Science & Informatics at a glance

CAO Courses

Level 8

CR 106 BSc (Honours) in Software Development
CR 116 BSc (Honours) in Software Development and Computer Networking
CR 305 Physical Sciences (Honours) (Common Entry)
CR 310 BSc (Honours) in IT Management
CR 312 BSc (Honours) in Web Development
CR 320 BSc (Honours) in Biomedical Science (Joint CIT / UCC Degree)
CR 325 BSc (Honours) in Pharmaceutical Biotechnology
CR 330 BSc (Honours) in Herbal Science
CR 333 BSc (Honours) in Nutrition & Health Science
CR 340 BSc (Honours) in Analytical Chemistry with Quality Assurance
CR 360 BSc (Honours) in Instrument Engineering
CR 365 BSc (Honours) in Environmental Science & Sustainable Technology

Level 7

CR 001 BSc in Applied Physics & Instrumentation
CR 006 Applied Biosciences
Degree Award options:
BSc in Food & Health Science or
BSc in Applied Biosciences and Biotechnology
CR 007 BSc in Analytical & Pharmaceutical Chemistry
CR 016 BSc in Computing
CR 300 Physical Sciences (Common Entry)
CR 888 BSc in Information Technology Support

Follow on (Honours) Degrees

Level 8

BSc (Honours) in Applied Physics & Instrumentation
BSc (Honours) in Cloud Computing

Postgraduate Programmes

Postgraduate Diploma in Networking and Security
Higher Diploma in Science in Cloud Computing
Higher Diploma in Science in Cloud & Mobile Software Development
Higher Diploma in Science in Software Development
MSc in Computational Biology (Taught)
MSc in Cloud Computing (Taught)
MSc in Biomedical Science (Taught)
MSc in Software Development (Taught)
MSc in Networking and Security (Taught)
MSc (by Research)
PhD

Physical Sciences (Common Entry)

CR 305 Level 8 Award
CR 300 Level 7 Award

Application: CAO
Award Title: Dependent on chosen specialisation.
Duration: Common Semester 1, students then select a course in either Chemistry or Physics with which to continue.
Places: 20 (Level 8) / 10 (Level 7)
CAO Points in 2011 for CR 305 Level 8: Round 1: 310 / **Final:** 310
CAO Points in 2011 for CR 300 Level 7: Round 1: 290 / **Final:** 290

Minimum Entry Requirements for CR 305 Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

Minimum Entry Requirements for CR 300 Leaving Certificate in 5 Subjects

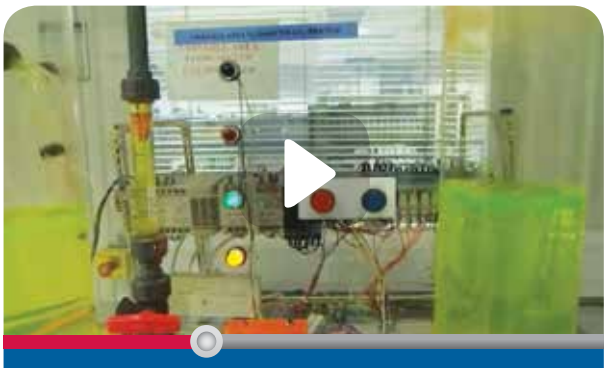
Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Science?

Science refers to a system of acquiring knowledge. This system uses observation and experimentation to describe and explain natural phenomena. Science is an excellent career choice for those interested in understanding how the chemicals, foods and other products that we encounter in everyday life are designed and produced. From cures for life threatening illnesses, to environmental protection, to the design of new foods and space science, careers in science are varied and interesting.

Helpful Leaving Certificate Subjects

Mathematics, Physics, and Chemistry.



www.cit.ie/course/CR300 and
www.cit.ie/course/CR305

Module Information

http://modules.cit.ie/cr305
http://modules.cit.ie/cr300

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Courses

The Physical Sciences (Common Entry) courses are designed for applicants who wish to enter Chemical or Physical Science in CIT but are undecided about or wish to postpone selecting a designated Chemistry or Physics qualification until after they have had an opportunity to experience both disciplines.

Common Semester 1: The common Semester 1 programme includes modules in Physics, Chemistry, Biology, Mathematics and Computing so that students will have completed an introduction to general science at the end of Semester 1.

At the end of Semester 1, students choose the Chemistry or Physics course that they wish to pursue in Semester 2.

Students on the Level 8 Science Common Entry Programme CR 305 can apply to progress to one of the three Level 8 science courses:

- CR 360 BSc (Honours) in Instrument Engineering
- CR 365 BSc (Honours) in Environmental Science and Sustainable Technology
- CR 340 BSc (Honours) in Analytical Chemistry with Quality Assurance

Students on the Level 7 Science Common Entry Programme CR 300 can apply to progress to one of the two Level 7 science courses:

- CR 001 BSc in Applied Physics and Instrumentation
- CR 007 BSc in Analytical and Pharmaceutical Chemistry

Applicants are advised to visit each of the course sites for detailed descriptions at www.cit.ie

Contact Information

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Department of Chemistry
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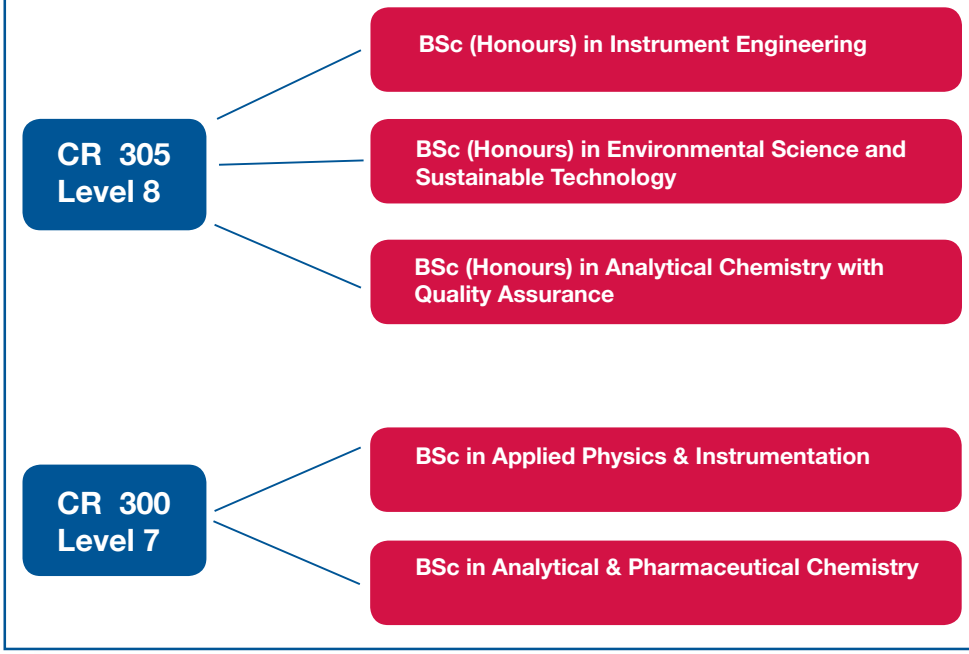
Question Time

What are the advantages of taking the Physical Sciences (Common Entry) route?
Students have an opportunity to take introductory modules in both Chemistry and Physics (in addition to other areas of general science) before choosing the discipline they wish to follow.

Do I need to have studied at least one of the science subjects at Leaving Certificate to apply for these courses?
No – the fundamentals of the three Leaving Certificate science subjects are delivered in Semester 1.

What is the difference between choosing Physical Sciences (Common Entry) at Level 8 to Physical Sciences (Common Entry) at Level 7?
Students commencing on the Level 7 route will have completed their ordinary BSc Degree in 3 years, while those who choose the Level 8 route will take 4 years to complete their Honours BSc Degree.

Progression from Physical Sciences (Common Entry)



Analytical Chemistry with Quality Assurance (Honours)

CR 340 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Analytical Chemistry with Quality Assurance
Duration: 4 Years (8 Semesters)
Places: 10
CAO Points in 2011: **Round 1:** 290 / **Final:** 290

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Analytical Chemistry?

Chemistry is the fundamental science that deals with the "three Cs" – the composition of matter, the changes that transform matter, and the conditions under which those changes occur. The study of fundamental Chemistry allows us to increase our total knowledge and understanding of our universe, our environment, and indeed life itself. Applied Chemistry uses our understanding of fundamental Chemistry to improve the way in which we live, work, and develop.

myCIT myCourse

"The course is very flexible and provides training for the pharmaceutical industry, research, and also teaching. It is a unique course that combines Chemistry with Quality Assurance and other interdisciplinary subjects."
Patricia Magill

Helpful Leaving Certificate Subjects

Chemistry, Physics, Mathematics, and Biology.

Work Placement

A mandatory work placement of a minimum of 10 weeks takes place in Year 3.

Potential Areas of Employment

- Laboratory Analyst
- Quality Management, Regulatory Compliance
- Research
- Teaching

www.cit.ie/course/CR340

Module Information
http://modules.cit.ie/cr340

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The BSc (Honours) in Analytical Chemistry with Quality Assurance (ACQUA) prepares students for laboratory careers in the pharmachemical industries. Graduates identify and solve analytical problems by the selection and use of a wide range of methods and techniques – from the mainstream areas of spectroscopy, chromatography, and electrochemistry, to more specialised areas such as particle size analysis or immunoassay techniques.

The Honours BSc ACQUA also focuses on quality assurance, which is of vital importance to the pharmaceutical, chemical and allied industries. The course is examined using a combination of continuous assessment of both theory and practical work, and end of year examinations.

Professional Recognition
The Honours BSc ACQUA is recognised by the Institute of Chemistry of Ireland for membership (MICI); graduates are also eligible to apply for Associate Membership of the Royal Society of Chemistry (AMRSC).

Teaching
The Honours BSc ACQUA is recognised by the Teaching Council. Graduates of the course are approved for the teaching of Chemistry in second level schools. As with other Degrees, a training and teaching qualification such as a HDip is also required.

Further Studies
For details, see www.cit.ie

Graduates achieving a First Class or Second Class (Grade 1) Honours Degree may proceed to postgraduate research programmes in Chemistry (MSc, PhD) at CIT. Such graduates will be eligible for consideration for a limited number of Postgraduate Research Scholarships offered by CIT each year. Holders of the Honours BSc ACQUA may also embark on postgraduate programmes at Irish and UK universities.

Career Opportunities
Graduates are prepared for laboratory careers in the pharmachem industries and are qualified in areas such as Quality Standards, Good Manufacturing Practice, Total Quality Management, and Regulatory Compliance. They may take up leadership roles in areas such as method design and implementation, process validation, and management of quality systems.

Contact Information
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Question Time
If I didn't study Chemistry for the Leaving Certicate, am I at a disadvantage?
No – the fundamentals of the three Leaving Certificate science subjects are delivered during the first semester, with chemistry being further developed as the course progresses.

