ATHLONE INSTITUTE OF TECHNOLOGY

POSTGRADUATE Guide 2019

Where Industry Leaders are Made
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A chairde,

It is my great pleasure to introduce you to our postgraduate programme guide for 2019. I’m delighted that you’re considering our award-winning institute as your educational partner of choice for this next phase of your studies.

Postgraduate education is a significant undertaking, but it is something that will be of huge benefit throughout your personal and professional life. As Ireland has one of the highest third level educational attainment rates in Europe, the Irish jobs market is extremely competitive. A postgraduate qualification is an opportunity to further enhance skills gleaned at undergraduate level, setting you apart your competition.

Ours is a research-led, industry-focused institute with an unwavering commitment to academic excellence and applied learning. It is this very ethos that resulted in us winning the Sunday Times ‘Institute of Technology of the Year 2018’ award. We are also the only Irish third level to feature in this year’s U-Multirank’s top 25 performing universities in interdisciplinary publications category, and the first HEI nationally and second globally to have received APS accreditation for our BSc (Hons) in Pharmaceutical Sciences.

As an institute, we are at the forefront of exciting research in areas such as virtual learning environments, cybersecurity and smart drug delivery systems, the latter of which facilitates targeted cancer therapy and has the capability to revolutionise the world of modern medicine. We frequently work in partnership with prestigious institutions like Stanford University and Oxford in carrying out this research.

We have also fostered extremely close links with industry like Ericsson with the express intention of feeding them with a steady supply of highly qualified, work-ready graduates. Industry also feeds into our course content meaning that our postgraduate programmes are always relevant and cutting-edge. This has contributed to an extremely high graduate employability rate.

Through our postgraduate programmes, we hope to nurture inquisitive and creative mindsets. We believe education and the acquisition of knowledge should be an enjoyable experience, one that fosters innovation and critical thinking. By allowing imagination to flourish, a love of learning can emerge, one that propagates true academic curiosity and inquiry.

With that said, I wish you continued success as you embark on the next phase of your academic journey.

Beir bua,

Professor Ciarán O Catháin
President of Athlone Institute of Technology
Athlone has risen to its highest ranking in *The Sunday Times Good University Guide* league table this year, further eroding the traditional divide in league tables between the universities and institutes of technology.

*Alastair McCall, Editor of The Sunday Times Good University Guide*
Institute of the Year 2018

The Sunday Times Good University Guide
Institute of Technology of the Year 2018

AIT is leading the way in graduate employability, applied research and innovation, and industry partnerships. In 2018, we won the coveted “The Sunday Times Institute of Technology of the Year” award for our unwavering commitment to academic excellence and applied learning. AIT’s strength in identifying areas of skills shortage and working with businesses to improve links between enterprise and academia, were among the reasons for the award. AIT is currently ranked 8th nationally in the league table of universities and institutes of technology.
We are leaders in innovation and applied research and have a strong track record of engagement with industry, collaborative R&D, increasing competitive advantage of companies through innovation, design projects, prototyping and contract analytical services.

Our prioritising of applied research has enhanced our close relationship with regional, industrial and business links, including Ericsson, Abbot and Robotics and Drives and is, in part, responsible for our impressive graduate employability rate.

As an institute, we emphasise the importance of work placements in producing work-ready, competent graduates and encourage business and industry to view work placements as a gateway for identifying and recruiting talent. As such, we’ve cultivated a symbiotic relationship that has been instrumental in transforming the Midlands into a locus of multinational investment and innovation.

Below is a snapshot of our industry partners...
The following are a selection of newspaper headlines from articles that featured AIT’s work in the field of research and innovation....

Ireland’s leading plastics researchers to fight global plastic waste problem-
“Researchers from the AIT Materials Research Institute are driving the development of key research areas pertinent to the Irish Plastics Industries by developing a revolutionary compostable plastic that doesn’t put a strain on global food production or the environment.”

