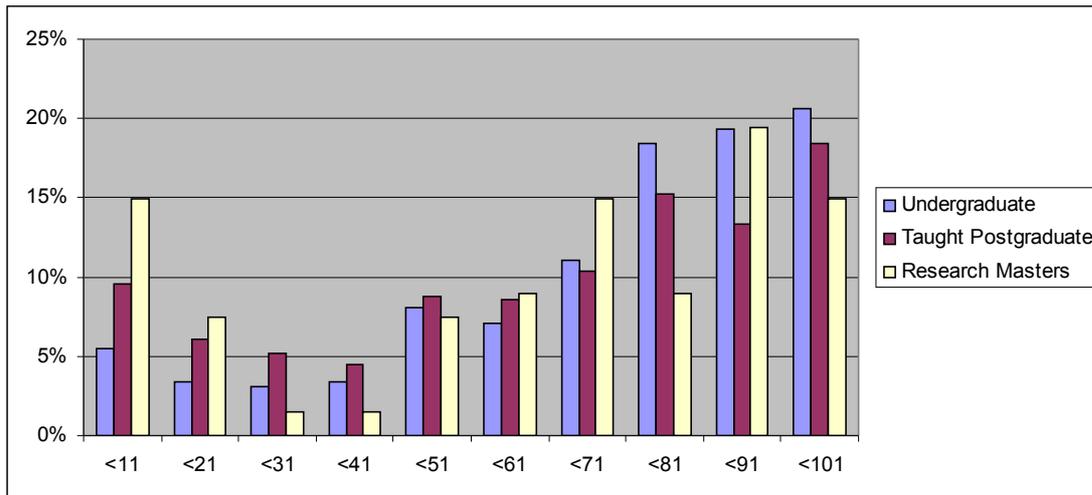
v) Mother's Education (2994, 786, 68)



vi) Siblings (2994, 784, 68)



vii) What percentage of your peers went to University? (2952, 774, 67)



viii) Family Income (2900, 763, 67)