What is the difference between CR 340 and CR 007?
Students commencing on the CR 007 route will have completed the ordinary BSc Degree in 3 years, while those starting on CR 340 will take 4 years to complete the Honours BSc Degree, with significant additional material being delivered in the fourth year to achieve the higher level award.

What personal skills are most suited to the course and subsequent careers?
Numeracy, accuracy, precision; good practical and manipulative skills; an analytical approach to problem-solving, i.e. the ability to relate a numerical answer to the physical reality that it represents.

myCIT myCareer

Dr Brendan Healy
Technical Services Chemist

"After graduation, I qualified for a research grant and joined the chemistry research group at CIT to start my PhD research in freshwater and marine natural toxins. On completion of the PhD, I began work as an Analytical Chemist in the Quality Assurance Department at Pfizer. This role involved validation and transfer of analytical methods, analytical support for production and QC, troubleshooting, method development, cleaning validation, regulatory support for new product submissions, technical writing, etc. I had encountered many of these topics during both my BSc and PhD studies."

Analytical and Pharmaceutical Chemistry

CR 007 Level 7 Award

>> Progression to Honours Degree & Postgraduate Programmes
▲ Higher Certificate Option

Application: CAO
Award Title: Bachelor of Science in Analytical and Pharmaceutical Chemistry
Duration: 3 Years (6 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 300 / **Final:** 265

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Analytical and Pharmaceutical Chemistry?

Chemistry is the fundamental science that deals with the "three Cs" – the composition of matter, the changes that transform matter, and the conditions under which those changes occur. The study of fundamental Chemistry allows us to increase our total knowledge and understanding of our universe, our environment, and indeed life itself. Applied Chemistry uses our understanding of fundamental Chemistry to improve the way in which we live, work, and develop.

Helpful Leaving Certificate Subjects

Chemistry, Physics, Mathematics, and Biology.

Work Placement

A mandatory work placement of a minimum of 10 weeks takes place in Year 3.

Potential Areas of Employment

- Chemical Laboratory Technician
- Laboratory Quality Assurance
- Product Development

myCIT myCourse

"I had a narrow view of Chemistry as just one branch of science, however, as the course progressed, a whole new world opened up and I began to understand the captivating dynamics of Chemistry, and how it would shape my future career."
Rachael Byrne

www.cit.ie/course/CR007

Module Information
http://modules.cit.ie/cr007

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
Courses in Chemistry at CIT have provided many of the highly skilled personnel at various levels required by the industry. School leavers are offered a flexible and attractive route through an extremely diverse science. The BSc in Analytical and Pharmaceutical Chemistry prepares students for laboratory-based careers; activities include preparation of chemicals and samples for use, analysis of raw materials and products of chemical processes, set-up/maintenance/use of chemical instrumentation. Computerised instruments and information technology are important in this work, and graduates may work in quality assurance, analysis, research, development, and production.

The course aims to give students the knowledge and skills to practice chemistry in the laboratory environment.

Further Studies
For details, see www.cit.ie

Graduates of the Bachelor of Science in Analytical and Pharmaceutical Chemistry who have attained a minimum final average mark of 50% may proceed to Year 4 of

→ Bachelor of Science (Honours) in Analytical Chemistry with Quality Assurance (ACQUA)

This in turn may lead to the option to proceed to postgraduate studies (MSc or PhD) in Chemistry at CIT or other colleges in Ireland or abroad.

Teaching
The Honours Degree that follows the Bachelor of Science in Analytical and Pharmaceutical Chemistry satisfies the Degree requirements of the Teaching Council. As with other Degrees, a training and teaching qualification such as a HDip is also required.

Career Opportunities
Career opportunities exist not only in the chemical/pharmaceutical industry, but also in such diverse areas as electronics, metallurgy, and food/beverage processing.

Graduates have become senior technicians, analysts, laboratory managers, and quality control supervisors. Some have progressed into company management positions over the years, and some have started and managed their own companies.

Contact Information
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Question Time
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What is the difference between CR 340 and CR 007?
Students commencing on the CR 007 route will have completed the ordinary BSc Degree in 3 years, while those starting on CR 340 will take 4 years to complete the Honours BSc Degree, with significant additional material being delivered in the fourth year to achieve the higher level award.

What personal skills are most suited to the course and subsequent careers?
Numeracy, accuracy, precision; good practical and manipulative skills; an analytical approach to problem-solving, i.e. the ability to relate a numerical answer to the physical reality that it represents.

myCIT myCareer

Aileen Cremin
Quality Control Specialist

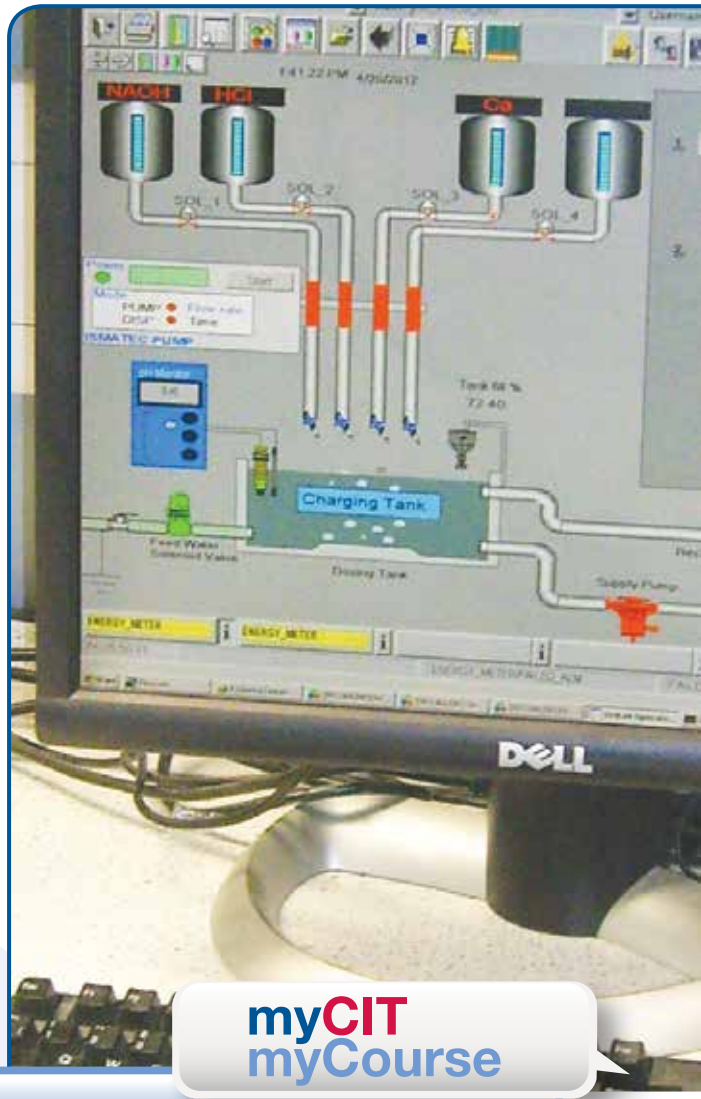
"I graduated with the BSc in Analytical and Pharmaceutical Chemistry, and then completed the BSc (Honours) ACQUA the following year. I then worked for Pfizer Ireland Pharmaceuticals, based in the Quality Control Laboratory as part of the finished products team.

The position of a quality control specialist has plenty of variety and challenges, with many opportunities to get involved in different areas within the pharmaceutical manufacturing industry. I use a lot of what I learned in my Degree when dealing with my daily workload, but I appreciate it even more when troubleshooting the problems that arise from time to time."

Instrument Engineering (Honours)

CR 360 Level 8 Award

>> Progression to Postgraduate Programmes



Application: CAO
Award Title: Bachelor of Science (Honours) in Instrument Engineering
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 320 / **Final:** 320

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Instrument Engineering?

Instrument Engineering is the multi-disciplinary specialisation centred on the principles of operation and applications of the diverse instrumentation used to measure, control and automate processes and systems throughout industry and society. Within process industries such as pharmaceuticals, biotechnology, food, beverages and water, instrument engineering contributes significantly to quality, safety, productivity and efficiency.

Helpful Leaving Certificate Subjects

Physics, Engineering, Technology, Chemistry, and Mathematics.

Work Placement

There is a mandatory 8 week placement in Year 3.

Potential Areas of Employment

- Instrument Engineering
- Automation Engineering
- Control Engineering
- System Integration
- Engineering Consultancy

myCIT myCourse

"I chose Instrument Engineering because of the high practical content and the use of continuous assessment. I recommend this course to anyone interested in Instrumentation."
Ross Kinirons

www.cit.ie/course/CR360

Module Information
http://modules.cit.ie/cr360

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
This multi-disciplinary course provides a comprehensive foundation of physical science, mathematics, electronics, measurement technology and information technology on which a range of specialist instrument engineering modules are developed. There is a continual emphasis throughout the course on the design standards and best practice relevant to instrument engineering.

During the placement in Year 3, students will gain direct experience in the practice of instrument engineering within an industry, organisation or research group. It may be possible for the placement to be in an international location.

In the final year of the course there is a major project in the area of instrument engineering. Graduates will be able to design, develop and implement measurement and control systems. Graduates will also be able to manage, evaluate and critically analyse complex instrumentation and process control installations. The course is presented through a mix of formal lectures and practical sessions.

Accreditation
This Honours Degree is recognised by the Institute of Physics. Graduates of recognised Degrees qualify for Associate Membership upon graduation and may apply for full Membership after appropriate work experience.

The Institute of Physics provides routes for suitably qualified and experienced Members to become Chartered Physicists and Chartered Engineers. Further details can be found on the Institute of Physics website.

Further Studies
For details, see www.cit.ie

Graduates are eligible to apply for a postgraduate degree by research at CIT at Master's (MSc) or Doctoral (PhD) levels.

Career Opportunities
Graduates typically work as Instrument Engineers, Automation Engineers or Control Engineers within chemical, pharmaceutical, biotechnology, oil/gas, food, beverage and water treatment companies that use instrumentation to improve productivity, safety, reliability, quality, etc.

Significant employment opportunities exist for graduates in the many companies that design, manufacture and supply instrumentation to the above industries as well as with the engineering consultancies and systems integrators who provide such industries with turn-key solutions to their manufacturing challenges.

Contact Information
Dr Liam McDonnell
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Question Time
Is this a Science course or an Engineering Course?
This is a multi-disciplinary course with a mix of science and engineering modules. This broad base provides graduates with a skill-set that provides a wide range of employment opportunities and the ability to adapt to rapidly changing technologies.

What level of Mathematics is recommended?
Honours Mathematics is not required, but as with all physical science and engineering courses numeracy is essential and you need to be comfortable with Mathematics.

What personal skills are most suited to the course and subsequent careers?
Motivation, initiative, dependability, commitment, analytical ability.

What should my interests be?
How things work, problem-solving and meeting technical challenges.

Where am I likely to work?
There are excellent employment opportunities locally, nationally and internationally for graduates. These opportunities are in pharmachem, biotech and other process industries. Employment is either directly with these companies or in the systems integrators and engineering consultancies that support these companies.