AIT emerges as top 25 in the world for interdisciplinary research-
“U-Multirank, the largest global university ranking, has today published its fifth annual release of data (www.umultirank.org) ranking 1,614 universities from 95 countries. Athlone Institute of Technology has emerged as one of the top 25 colleges in the world for inter-disciplinary research and the only Irish third level to make the list.”

Researches pioneer “smart” drug delivery systems for cancer therapy-
“AIT Materials Research Institute has developed an innovative smart drug delivery system designed to pinpoint physiological diseases like cancer without damaging the surrounding healthy cells.”

AIT researchers spearhead 2nd phase of major EU cybersecurity research effort-
“The Software Research Institute (SRI) at Athlone Institute of Technology launch second phase of PROTECTIVE, a multi-million-euro cybersecurity project that detects and monitors threats like viruses and data breaches.”

Researchers join forces to tackle complex diseases affecting health of our bees-
Professor Neil Rowan, Director of Athlone Institute of Technology’s Bioscience Research Institute investigates pollinator decline and its effect on food security worldwide in groundbreaking research collaboration with the University of Minnesota.

AIT first nationally and second globally to receive APS accreditation in Pharmaceutical Sciences-
Athlone Institute of Technology is the first Irish third level to receive Academy of Pharmaceutical Sciences (APS) accreditation for its BSc (Hons) in Pharmaceutical Sciences in recognition of its commitment to excellence. The accreditation gives students and future employers assurance that the course meets the high standards required by the Academy.
Our award-winning, contemporary institution has undergone a period of considerable development and expansion in recent years, and now boasts a 13,000-square meter state-of-the-art Engineering and Informatics facility and a world-class athletics facility. More recently, the institute received funding to build a state-of-the-art STEM building as part of a €200 million investment into the HEI landscape. This funding marks the first major capital investment into the technological landscape in more than 10 years and is indicative of the government’s commitment to supporting and developing the future of the institute and surrounding region.

The new state-of-the-art STEM building will create additional capacity for up to 1,000 additional students, enabling AIT to meet increased demand for STEM programmes. Athlone Institute of Technology is the sole Higher Education provider in the Midlands and, as such, plays a catalytic role in the social, economic and cultural development of its catchment. This new STEM building will help meet industry needs in a holistic way through an interdisciplinary approach to the programmes.

AIT continues develop as a dynamic institution with an applied industry focus embedded in regional needs. The funding for the new STEM building further enables this vision. The institute has responded to challenges facing the HEI landscape in recent years by strengthening its research output, its engagement with industry and embedding its core course offering and new academic vision in the Midlands and surrounding region. This work continues to reinforce the role of AIT as a driver of growth and innovation. In addition, this STEM building and its new academic, industry and research capabilities will bolster AIT’s transition towards becoming a technological university.
International Arena
€10 Million Invested

Business Block
€1.2 Million Invested

Engineering Building
€36 Million Invested

Stem Building
€15 Million Invested
Postgraduate Education (Research Mode)

There is a diverse range of postgraduate courses on offer at our award-winning institute encompassing both taught and research programmes. While many students favour the structure and support of a taught master’s degree, other students may benefit from undertaking a research master’s. Different modes of study suit different students and are largely dependent on the student's own goals and aspirations.

Taught postgraduate programmes, usually resulting in a Master of Science (MSc) or Master of Arts (MA), are typically 12 months in length. Similar to bachelor’s degrees in their structure, taught postgraduate programmes are assessed through a series of taught modules and usually culminate in a body of independent research. We also offer a range of NFQ level 9 postgraduate diplomas that don’t require a dissertation component.

Students who prefer self-directed learning and a more independent approach to study are best suited to undertake a Master of Research. Typically two years in length, this qualification is achieved through the critical investigation and evaluation of an approved topic. Prospective students are encouraged to find a potential supervisor and write a research proposal detailing their area of research interest. Over the course of the two years, the student will work under the supervision of an appointed supervisor before analysing and publishing their research findings.

Graduate Profile
Conor Wilson, Master of Research in Biomechanics.