Environmental Science & Sustainable Technology (Honours)

CR 365 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Environmental Science & Sustainable Technology
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 330 / **Final:** 330

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Environmental Science & Sustainable Technology?

The protection of the environment and the promotion of sustainable development are central to national and global economies. As the world's industries and markets become greener, the need for scientists who specialise in environmental science and sustainable technology will continue to grow. The aim of this course is to produce graduate scientists for a range of interesting careers within the smart green economy.

Helpful Leaving Certificate Subjects

Physics, Chemistry, Technology, Geography, Mathematics, and Biology.

myCIT myCourse

"I chose Environmental Science and Sustainable Technology due to the long term employment potential within the environmental sector. The course has provided me with an objective view of environmental and sustainable issues which will ultimately prepare me for my future career."
Barry O'Donovan

Work Placement

There is a mandatory 8 week work placement in Year 3.

Potential Areas of Employment

- Green Consultancy
- Environmental Management
- Green Auditing
- Energy Auditing
- Carbon Footprint Reduction
- Waste and Emissions Reduction

www.cit.ie/course/CR365

Module Information
http://modules.cit.ie/cr365

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
This course provides a comprehensive foundation in the physical sciences of physics and chemistry together with modules in mathematics, instrumentation, computer technology and biology. There is a continual green ethos throughout the course to stimulate graduates to become champions of sustainability by the provision of green technical and green managerial modules. There are modules covering recycling, reduction, reuse, water quality and air quality to ensure that graduates are fully up-to-date with the legal, economic and technical aspects of these key topics.

In addition to the scientific and technical modules there are a number of modules to develop competences in report writing, presentation skills, communication skills, research and team work. Furthermore, there is an emphasis on enquiry and project-based learning throughout the course to encourage enterprise, independent learning and innovation. In the final year of the course there is a major project in the area of environmental science and sustainable technology.

In Year 3, students are placed in an environmental science and sustainable technology role within an industry, organisation or research group. It may be possible for the work placement to be in an international location.

Accreditation
This Honours Degree is recognised by the Institute of Physics. Graduates of recognised Degrees qualify for Associate Membership upon graduation and may apply for full Membership after appropriate work experience.

The Institute of Physics provides routes for suitably qualified and experienced Members to become Chartered Physicists and Chartered Engineers. Further details can be found on the Institute of Physics website.

Further Studies
For details, see www.cit.ie

Suitable qualified graduates are eligible to apply for a postgraduate degree by research at CIT at Master's (MSc) or Doctoral (PhD) levels.

Career Opportunities
Green employment opportunities and the range of green careers are growing. Being multi-skilled and interdisciplinary, graduates of this course can expect to find excellent employment opportunities, nationally and internationally, in areas such as green consulting, environmental management, environmental consulting, green auditing, energy auditing, environmental monitoring, waste and emissions reduction, energy generation using sustainable technologies, carbon footprint reduction, research & development and business development.

Contact Information
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Question Time
What is the difference between this course and other green courses?
This multi-disciplinary course is quite different to other green courses. It has a broad foundation of physical science and mathematics coupled with a range of green technical modules and green managerial modules. This mix of physical science and green management is unique and quite different to energy engineering courses and traditional environmental science courses.

How comfortable do I need to be with physics?
This course is based on the physical sciences and therefore physics and chemistry are important. Physics at Leaving Certificate level is helpful but not essential as the key content in physics is covered in year one of the course.

What should my interests be?
A strong interest in contributing to the protection of the environment and developing sustainable solutions for industry and society.

Where am I likely to work?
The broad multi-disciplinary nature of this course provides graduates with a wide range of employment opportunities throughout industry and society. Some of these opportunities will be in green-tech industries (services, recycling, energy, water, etc.). California is the greenest economy in the world and 40% of the green jobs there are in consultancy. A similar trend is expected in Ireland.

Applied Physics and Instrumentation

CR 001 Level 7 Award

>> Progression to Honours Degrees and Postgraduate Programmes
▲ Higher Certificate Option

Application: CAO
Award Title: Bachelor of Science in Applied Physics and Instrumentation
Duration: 3 Years (6 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 270 / **Final:** 270

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Applied Physics and Instrumentation?

As the science which deals with fundamental physical concepts, such as energy, force and time, physics is at the heart of everything in the natural world such as gravity, heat and light. Applied Physics is the term used when we apply these concepts, and thus Applied Physics is at the heart of everything in the man-made world. Instrumentation is the specific technology that allows us to measure and control a wide range of physical and other quantities that are essential to life today.

Safety, reliability, productivity, efficiency, sustainability and economy, for example, are underpinned by instrumentation. Communications, healthcare, oil & gas exploration, energy generation, transportation, food safety and research & development are examples of sectors that are increasingly dependent on instrumentation. Quite simply, instrumentation makes things happen!

Helpful Leaving Certificate Subjects

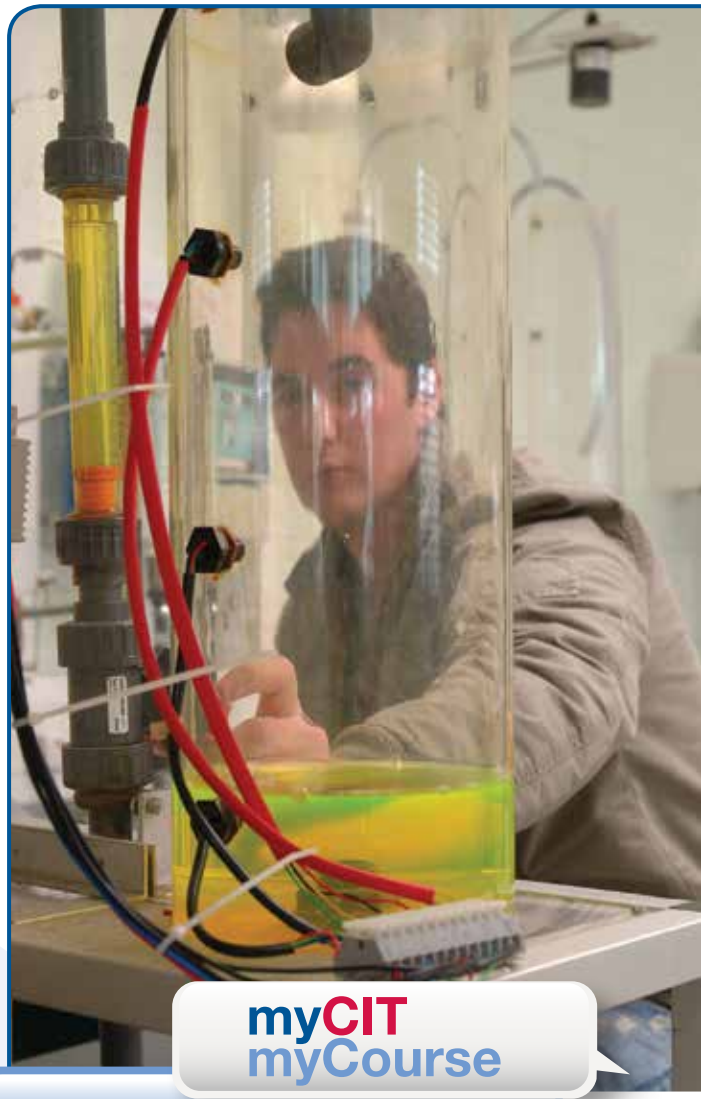
Physics, Engineering, Technology, Chemistry, and Mathematics.

Work Placement

There is a mandatory work placement of 8 weeks in Year 3.

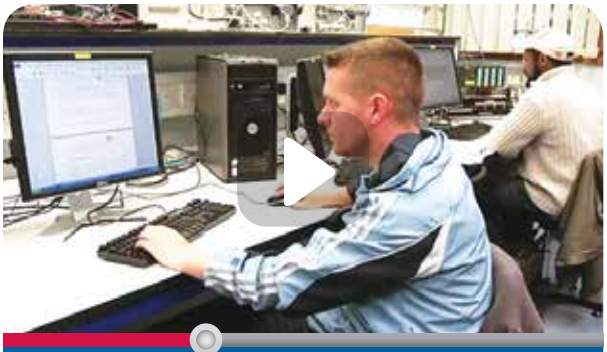
Potential Areas of Employment

- Calibration
- Instrument/Automation/Control Engineering
- Research and Development
- Metrology



myCIT myCourse

"I chose Applied Physics and Instrumentation as there is wide range of employment opportunities afterwards."
Joanne Riordan



www.cit.ie/course/CR001

Module Information
http://modules.cit.ie/cr001

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The aim of this course is to prepare graduates for a range of technical positions within the multi-disciplinary field of Applied Physics and Instrumentation. Whilst there is particular emphasis on employment within process industries, such as chemical, pharmaceutical, biotechnology, food, beverage and water, graduates are well equipped for employment in other sectors such as computers, medical devices and microelectronics, as well as in hospitals and in research and development.

Graduates will acquire comprehensive knowledge of process control, quality and safety systems in the context of the operations of process industries and the nature of their products. They will also be able to diagnose problems and implement solutions for a wide range of instrumentation systems used to measure and control technical processes.

In Year 3, students are placed in an applied physics and/or instrumentation role within an industry, organisation or research group. It may be possible for the placement to be in an international location.

Accreditation
This Degree is recognised by the Institute of Physics. Graduates of recognised Degrees qualify for Associate Membership upon graduation and may apply for full Membership after appropriate work experience.

The Institute of Physics provides routes for suitably qualified and experienced Members to become Chartered Physicists and Chartered Engineers. Further details can be found on the Institute of Physics website.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates are eligible to apply for entry to Year 4 (final) of
→ Bachelor of Science (Honours) in Instrument Engineering
or
the one year add-on
→ Bachelor of Science (Honours) in Applied Physics and Instrumentation

Teaching
The Bachelor of Science (Honours) in Applied Physics and Instrumentation is recognised by the Teaching Council for the Teaching of Physics and Applied Mathematics in second level schools. As with other Degrees, a training and teaching qualification such as a HDip is also required.

Career Opportunities
Whilst many of the graduates of this course progress to an Honours Degree, there are many immediate employment opportunities locally, nationally and internationally. Graduates typically work as junior instrument, control or automation engineers, metrology specialists, calibration specialists and research and development technologists.

Contact Information
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Question Time
Is this course an extension of Leaving Certificate Physics?
Whilst Physics at Leaving Certificate level is helpful, it is not essential as the key content in Physics is covered in Year 1 of the course.

What personal skills are most suited to the course and subsequent careers?
Motivation, initiative, dependability, commitment, and analytical ability.

What should my interests be?
How things work, problem-solving and meeting technical challenges.

Where am I likely to work?
There are excellent employment opportunities locally, nationally and internationally for graduates in Applied Physics and Instrumentation. Whilst many of these opportunities are in pharmachem, biotech and other process industries, graduates have found employment in other manufacturing sectors such as computers, medical devices and microelectronics, as well as in hospitals, and in research and development.

myCIT myCareer

Colin Horgan
Automation Engineer

"I completed the BSc in Applied Physics & Instrumentation in 2010 and progressed to the final year of the BSc (Honours) in Applied Physics & Instrumentation where I specialised in Instrument Engineering. Within three weeks of completing my Honours Degree I had three offers of employment. In July 2011 I joined Rockwell Automation Ireland as an Automation Engineer and have been working on automation projects for different clients with particular emphasis on programmable logic controllers (PLCs). I have also been working on distributed control systems (DCSs). While I found myself on a steep learning curve in industry, the familiarisation with the hardware and software of PLCs and DCSs provided by the course proved invaluable and very much eased my transition from college to industry."

Biomedical Science (Honours)

CR 320 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Biomedical Science
Duration: 4 Years (8 Semesters)
Places: 30
Campus: CIT and UCC
CAO Points in 2011: **Round 1:** 495 / **Final:** 495

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English and Irish Grade
4	2 (Note 1)	D3 (O/H)	D3 (O/H)

Note 1: A C3 at Higher Level must be obtained in a Laboratory Science subject (from Chemistry, Physics, Biology or Physics and Chemistry (joint)).
NB: Agricultural Science is accepted as a subject and attracts CAO points, but does not meet the requirement for the Laboratory Science Higher C3 subject.

What is Biomedical Science?

Biomedical Science is the term for the investigations carried out by Biomedical Scientists on samples of tissue and body fluids to diagnose disease and monitor the treatment of patients.

Helpful Leaving Certificate Subjects

Chemistry, Biology, Physics, Mathematics and English.

Work Placement

This work placement (clinical placement) is offered post-graduately and is optional. However, in order for graduates to be eligible to work as Medical Scientists in hospitals in Ireland, they must have completed a clinical placement training which takes a full academic year.

Potential Areas of Employment

- Medical Scientist in Hospitals
- Biopharmaceutical & Biotechnology Industries
- Public Health
- Sales & Marketing of Medical Products

myCIT myCourse

The extensive laboratory training incorporated throughout the course combined with the clinical placement in a teaching hospital, allows me to become proficient in all disciplines of medical science. Each student was well known by lecturing staff which aids the learning process immensely as information and advice can be obtained easily."
Laura O'Brien

www.cit.ie/course/CR320

Module Information
http://modules.cit.ie/cr320

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
This Honours Degree course is offered jointly by Cork Institute of Technology and University College Cork. Biomedical scientists work in partnership with doctors and other health-care professionals to perform many different roles in medical laboratories. 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. It provides training in state-of-the-art technologies to facilitate investigation of disease and medical research.

Accreditation
This Honours Degree course is fully accredited by the Academy of Medical Laboratory Sciences (AMLS).

Further Studies
For details, see www.cit.ie

The CIT/UCC joint BSc (Honours) Degree in Biomedical Science is one of only three Honours Degrees in the Republic of Ireland which are recognised by the Academy of Medical Laboratory Sciences (professional body) as enabling graduates to practise in hospitals in the State. However, this BSc (Honours) must be accompanied by clinical placement training. Graduates of the BSc (Honours) will be offered the opportunity to complete this placement in a designated hospital laboratory.

Suitably qualified graduates are eligible to apply for a postgraduate degree at CIT:
- → MSc in Biomedical Science (Taught)
- → MSc in Computational Biology (Taught)
- → MSc (by Research)
- → PhD

Career Opportunities
Biomedical Science prepares the student for a career in laboratory medicine and related areas in the health-care industry and biopharmaceutical industry. Biomedical Science graduates work as Medical Scientists in hospitals, and in research, the biopharmaceutical and biotechnology industries, public health and sales and marketing of medical products.

Contact Information
Dr Brigid Lucey
Department of Biological Sciences
T: 021 433 5484
E: brigid.lucey@cit.ie

Question Time
What do you need to work as a Biomedical Scientist in Ireland?
Graduates with a BSc (Honours) in Biomedical Science from CIT/UCC, GMIT, or DIT, who have completed clinical placement are eligible for membership of the Academy of Medical Laboratory Science, which qualifies the graduate to practice as a Biomedical Scientist.

Is it an advantage to have Chemistry and Physics coming into the course?
It is always an advantage to have Chemistry and Physics coming into a course such as Biomedical Science. However, it is feasible to take up one or both of these subjects on entry to the course, and the first year programme is tailored to support students who enter the programme without prior knowledge of these subjects.

What kind of person should you be?
This profession requires scientists who are mindful of their responsibility when dealing with human health. It also means that they are often privy to information concerning patients that they cannot divulge for ethical reasons other than in the course of their work.

What is the time divide between CIT and UCC?
The programme for the BSc (Honours) in Biomedical Science is taught equally by CIT and UCC, so this means that the students will expect to spend some days in one institution or the other. The timetable is arranged to minimise travel between the two colleges.

myCIT myCareer

Dr Annmarie Mollaghan
Medical Scientist

Having completed the BSc (Honours) in Biomedical Science in Cork, Annmarie began work as a Medical Scientist in the Microbiology Department of St. James's Hospital in Dublin until she embarked on a postgraduate research scholarship at CIT in 2008.

During the intervening period, until her graduation in October 2011 with a PhD in Molecular Biology, Annmarie also undertook short part-time locum positions as a Medical Scientist in the Irish Blood Transfusion Service (IBTS) in Cork, and in the Microbiology Department of the Bon Secours Hospital in Cork. She currently works as a Medical Scientist in the Microbiology Department of the Cork University Hospital.

Herbal Science (Honours)

CR 330 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Herbal Science
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 250 / **Final:** 250

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Herbal Science?

The Herbal Science programme covers all aspects of herbs and natural products with applications in the healthcare, food, cosmetic and biopharmaceutical industries.

Helpful Leaving Certificate Subjects

Biology, Chemistry and Mathematics.

Work Placement

There is a mandatory work placement of 10 weeks in Year 3.

Non-Standard Applicants

Encouragement will be given to non-standard applicants, including mature students, to enter the course. In the case of these applicants, their academic qualification and recognised prior learning (RPL) will be assessed and evaluated by the Department of Biological Sciences. It is anticipated that up to 30% of places will be offered to non-standard applicants, see further information in the Yellow Pages at the back of this Handbook.

Potential Areas of Employment

- Healthcare, Biopharmaceutical and Cosmetic Industry
- Food and Nutraceutical Industry
- Plant Production and Natural Product Ingredient Manufacture
- Clinical Herbal Medicine after further training

myCIT myCourse

"Although this course specialises in the science of herbs and natural products it offers a broad range of subjects that can be applied to other fields of science. I cannot recommend this course highly enough, the skills and knowledge learned are very valuable."
Niamh O'Brien

www.cit.ie/course/CR330

Module Information
http://modules.cit.ie/cr330

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The main core of the programme is focused on the production, characterisation and applications of herbal extracts and natural products that are ingredients used in medicinal, pharmaceutical, cosmetic and food industries. The Herbal Science course is structured along streams of study based on plant science and plant production, human body systems, food and nutrition, and herbs and natural product applications.

The specific biological subjects are supported by more general analytical techniques and foundation skills that provide our graduates with broad scientific education while retaining an appropriate level of specialisation to offer a wide range of opportunities in industry, in research or in business development.

Further Studies
For details, see www.cit.ie

Suitable qualified graduates may progress to academic qualifications in a number of areas which include plant science, pharmacy, ethnobotany, microbiology, and pharmacognosy at Master's and Doctoral Degree level.

The course gives the educational foundation necessary to pursue a career as a medical herbalist. The IIMH accepts and recognises this BSc Honours Degree as constituting Part 1 of its professional training requirement for qualification as a medical herbalist/practitioner in Ireland. Further study/ training is required to achieve Part 2 of the IIMH professional requirements. The course also provides the student with an enormous opportunity to develop the skills necessary to commence herbal research or clinical training at an advanced level.

Career Opportunities
Graduates can expect to work in a variety of sectors including the Healthcare/Cosmetic Industry; Food Industry/ Nutraceutical Industry; Biopharmaceutical Industry; Quality Control/Analysis; and Medicinal Plant Production.

Contact Information
Anna-Maria Keaveney
Department of Biological Sciences
T: 021 433 5402
E: anna-maria.keaveney@cit.ie

Question Time
When I graduate, will I be based in a Lab?
Graduates can work in a variety of settings from growing herbs and extracting natural products to manufacturing and production in a range of industries (cosmetic, biopharmaceutical, food, etc.). You can chose to work in a lab undertaking research and product development or quality control. You can make other choices based on the modules covered in this course for a wide variety of career options and work placements.

What postgraduate qualification do you need to be qualified as a Herbalist?
There are a number of options available to graduates when it comes to postgraduate study, including professional training in Herbal medicine. If you chose to specialise in Herbal Medicine you will need further specialist postgraduate training accredited by the professional body that can be contacted for further information.

Alternatively you can pursue a research Master's through CIT's Graduate School which can be based in any one of a number of life science disciplines. From this you may choose to pursue a structured PhD such as the ED4LIFE programme which includes the tradition of original research but offers graduates a range of generic and subject specific skills so that they are industry ready upon graduation. Generic modules include entrepreneurship, communications, personal effectiveness, and research methodology.

Many other postgraduate opportunities can be availed of in other third level institutions in Ireland and abroad.

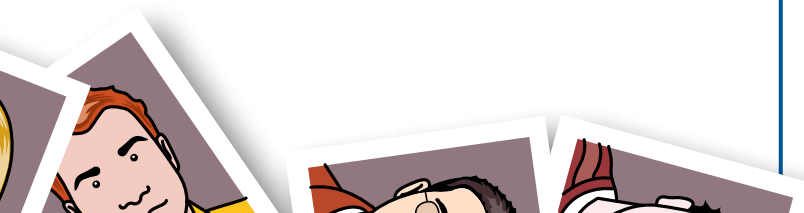
myCIT myCareer

Tracey Ryan
Company Owner

Tracey graduated in 2011 and has set up her own business, Bia Beauty.

"I really enjoyed the broad range of subjects studied on the Herbal Science Degree, from Botany to Biochemistry. But what really helped me was the emphasis on Innovation, Entrepreneurship, and Product and Process Development.

It was here that I got a taste of business from which I have now set up my own company making and selling natural cosmetics. This Degree has prepared me in many ways to run my business, from selecting appropriate herbs, to researching their benefits and creating a suitable manufacturing environment."



Pharmaceutical Biotechnology (Honours)

CR 325 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Pharmaceutical Biotechnology
Duration: 4 Years (8 Semesters)
Places: 25
CAO Points in 2011: **Round 1:** 285 / **Final:** 285

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Pharmaceutical Biotechnology?