Why did you choose to study at Athlone Institute of Technology?
Having completed my undergraduate studies in Sports Science with Exercise Physiology at Athlone Institute of Technology, I was aware of the quality of education on offer as well as the state-of-the-art sports science facilities. AIT is a fantastic place to study. The lecturers are incredibly supportive and inspiring, and the institute has a fantastic reputation internationally.

What mode of study did you choose and why?
I developed an interest in Biomechanics during my undergraduate degree and knew that I wanted to pursue further study in this area. A research masters was a natural fit for me as it gave me the flexibility I needed to explore different project areas and focus on what I enjoy—sprinting and resistance training.

What were the most difficult and enjoyable aspects of your study?
My favourite aspect of the programme was getting to carry out my own unique research and meet new people in the process. This has really helped me grow as a person. Postgraduate education is by no means easy, but it is extremely rewarding long-term. With hard work and dedication, anything is possible. There are times when I felt extremely stressed but in the end when you see how valuable your work really is, it’s all worth it.

How has this mode of study helped your career?
I spent a large portion of my research masters in the Research Hub at AIT surrounded by Polymer Engineering and Toxicology postgrads. We were able to bounce ideas off of each other and use each other as sounding boards. This was massively helpful in combating stress, but also for idea generation. It’s helped me grow my network exponentially. I also gleaned a significant amount of lecturing experience in the teaching aspect of my research. This made me realise how much I enjoy teaching.

Would you recommend this? Advice for future students
I would highly recommend taking on a research masters. It gives great opportunities for work and study and adds many strings to your bow.
Industry engagement and commercialising research at AIT
Industry engagement and commercialising research at AIT

At AIT, we work closely with industry partners in developing innovative and applied solutions, through:

- Collaborative research
- Fully-funded research
- Contract Industrial Services
- Technology licensing
- Consultancy

Complemented with funding supported by:
- Enterprise Ireland • Irish Research Council
- Science Foundation Ireland • Intertrade Ireland
- Health Research Board • Department of Agriculture (FIRM)
- Environmental Protection Agency • Fulbright Fellowship
- European Commission • Teagasc

AIT is a partner in a technology transfer consortium with WIT and IT Carlow, led by Maynooth University, funded by EI under the Technology Transfer Strengthening Initiative.

The numbers: Our Research and Innovation Centres;

- 80 Postgraduate Students
- 60 Dedicated Research and Technology Transfer Staff
- 80% Projects involve an industrial partner
- €15,000 Average industrial partner contribution to a collaborative project
- 520 industry projects, 13 technologies transferred (2014-2016)

AIT is a partner in a managed consultancy project with Maynooth University and IT Carlow. Expert-KT is a unique consultancy service drawing on the combined expertise of more than a thousand researchers. It offers talented multi-disciplinary teams to provide insights and analyses for the issues and challenges facing your organisation.

The Industry Programmes/Technology Transfer Office in AIT is the meeting point between our researchers and client companies.

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An example of collaborative research:
AIT/Industry co-funded Master Degree by Research
This unique model developed by AIT responds to Industry feedback by embedding the research and the postgraduate student in the company. Aligned with the National IP Protocol, its industry facing approach to agreements on IP assures swift technology transfer to the company.

Snapshot
- 21 months
- Open for applications all year round
- Academic supervisor/company project manager
- Up to 4 days/week student based at company
- Company may own IP
- Company contribution €25,000

Our Industry focussed research delivers impact to our client companies and contributes to economic development regionally and nationally.
In order to remain competitive Mergon has undertaken a variety of projects with the MRI to reduce raw material costs either through the incorporation of low cost fillers, reducing the density of the moulded parts or through the use of recycled polymers. These components are introduced into the polymer raw material through a compounding process. Once the materials have been homogeneously combined, they are injection moulded into test specimens in-house prior to running a battery of polymer characterization techniques.

**How did APT Deliver the Solution for Industry?**
APT successfully identified novel methods which can be utilized to reduce raw material costs. APT continues to develop these methods in order to produce a commercially ready additive for on-going manufacturing use.