Many modern medicines such as vaccines, hormones, anti-cancer drugs are now made using biological cells. Insulin for example, which is used by diabetic patients worldwide is made using living cells as opposed to more traditional chemical synthesis based methods. This means there is a strong demand for biologists who can design innovative new medicines using biological approaches, and who have the skills to work with cells and the bio-active compounds they produce. This biotechnology course will teach students how to grow and engineer biological cells in order to make safe and effective medicines using the most up-to-date information and technologies available.

myCIT myCourse

"This course provides you with great career opportunities. After graduation, I qualified for a research grant which allowed me to pursue my dream of getting a PhD."
Monika Koziel

Helpful Leaving Certificate Subjects

Biology, and Chemistry.

www.cit.ie/course/CR325

Work Placement

There is a mandatory work placement of a minimum of 16 weeks in Year 3.

Potential Areas of Employment

- QC Analyst
- Microbiologist
- Bio-assay Specialist
- Research and Development

Module Information
http://modules.cit.ie/cr325

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The course content is specifically designed to meet the needs of the many relevant employers both nationally and internationally, and contains topical, cutting edge, industry specific material. The lectures are supplemented with in depth analysis of relevant case studies, projects, assignments, interactive videos, web tools and site visits. At least 50% of the contact time is spent in the laboratory gaining practical experience.

Work Placement is a mandatory part of this course. In Year 3, students will spend a minimum of 16 weeks in a local, national or internationally approved work environment.

Many of the world's top Biotechnology companies have a strong presence in Ireland. In general, the industry is moving towards a more "bio–based" approach to pharmaceutical manufacture. Consequently, there is a greater need to produce highly trained graduates who possess Pharmaceutical Biotechnology related skills. This course is designed to specifically meet this need.

Further Studies
For details, see www.cit.ie

This course is an excellent platform for further studies, both in terms of short add-on courses, and more structured postgraduate degrees such as Master of Science and PhD programmes.

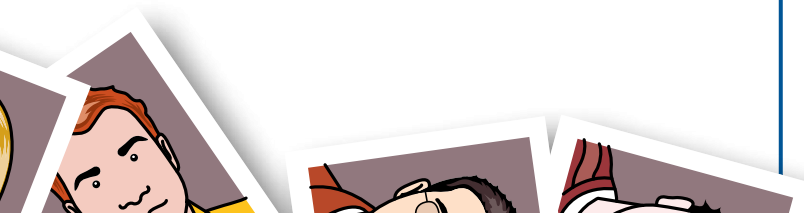
Career Opportunities
This course is very broad and is specifically designed to train students in all aspects of modern biotechnology. Graduates from this course are qualified to work in a number of areas within the biotechnology industry with many attaining employment immediately after graduating.

Contact Information
Dr Jim O'Mahony
Department of Biological Sciences
T: 021 433 5485
E: jim.omahony@cit.ie

Question Time
Does this course qualify me as a Pharmacist?
No. It trains you to work in the biotechnology industry where modern bio-medicines are discovered and made such as vaccines, hormones, antibodies and therapeutic enzymes.

What personal skills are most suited to the course and subsequent careers?
Good organisational skills, technical ability, team-working and ability to work to deadlines.

Is the biotechnology industry secure?
Pharmaceutical exports from Ireland typically exceed €24 billion per year. Approximately 25% of all US biotechnology based imports come from Ireland. Despite the current economic situation, biotechnology is still very vibrant and remains one of the biggest national employers.



myCIT myCareer

Colm O'Shea
Quality Control Analyst

"I completed a BSc (Honours) in Pharmaceutical Biotechnology at CIT in 2009. The course content and quality of lecturing were of a high scientific standard and I was much sought after by many of the multinationals here in Ireland. The work placement aspect of this course was invaluable in preparing me for the real working environment and provided a useful practical knowledge base. With the support and the quality of the lectures at CIT, I was well equipped with the scientific knowledge and technical ability for a successful career. Shortly after graduating, I secured employment as a Cell Culture Scientist at Pfizer Biotechnology facility in Dublin. I have since moved to Janssen Biologics where I have a full-time position as a Quality Control Analyst in the Pharmaceutical Development and Manufacturing Science Department."

Nutrition & Health Science (Honours)

CR 333 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Nutrition & Health Science
Duration: 4 Years (8 Semesters)
Places: 40
CAO Points in 2011: **Round 1:** 320 / **Final:** 320

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Nutrition & Health Science?

This course is designed to meet the need for technically competent managers, analysts and officers in the design, development, production, and upgrading of products which are ingested, injected, implanted, inhaled, inserted or topically applied to the bodies of humans or animals for the maintenance, restoration and promotion of their health and wellbeing.

Helpful Leaving Certificate Subjects

Biology, and Chemistry.

myCIT myCourse

I'm delighted I chose this science course as it is very broad with modules ranging from Animal Physiology and Nutrition to Bio-Analytical Science. It offers great experience in laboratories where we get to carry out experiments nearly five days a week. It's always nice when a lecturer recognises you by name, something very common in CIT.
Anne Bourke

Work Placement

There is work placment of a minimum of 16 weeks in Year 3.

Possible Areas of Employment

- Research Scientist in food, nutraceutical, and related healthcare industries
- Production, Management and Marketing in food, nutraceutical and related healthcare industries
- Governmental agencies responsible for food
- Quality Assurance

www.cit.ie/course/CR333

Module Information
http://modules.cit.ie/cr333

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
First and second year modules provide the student with a strong foundation in nutrition as well as other biological science modules such as cells, microbiology, biochemistry, biotechnology and science of food and health.

Third and fourth year cover more specialised topics such as food and healthcare chemistry, toxicology and microbiology, clinical nutrition and population health, health products regulation, biomanufacturing and food processes as well as food innovation. The lectures are supplemented with relevant case studies, projects, assignments and there is a strong focus on gaining in depth practical experience in the laboratory.

The work placement module is an integral and essential part of the course programme in which the student is introduced to a structured work environment. The student develops an understanding of the organisation, practices and procedures current in the organisation and the area of activity in which it is involved.

Further Studies
For details, see www.cit.ie

This course is an excellent platform for further studies, both in terms of short add-on courses, and more structured post graduate degrees such as Master of Science and PhD programmes.

Career Opportunities
It is envisaged that a graduate of this course will be employed in any sector of the Food/Nutraceutical or Healthcare Industries. Areas such as: management, development, production, quality assurance or marketing of products and/or services for the Food, Nutrition, Medical Devices, Cosmetic, Pharmaceutical, Animal feed and Veterinary Care sectors. In addition, there are employment opportunities within governmental agencies responsible for food. Nutrition & Health Science Degree graduates have many opportunities to engage in continued education and training (e.g. pursue a career in Dietetics).

Contact Information
Dr Helena Stack
Department of Biological Sciences
T: 021 433 5919
E: helena.stack@cit.ie

Question Time
Can I become a Dietician from CR 333?
Completion of the BSc (Honours) in Nutrition & Health Science does not qualify the graduate to practice as a Dietician. However, graduates of the course CR 333 can undertake further studies in other third-level institutes to pursue a career as a Dietician.

What personal skills are most suited to the course and subsequent careers?
Individuals pursuing a career in Nutrition & Health Science should be dedicated, logical, analytically minded, good with people, a team player, have good attention to detail and excellent organisational skills.

myCIT
myCareer

Julie Grace
Postgraduate Student

"I found first and second year covered a wide range of subjects which gave me a great understanding and foundation in Nutrition & Health Science.

I gained excellent laboratory experience, which I was able to demonstrate in my third year work placement in Canada. I am currently studying for a Master's in Food Science, from which I hope to gain employment in the area of quality assurance in a food related industry.

Overall, I would highly recommend this course and thoroughly enjoyed my time in CIT."

Applied Biosciences

CR 006 Level 7 Award

>> Progression to Honours Degrees & Postgraduate Programmes
▲ Higher Certificate Option

Application: CAO
Award Title: Depends on Specialisation. Choose from:
- Bachelor of Science in Food & Health Science
- Bachelor of Science in Applied Biosciences & Biotechnology

Duration: 3 Years (6 Semesters)
Places: 40
CAO Points in 2011: **Round 1:** 290 / **Final:** 290

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Applied Biosciences?

Applied Biosciences is the study of complex biological systems, and how they work, for example how bacteria generate energy from the breakdown of sugars. Applied Biosciences also involves the use of living organisms and bioprocesses in engineering, technology, medicine and agriculture – in other words, the application of scientific and technical advances in the life sciences to develop commercial products.

Helpful Leaving Certificate Subjects

Chemistry, Biology, Physics, and Mathematics.

Work Placement

There is a mandatory work placement of a minimum of 16 weeks in Year 3.

Possible Areas of Employment

- Pharmaceutical Industry
- Food and Healthcare Industries

myCIT myCourse

"The course provides a fantastic range of both lectures and labs that are delivered by dedicated and approachable lecturers who are both interested in what they teach and up-to-date in their course material. The work placement element in Year 3 provides a great opportunity to experience a real working environment."
Chloe Huseyin

www.cit.ie/course/CR006

Module Information
http://modules.cit.ie/cr006

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
In CR 006 Applied Biosciences, Years 1 and 2 are common. Students will not be required to choose their preferred qualification (Food & Health Science or Applied Biosciences and Biotechnology) until the beginning of Year 3.

Knowledge of environmental science, analytical techniques, quality management and bioprocessing are seen as key requirements and these disciplines are studied in detail. Laboratory work forms a substantial part of the course. The development of high-level laboratory skills and the ability to use them in the service of advanced industrial biology are key aims of the course. Opportunities currently exist for a number of students on courses to participate in EU funded exchange programmes involving colleges and enterprises in Europe.

The Bachelor of Science in Applied Biosciences and Biotechnology meets the demands of biotechnology, food and pharmaceutical industries for technologists and analysts. In addition, the requirements of the services and research laboratories for staff trained in advanced biologically based analytical techniques are met by graduates of the course.

The Bachelor of Science in Food & Health Science meets the changing needs of the Food, Pharmaceutical and Biotechnology industries for technicians and analysts. Graduates are in great demand from multinational pharmaceutical companies, as well as the traditional employers in the food and drink sectors.

Advanced manufacturing in the food, health care, cosmetic, pharmaceutical and chemical industries have been employment destinations for graduates of this course as well as state and local authority laboratories.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates of the BSc in Food & Health Science may apply for entry to Year 4 of
→ BSc (Honours) in Nutrition & Health Science

Suitably qualified graduates of the BSc in Applied Biosciences & Biotechnology may apply for entry to Year 4 of
→ BSc (Honours) in Pharmaceutical Biotechnology

Career Opportunities
Graduates from this course have traditionally gained employment in the Pharmaceutical, and Food and Healthcare industries, where graduates function in a variety of roles including; quality analysts, microbiologists, purification specialists, researchers and technicians. Graduates also have the option to progress to further academic studies at Level 8 within the Department of Biological Sciences.