**Impact for the Company**
Mergon works in a highly competitive manufacturing industry and is constantly under pressure from low cost economies. In the context of the research carried out at APT these re-search findings have allowed Mergon to stay ahead of their competitors and remain the supplier of choice of some of the world’s most recognized brands.

"Working with APT has allowed Mergon to leverage the extensive expertise and test equipment available within the Research institute to develop material and process improvements in order to remain at the forefront of technology in the Automotive, Industrial and Healthcare sectors."

*Michael Daly*
APT - key areas of focus

APT (Applied Polymer Technologies) works closely with industrial collaborators in all sectors employing polymeric (plastic) materials to tackle both short and long term materials and process challenges.

What Does APT Do?
APT is providing solutions, product development support and troubleshooting skills for companies using plastics materials. APT provides industry with access to:
- Pilot and Production scale Injection Moulding, Over Moulding and Blow Moulding
- Thermoforming, Extrusion and Compounding lines
- Advanced Analytical Facilities for materials research, testing and troubleshooting
- Design, Rapid Prototyping, Insert Tooling and Micro-Moulding Capabilities
- Unrivalled Polymer Materials Formulation and Development Expertise

Did You Know?
APT acts as a Gateway to the MRI’s Contract Industrial Services and Design Centre
- Testing expertise includes troubleshooting, safety, quality control, research and development, design engineering and evaluation, prototype testing and validation, and product benchmark testing
- We analyze thousands of different client products and materials every year
- Our scientists, engineers, chemists, and technologists are highly qualified professionals with years of industrial experience
- We use state-of-the-art instrumentation to provide a full range of quality, product safety, materials and research analysis and testing services at concept generation phase, design, development, prototyping, and Manufacturing
- Design for discrete components, sub-assemblies, mechanisms, and/or full product assemblies and integration
- An extremely talented team with experience in a vast array of materials and Processes
- Fast turnaround new product and invention design

Industrial Collaborators

Mayo Healthcare • Mergon • Éire Composites • Tera Solutions • Boston Scientific • Creganna • Shabra Recycling

Polymer Processing & Additive Manufacturing

Biomedical Materials

Composites & Upscaling

Smart Polymers & Controlled Release

Medtronic • Athlone Extrusions • Henkel • Laser Prototypes Europe Ltd • Teleflex • Lake Region Medical • Flexform
BRI
bioscience research institute

excellence with impact
What is BRI?

The BRI acts as a campus-wide conduit for providing bioscience and health-focused R&D at Athlone Institute of Technology (AIT). It particularly facilitates oriented basic and applied research, innovation and enterprise in strategically important areas of microbiology, toxicology, parasitology, analytical chemistry, cell and molecular biology, bioinformatics, immunology and biotechnology.

find out more at: www.bri.ait.ie

Contract Services Offered:

- Bioinformatics, diagnostics, in vitro toxicology, chemical synthesis (small molecule), analytical chemistry and bioanalysis, protein purification
- Drug & food bioactive delivery systems
- Microbiology, toxicology and chemical analysis
- Antimicrobial susceptibility testing
- Image analysis, microscopy
- Environmental testing
- Pharmaceutics & pharmaceutical analysis

Contact Us:
Prof. Neil Rowan
email: nrowan@ait.ie

Domains of expertise and services

AGRI-FOOD

The ENVIRONMENT

PHARMA/ BIOPHARMA with BIOTECHNOLOGY

HEALTH (Human)

HEALTH (Animal)

providing Bioscience and Health-Focused Research & Development
Dr Diane Cooper is the coordinator of the BSc Sports Science with Exercise Physiology degree programme in Athlone Institute of Technology. Dr Cooper also lectures on the programme predominantly in the areas of exercise physiology and metabolism, applied exercise physiology, and clinical exercise physiology. In addition to lecturing on these modules she co-coordinates student placements, supervises final year research projects, supervises masters research, and is a member of the research ethics committee in Athlone Institute of Technology.