Contact Information
Dr Roy Sleator
Department of Biological Sciences
T: 021 433 5405
E: roy.sleator@cit.ie

Question Time
If I am not sure what area of Biological Sciences I'd like to specialise in, would this be a good course choice for me?
This course provides a broad grounding in the core principles of the biological sciences; allowing students to gain a solid understanding of core concepts and techniques for two years before deciding to specialise in their chosen field in Year 3.

What personal skills are most suited to the course and subsequent careers?
The best students and professional biotechnologists all possess a keen interest in biology and a desire to understand how complex biological processes work.

myCIT myCareer

Jurate Daugelaite
Postgraduate Student

Following the BSc in Applied Biosciences and Biotechnology in 2009, Jurate undertook the BSc (Honours) in Pharmaceutical Biotechnology.

She is currently pursuing the MSc in Computational Biology, a one year taught Master of Science programme at CIT's Department of Biological Sciences and hopes to progress further to PhD level on completion of the Masters.

Software Development (Honours)

CR 106 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Software Development
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 290 / **Final:** 290

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (H) or B3 (O)	D3 (O/H)

What is Software Development?

Software Development programmes provide graduates with the skills and knowledge required to design and create the software programmes that people use every day. For example, you use software programmes when using the Internet, booking a flight or running an app on your phone.

Helpful Leaving Certificate Subjects

English, Science, Mathematics, Engineering, and Business.

Work Placement

There is a mandatory work placement of 5 months in Year 3.

Possible Areas of Employment

- Software Development Engineer
- Web Developer
- Software Testing

myCIT myCourse

"This course gave me a great opportunity to gain solid programming skills as well as a good understanding of databases and networking. With the variety of subjects offered you will not be bored."
Anna Gedek

www.cit.ie/course/CR106

Module Information
http://modules.cit.ie/cr106

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The key to this Honours Degree lies in its broad range of modules. It is designed to give the student a strong understanding of how computers and the Internet work. It teaches students to take a concept for an application from a drawing to a fully functioning application. Elective modules throughout the course allow the student to specialise in particular areas of their choice e.g. mobile applications, web development, and web security.

In addition to pure computing modules, CIT includes communication and management modules to develop other skills that will be useful for a career in computing.

In Year 3, students are in industry for five months. The placement runs from April to August inclusive. Placements for students are organised on a country-wide basis with a particular focus on Cork and Dublin. Students have been placed in France, Germany, Sweden and the USA.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates are eligible to apply for postgraduate research degrees at Master's (MSc) or Doctoral (PhD) level where further specialisation in your preferred area of computing is possible. Suitably qualified graduates may also apply to:

- Postgraduate Diploma in Networking and Security
- MSc in Software Development (Taught)
- MSc in Networking and Security (Taught)
- MSc in Cloud Computing (Taught)

Career Opportunities
Graduates have taken software development jobs in large multinationals such as IBM, EMC^2 and Ericsson as well as in smaller indigenous Irish companies. Other students have taken jobs within large IT departments in companies within the Chemical, Pharmaceutical or Food Industry. Students have also moved into roles in System Administration, Customer Support or Software Testing. A percentage of students from the course have also chosen to take up jobs in the Software Industry abroad.

Contact Information
Helen Fagan
Department of Computing
T: 021 433 5119
E: helen.fagan@cit.ie

Question Time
What makes CR 106 different from the other Computing Honours Degrees at CIT?
The focus is on acquiring the skills and knowledge required to become a software developer.

What level of Programming is contained in the course?
Programming is seen as a core module in all semesters of the Degree. The students develop applications using a range of languages such as Java, C, PHP, and Python. They develop applications for the desktop, the web and for mobile devices. The key goal is to bring the student to a level where they are familiar with the tools and work practices used within the software industry today.

Can I design and develop websites from this course?
Several modules are included in the Honours Degree which focus specifically on building websites. Other specialised modules are available as electives.

Will I be designing Apps?
Two modules are available specific to developing applications for the Android Platform. In the past few years, many students have chosen to write mobile apps for their final year project.

Can I go on to specialise in Cloud Computing?
Yes, having graduated with a BSc (Honours) in Software Development, it is possible to apply for entry to the taught MSc in Cloud Computing.

myCIT myCareer

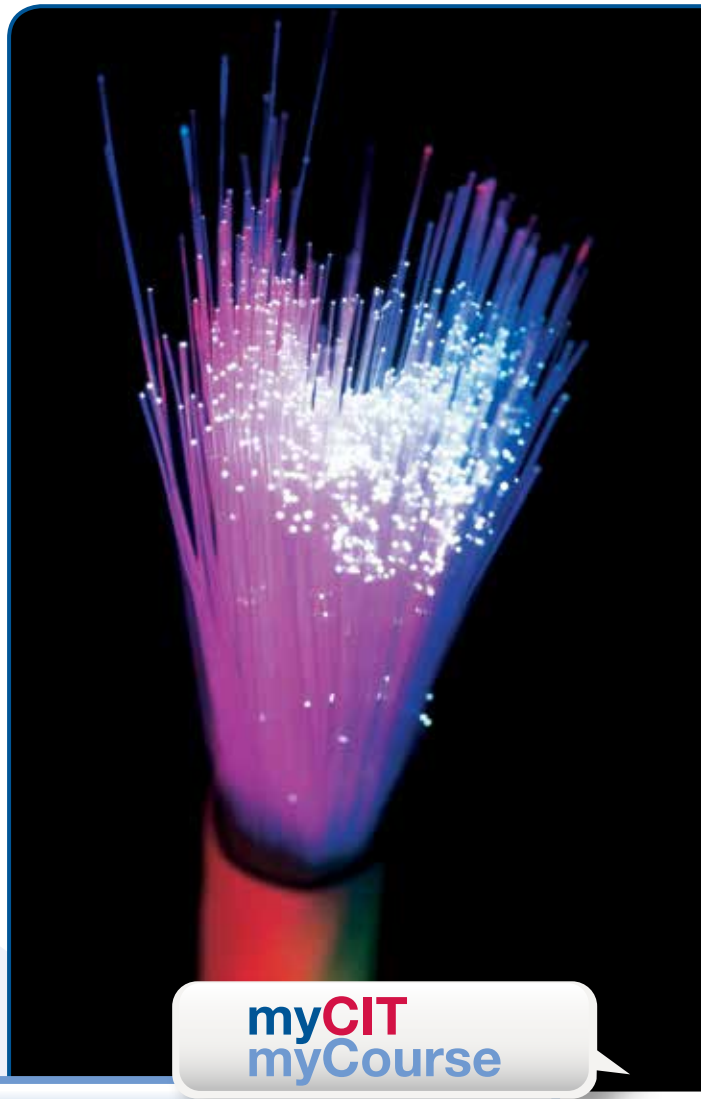
Garry Bennett
Company Owner

"My first employment was with Yahoo! as a Junior Developer and within one year, I was promoted to Senior Developer. Another year on, I was promoted to Engineering Manager for the Travel and Autos categories. After 4 years with Yahoo!, I moved to Sydney and worked as Project Manager with a leading web development company – SydneyWeb. Due to my experience, I was entrusted with some of its largest and more complex projects which I found very rewarding. I returned to Ireland in December 2007 and launched www.mytown.ie. Both my Degree and practical experience aided the development and the launch of the website." At the 12th Annual Genesis Enterprise Programme (GEP) 2010 Awards & Showcase, Garry won the Business Development Achievement Award.

Software Development and Computer Networking (Honours)

CR 116 Level 8 Award

>> Progression to Postgraduate Programmes



Application: CAO
Award Title: Bachelor of Science (Honours) in Software Development and Computer Networking
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 290 / **Final:** 290

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (H) or B3 (O)	D3 (O/H)

What is Software Development and Computer Networking?

This is a bi-focal course with equal emphasis on Software Development and Computer Networking. The aim of the programme is to produce software developers with general computing skills but with an emphasis on programming, analysis and design skills necessary for the creation of network/internet based applications. Graduates may also find employment in a wide range of industries as networking specialists.

Helpful Leaving Certificate Subjects

English, Science, Mathematics, Engineering, and Business.

myCIT myCourse

"I really enjoyed my course, I made some great friends, and through the wide range of modules I gained indispensable skills for today's jobs market. I would recommend this course to anybody with an interest in IT."
Megan Henchin

Work Placement

There is a mandatory work placement of 5 months in Year 3.

Possible Areas of Employment

- Software Development
- Network Engineering
- Software Testing
- IT Support

www.cit.ie/course/CR116

Module Information
http://modules.cit.ie/cr116

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
If you feel that you would be interested in planning and designing the computer networks used to allow computers communicate all over the world then apply for this course. You will also acquire excellent expertise in the design and development of computer software.

Students are in industry for five months during the third year of the course. The placement runs from April to August inclusive. Placements for students are organised on a country-wide basis with a particular focus on Cork and Dublin. Students have been placed in France, Germany, Sweden and the USA.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates are eligible to apply for postgraduate research degrees at Master's (MSc) or Doctoral (PhD) level where further specialisation in your preferred area of computing is possible. Suitably qualified graduates may also apply to:

- Postgraduate Diploma in Networking and Security
- MSc in Software Development (Taught)
- MSc in Networking and Security (Taught)
- MSc in Cloud Computing (Taught)

Career Opportunities
Graduates of the course have found careers in a range of industries - such as networking, telecoms, data storage and finance - as Software Developers, Quality Assurance Engineers, Technical Trainers, and Support Engineers. Some have progressed into Project and People Management roles. Graduates have commented that the dual nature of the course and the variety between the modules, opened more doors to employment than a single-focused course could have.

Contact Information
Jonathan Sherwin
Department of Computing
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Question Time
What makes CR 116 different from the other Computing Honours Degrees at CIT?
It has a stronger hardware and telecommunications emphasis, and uses mathematical abilities more.

What level of Programming is contained in the course?
Programming and Software Engineering are a crucial part of the course, accounting for roughly a quarter of the mandatory modules.

Can I design and develop websites from this course?
Yes, although it is not a primary focus of the course. The programming skills you will learn can be applied to web development, and the Web Development Fundamentals and Web Publishing modules in first year can be built on through choosing elective modules in Web Development in later years.

Can I go on to specialise in Cloud Computing?
Yes, having graduated with a BSc (Honours) in Software Development and Networking, it is possible to apply for entry to the taught MSc in Cloud Computing.

myCIT myCareer

Donal Lynch
Software Engineer

"The work placement was of great benefit in which I was very fortunate to get the opportunity to work with Cisco Systems in San José, California. This was definitely one of the highlights of my four years spent in CIT.

Upon graduation, I rejoined Cisco Systems as a software engineer, this time in its newly established Research & Development Centre based in Galway. I'm currently working in the Unified Communications Business Unit where I apply both my knowledge on networking protocols and software design and development, all of which I acquired during my time spent in CIT."

IT Management (Honours)

CR 310 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in IT Management
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 290 / **Final:** 290

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is IT Management?

IT Management is concerned with managing the IT services required by organisations. It is primarily focused on managing and implementing the IT infrastructure that provides these IT Services.

Helpful Leaving Certificate Subjects

English, Science, Mathematics, Engineering and Business Studies.

Work Placement

There is a mandatory work placement of 5 months in Year 3.

Possible Areas of Employment

- IT Project Manager
- IT Security Engineer
- Network Manager
- System Manager

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"I am extremely happy I chose IT Management as my third level course. I have gained a variety of new skills and knowledge as well as true friends and fantastic workplace connections. The benefits of the course are endless."
Aisling Cullinane

www.cit.ie/CR310

Module Information
http://modules.cit.ie/cr310

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
This course is designed to provide the graduate with both the management and technical skills to work in a wide range of organisations.

At a time when the strategic reliance on IT systems and infrastructures grows ever more critical within organisations, the demand for graduates with the skills required to manage and implement IT services and projects of a complex technical nature remains constant. This programme is specifically designed to address this need.

In Year 3, the work placement runs from April to August inclusive. Placements for students are organised on a country-wide basis with a particular focus on Cork and Dublin. Students can also work abroad.

CIT has a long and successful association with the Erasmus programme. Every year, students travel to study at CIT from across Europe and many CIT students travel to study beyond our shores. The Department of Computing has strong links with institutions in Germany, Sweden, France, and Finland.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates are eligible to apply for postgraduate research degrees at Master's (MSc) or Doctoral (PhD) level where further specialisation in your preferred area of computing is possible. Suitably qualified graduates may also apply to:

- → Postgraduate Diploma in Networking and Security
- → MSc in Networking and Security (Taught)
- → MSc in Cloud Computing (Taught)

Career Opportunities
Graduates who can implement and manage IT services and infrastructure are in constant demand.

Contact Information
Noreen Gubbins
Department of Computing
T: 021 433 5160
E: IT@cit.ie

Question Time
What makes CR 310 different from the other Computing Honours Degrees at CIT?
This course is primarily concerned with the implementation and management of IT Services rather than computer programming.

What level of Programming is contained in the course?
Programming is not the primary focus of this course. You will cover some basic programming modules in first year.

Can I design and develop websites from this course?
Some modules in this Degree focus on building and running basic websites. More advanced specialised modules in web development are also available as electives.

Can I go on to specialise in Cloud Computing?
Yes, having graduated with a BSc (Honours) in IT Management, it is possible to apply for entry to the taught MSc in Cloud Computing.

Web Development (Honours)

CR 312 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Web Development
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 300 / **Final:** 295

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Web Development?

Web Development refers to the programming required to create websites and web applications. This course can be considered as software development for the web. It provides graduates with the skills and knowledge required to design and create websites and web applications (i.e. the programmes/websites that people use every day on the Internet). Some examples would be Facebook, Youtube, Amazon, or basically any website you visit.

Helpful Leaving Certificate Subjects

English, Science, and Mathematics.

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"With the focus languages such as HTML, CSS, Javascript, jQuery, Java etc., there is no corner of the ever evolving web left unturned. I found the lecturers very knowledgeable and helpful. If you like the web and how it works, this is the course for you. You will know how it works and how to build fantastic websites and web programmes."
Kyron Laffan

Work Placement

There is a mandatory work placement of a minimum of 13 weeks in Year 3 or study abroad.

Possible Areas of Employment

- Web Developer
- Software Developer/Programmer
- User Experience Developer
- Web Designer

www.cit.ie/course/CR312

Module Information
http://modules.cit.ie/cr312

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The course has a strong focus on the use of current and emerging web technologies and on user experience. Besides the Web based modules, the course has a mix of general software development modules to produce a rounded and competent software developer.

In Year 3, students will study at a foreign university or a minimum of 13 weeks on work placement.The Department has links to many third level institutes in Europe and will advise students where study places may be found where the medium of instruction is English. Movement within the EU may be supported by the EU Erasmus programme.

In addition, CIT include modules on business, management and entrepreneurship to better prepare you for your career.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates are eligible to apply for postgraduate research degrees at Master's (MSc) or Doctoral (PhD) level where further specialisation in your preferred area of computing is possible. Suitably qualified graduates may also apply to:

- Postgraduate Diploma in Networking and Security
- MSc in Software Development (Taught)
- MSc in Networking and Security (Taught)

Career Opportunities
The Web has become a primary delivery mechanism for software systems. Web applications can be deployed on desktops, laptops, or mobile devices i.e. any device that can run a browser. Therefore, the trend in software is towards web based systems and the demand for qualified developers in the space is strong and growing. There are a large number of companies in Ireland, both large and small, developing applications for the Internet.

Contact Information
Gary Couse
Department of Computing
T: 021 433 5160
E: gary.couse@cit.ie

Question Time
What makes CR 312 different from the other Computing Honours Degrees at CIT?
The BSc (Honours) in Web Development is a specialised Degree. While it will teach the basic principles of software development (preparing you for a career in software engineering generally) it will also apply them to creating web applications in particular.

What level of Programming is contained in the course?
This is primarily a software development course. You will learn how to programme and, in particular, how to use your programming skills to create websites and web applications.

Can I design and develop websites from this course?
Yes, you will be taught the web standards and techniques required for creating websites (HTML, CSS, JavaScript) as well as the programming required to create web applications.

Can I go on to specialise in Cloud Computing?
The MSc in Cloud Computing requires a good knowledge of Networking and Virtualisation, so it would not be a recommended progression from Web Development.

Computing

CR 016 Level 7 Award

>> Progression to Honours Degrees & Postgraduate Programmes
▲ Higher Certificate Option

Application: CAO
Award Title: Bachelor of Science in Computing
Duration: 3 Years (6 Semesters)
Places: 40
CAO Points in 2011: **Round 1:** 290 / **Final:** 280

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Computing?

Computing is the process of utilising computer technology to complete a task. Computing may involve computer hardware and/or software, but must involve some form of a computer system. Most individuals use some form of computing every day whether they realise it or not. Swiping a debit card, sending an email, or using a mobile phone can all be considered forms of computing.

Helpful Leaving Certificate Subjects

Science, Mathematics, Engineering, and Business.

Possible Areas of Employment

- Software Development
- Web Developer
- Network Engineer
- DBMS Developer
- Software Support Engineer

myCIT myCourse

"This course has provided me with a range of core computing skills in programming, networking, and web development. A lot of options exist after the three years where you can extend your expertise in Software Development, IT Management, Cloud Computing or take the opportunity to use your skills in a working environment." **Anthony Mannix**

www.cit.ie/course/CR016

Module Information
http://modules.cit.ie/cr016

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

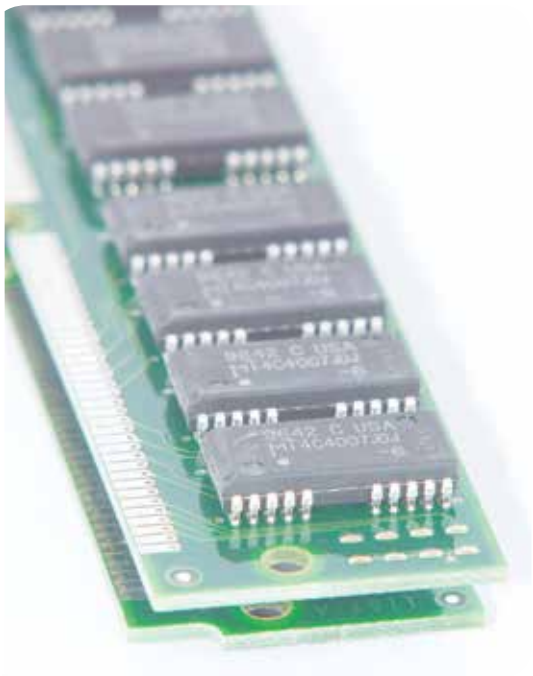
About the Course
The Computing programme provides graduates with the knowledge and skills necessary to successfully pursue a career in the Information and Communications Technology sector. This multipurpose course provides the student with the knowledge to tackle networking problems, identify requirements and using these to design and create a workable software solution for any business.

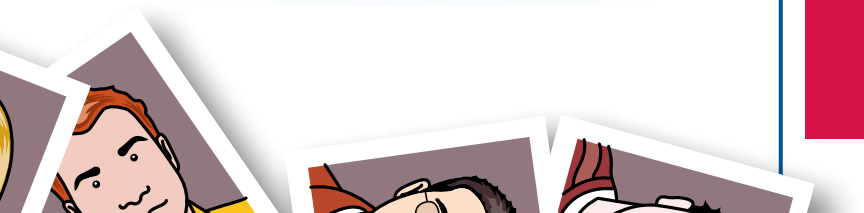
This course allows you the time to discover which area of Computing you enjoy. It also gives you total control when it comes to continuing on the path you have chosen. This course opens up the different strands in computing allowing you the time needed to develop and grow in each area. When you have successfully completed Year 3, you decide which Honours Degree to take, again YOU are in control. With this course you have more choice and more flexibility and, above all, more time to grow.

Further Studies
For details, see www.cit.ie

Graduates who have reached an average of 50% are eligible to apply for the following courses:
Year 4 of
→ BSc (Honours) in IT Management (CR 310)
Year 3 of
→ BSc (Honours) in Software Development (CR 106)
or the one year add-on
→ BSc (Honours) in Cloud Computing

Career Opportunities
Graduates of this course have primarily moved on to complete an Honours Degree of their choice. However others have gained employment as Graduate Software Developers and Graduate Networking Engineers.





Contact Information
Deirdre Dunlea
Department of Computing
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Question Time
What makes CR 016 different from the other Computing Honours Degrees at CIT?
CR 016 is a general all-round professional Computing Degree with the option of opting out in Year 2 with a Higher Certificate in Computing.

What level of Programming is contained in the course?
Programming and Software Engineering are a crucial part of the course and graduates will have reached the top of the intermediate level as can be seen from the projects produced by the students in Year 3.

Can I design and develop websites from this course?
You will learn about web publishing and development and will be designing and developing websites by the end of the course.

Will I be designing Apps?
You will complete a Mobile Application Development module in third year. This builds on the Java that you would have learned throughout the course.

Can I go on to specialise in Cloud Computing?
Once you have successfully reached the standard required, you can progress to the one year add-on BSc (Honours) in Cloud Computing.

myCIT myCareer

William Lynn
Researcher

"I graduated with a Higher Certificate in Computing, and progressed to a BSc (Honours) in Software Development.

During this time, I developed a software product called Nextbus, which is an electronic bus timetable system that works on mobile devices. Nextbus won 3rd prize in the CIT Prize for Innovation.

It is a great course and I would recommend it to anybody who has an interest in the area of software."

William is currently working as a researcher in an interdisciplinary team studying the impact of climate change.

Information Technology Support

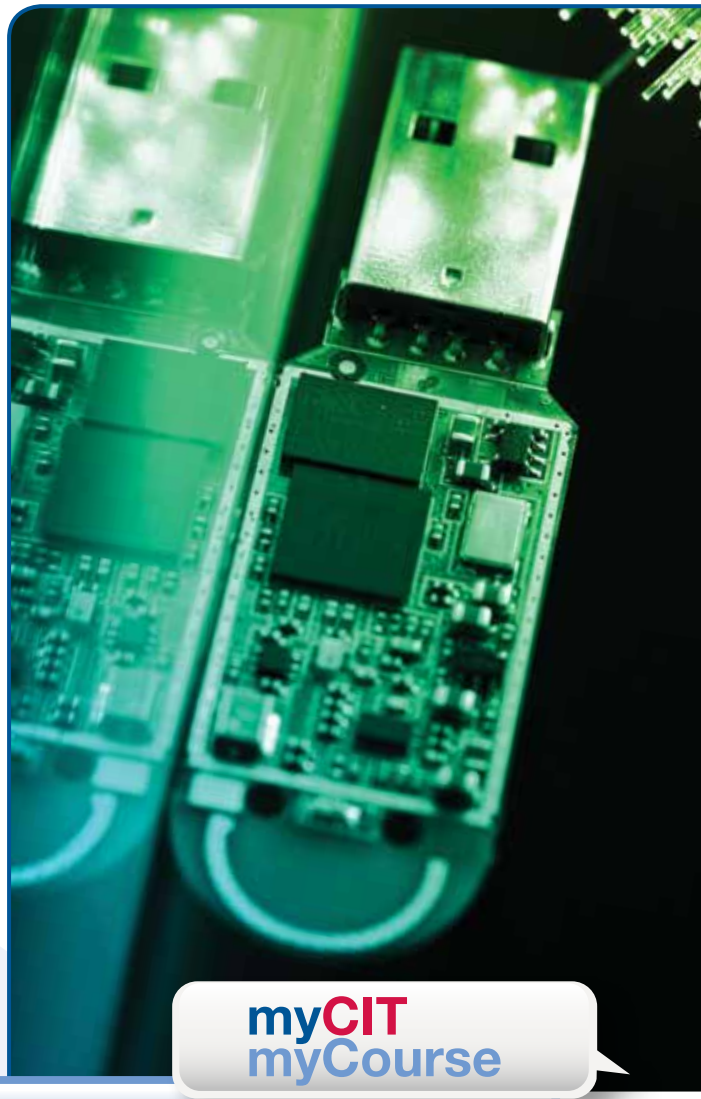
CR 888 Level 7 Award

>> Progression to Honours Degrees and Postgraduate Programmes
▲ Higher Certificate Option

Application: CAO
Award Title: Bachelor of Science in Information Technology Support
Duration: 3 Years (6 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 245 / **Final:** 245

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)



myCIT myCourse

"IT Support proved a very rewarding course to undertake, socially & academically. The course modules are well designed, delivering a highly relevant skill set. I recommend this course to anyone who's thinking about a career in IT!"
Kenny Williams

What is Information Technology Support?

IT Support is concerned with implementing and maintaining the IT services and infrastructure required by organisations. It is primarily focused on supporting the computer hardware, networks, databases, web services and applications required to provide IT Services.

Helpful Leaving Certificate Subjects

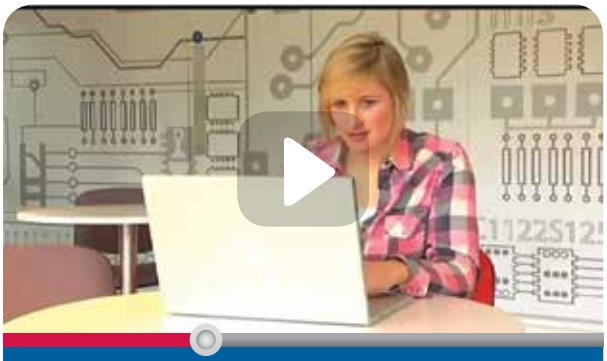
English, Science, Mathematics, Engineering, and Business Studies.

Work Placement

There is a mandatory work placement for 5 months in Year 3.

Possible Areas of Employment

- IT Support Engineer
- Web Administrator
- Network Administrator
- System Administrator



www.cit.ie/course/CR888

Module Information
http://modules.cit.ie/cr888

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
This course is designed to provide the graduate with the technical skills to take on an IT support role in a wide range of organisations.

At a time of increasing reliance on IT services, the demand for graduates with the skills to implement and maintain IT infrastructure remains high. This programme is specifically designed to address this need. In Year 3, there is a work placement that runs from April to August inclusive. Placements for students are organised on a country-wide basis with a particular focus on Cork and Dublin. Students can also work abroad.

CIT has a long and successful association with the Erasmus programme. Every year, students travel to study at CIT from across Europe and many CIT students travel to study beyond our shores. The Department of Computing has strong links with institutions in Germany, Sweden, France, and Finland.

Further Studies
For details, see www.cit.ie

Subject to availability of places, suitably qualified graduates may apply to:
Year 4 of
→ BSc (Honours) in IT Management (CR 310)
or the one year add-on
→ BSc (Honours) in Cloud Computing

Career Opportunities
Graduates who can coordinate and supervise the configuration, testing and deployment of IT Services and the ongoing support of those systems and their users are in constant demand.

Contact Information
Noreen Gubbins
Department of Computing
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E: IT@cit.ie

Question Time
Are you a qualified IT Technician?
Yes. You will learn hands-on the skills required to implement, maintain and secure computer networks, hardware, databases, web services and applications.

Can I go on to specialise in Cloud Computing?
Once you have successfully completed this Degree to the required standard, you can progress to a one year add-on BSc (Honours) in Cloud Computing.

What can I work at after the 3 years study?
You can work in many IT roles e.g. IT Support Engineer, Network Administrator, System Administrator, Database Administrator, Website Manager, etc.

myCIT myCareer

Diarmuid Cronin
Infrastructure Engineer

Diarmuid completed the Higher Certificate in Information Technology Support attaining one of the awards for the best IT Support graduates in Ireland.

He followed this qualification by successfully completing the forerunner to the BSc in IT Support course by night, and then graduated with a BSc (Honours) in Computer Services Management.

Diarmuid currently works as a Level 111 Infrastructure Engineer contracted to Pfizer Pharmaceuticals, Cork.

Science & Informatics MASTER CHART

									MINIMUM ENTRY REQUIREMENTS					INITIAL AWARD & PROGRESSION OPPORTUNITIES AT CIT			
Course Code	Course Name	Page No.	Initial Award	Duration in Years	Higher Certificate Step-off Available	No. of 1st Year Places	Round 1 Points 2011	Final Points 2011	No. of L.C. Subjects	No. of C3 (H) Grades	Maths Grade	English or Irish Grade	Other Requirements	Higher Certificate	Bachelor Degree	Honours Bachelor Degree	Post Grad
CR 305	Physical Sciences (Common Entry Level 8) (Ref.2)	129	Honours Bachelor Degrees			20	310	310	6	2	D3 (O/H)	D3 (O/H)				✔	✔
CR 300	Physical Sciences (Common Entry Level 7) (Ref.3)	129	Bachelor Degrees			10	290	290	5	0	D3 (O/H)	D3 (O/H)			✔	✔	✔
CR 360	Instrument Engineering	135	Honours Bachelor Degree	4		20	320	320	6	2	D3 (O/H)	D3 (O/H)				✔	✔
CR 365	Environmental Science & Sustainable Technology	137	Honours Bachelor Degree	4		20	330	330	6	2	D3 (O/H)	D3 (O/H)				✔	✔
CR 001	Applied Physics & Instrumentation	139	Bachelor Degree	3	✔ (Ref.1)	20	270	270	5	0	D3 (O/H)	D3 (O/H)			✔	✔ (Ref.7)	✔
CR 325	Pharmaceutical Biotechnology	145	Honours Bachelor Degree	4		25	285	285	6	2	D3 (O/H)	D3 (O/H)				✔	✔
CR 333	Nutrition & Health Science	147	Honours Bachelor Degree	4		40	320	320	6	2	D3 (O/H)	D3 (O/H)				✔	✔
CR 006	Applied Biosciences	149	Bachelor Degrees	3	✔ (Ref.1)	40	290	290	5	0	D3 (O/H)	D3 (O/H)			✔ (Ref. 4/5)	✔	✔
CR 320	Biomedical Science (CIT & UCC Joint Course)	141	Honours Bachelor Degree	4		30	495	495	6	2	D3 (O/H)	D3 (O/H) in both Irish & English	C3 (H) in one Science Subject (Ref.6)			✔	✔
CR 330	Herbal Science	143	Honours Bachelor Degree	4		20	250	250	6	2	D3 (O/H)	D3 (O/H)				✔	✔
CR 340	Analytical Chemistry with Quality Assurance	131	Honours Bachelor Degree	4		10	290	290	6	2	D3 (O/H)	D3 (O/H)				✔	✔
CR 007	Analytical & Pharmaceutical Chemistry	133	Bachelor Degree	3	✔ (Ref.1)	20	300	265	5	0	D3 (O/H)	D3 (O/H)			✔	✔	✔
CR 106	Software Development	151	Honours Bachelor Degree	4		20	290	290	6	2	D3 (H) or B3 (O)	D3 (O/H)				✔	✔
CR 116	Software Development & Computer Networking	153	Honours Bachelor Degree	4		20	290	290	6	2	D3 (H) or B3 (O)	D3 (O/H)				✔	✔
CR 310	IT Management	155	Honours Bachelor Degree	4		20	290	290	6	2	D3 (O/H)	D3 (O/H)				✔	✔
CR 312	Web Development	157	Honours Bachelor Degree	4		20	300	295	6	2	D3 (O/H)	D3 (O/H)				✔	✔
CR 016	Computing	159	Bachelor Degree	3	✔ (Ref.1)	40	290	280	5	0	D3 (O/H)	D3 (O/H)			✔	✔ (Ref.8)	✔
CR 888	Information Technology Support	161	Bachelor Degree	3	✔ (Ref.1)	20	245	245	5	0	D3 (O/H)	D3 (O/H)			✔	✔ (Ref.9)	✔

Ref.1 Students who successfully complete Year 2 of the Bachelor Degree Programme and do not wish to progress to Year 3, will receive a Higher Certificate Qualification.
Ref.2 At the end of Semester 1 students may apply to transfer into CR 340, CR 360, CR 365
Ref.3 At the end of Semester 1 students may apply to transfer into CR 001 or CR 007.
Ref.4 BSc in Food & Health Science
Ref.5 BSc in Applied Biosciences and Biotechnology
Ref.6 Science Subject requirement can be from Chemistry, Biology, Physics or Phys/Chem.
Ref.7 BSc (Honours) in Applied Physics & Instrumentation or Bachelor of Science (Honours) in Instrument Engineering
Ref.8 BSc (Honours) in Software Development OR BSc (Honours) in IT Management OR BSc (Honours) in Cloud Computing
Ref.9 BSc (Honours) in IT Management OR BSc (Honours) in Cloud Computing

NOTE: Round 1 Points 2012 can be found inside the cover of this Handbook.
Number of First Year Places may change.
Leaving Certificate (LC)