Dr Cooper is an active researcher in the area of clinical exercise physiology and metabolism with a special interest in designing and delivering effective lifestyle interventions for health and weight loss. Dr Cooper is also part of a metabolic research team working on European Space Agency funded bed rest studies. This research focuses on the effects of severe physical inactivity / bed rest on changes in the structure and function of skeletal muscle, fat tissue, and novel biomarkers of insulin resistance.

“My passion is health and fitness, and teaching people to develop and sustain a healthy lifestyle and do things they never thought possible.”

Dr Diane Cooper
Dr Niamh Ní Chéilleachair is a lecturer and researcher in Sports Science. Her PhD incorporated a multidisciplinary approach to investigate novel training methods for endurance athletes. Niamh is an Irish Institute of Sport accredited performance physiologist and her research interests include performance physiology and biomechanics and novel training interventions.

She also has a keen research interest in motor control incorporating the development of fundamental movement skills in children and the impact of fundamental movement skill proficiency on physical activity. Niamh is currently supervising a number of Masters students and is the principal investigator on collaborative industry/academic research projects.
BRI bioscience research institute

Fighting pneumonia with STEM cells and immune-stimulating fungal bioactives

Despite advances in medicine, pneumonia is still a common disease accounting for 5% of deaths in Ireland and is the most common cause of acute lung injury (ALI) and acute respiratory distress syndrome (ARDS) where there currently remains no specific therapy. This exciting and timely HRB-funded project investigates use of alternative therapeutic interventions to tackling this problem. Specifically, this collaborative AIT and NUI Galway project combines the research expertise of leading international researchers to explore novel use of medicinal fungi and STEM cells for inactivation of proven multi-antibiotic resistant bacteria where currently other conventional approaches have been unsuccessful.

Prof Neil Rowan, Principle Investigator at AIT and Adjunct Professor of School of Medicine, Nursing and Biomedical Science at NUI Galway stated “Despite staggering advances in medicine, pneumonia is still a common disease in Ireland and is the most frequent cause of deaths worldwide. With increased use of invasive surgical processes and immunosuppression, the incidence is likely to increase in the years ahead. ALI/ARDS are devastating disease processes characterised by life-threatening respiratory and multiple organ failure for which there is no treatment. In Ireland, 19% of intensive care patients suffer from ALI/ARDS, with associated mortality comparable to HIV infection or breast cancer. It confers a considerable long-term illness and disability burden on the individual and society as a whole. There is therefore a pressing need to develop novel strategies to treat ALI/ARDS.”

“Pneumonia is still a common disease in Ireland and is the most frequent cause of deaths worldwide. With increased use of invasive surgical processes and immunosuppression, the incidence is likely to increase in the years ahead.”

Prof Neil Rowan
**case study**

**Fighting pneumonia with STEM cells and immune-stimulating fungal bioactives**

Prof John Laffey (co-investigator on the project) along with Anesthesiologist-in-Chief at St Michael’s Hospital, Toronto, Professor of Anesthesia and Physiology at the University of Toronto and principal investigator at the Regenerative Medicine Institute, at NUI Galway, stated “This next-generation therapeutic-project is an exciting development combining the complementary expertise of AIT and NUI Galway where it is envisaged that outcomes will have a profound influence on patient care and quality of life”.

Dr Claire Masterson, Lead Postdoctoral Researcher at AIT, stated “Cell therapies may have applications in treating disorders including myocardial infarction, sepsis, hepatic and acute renal failure. Recent international published findings including those from team have suggested that bone marrow-derived mesenchymal stem cells (MSCs) reduce mortality sepsis and lung injury. It is proposed that combined use MSCs with fungal-derived polysaccharides has the potential to reduced or eliminated bacterial sepsis in rodent models mainly through stimulation of the immune system along with weak antimicrobial activity”.

Dr Dan O’Toole (co-investigator on project and Senior Research Fellow, School of Medicine, Nursing and Biomedical Sciences, stated ‘It is envisaged that this project will unravel the potential antimicrobial and immuno-modulatory properties of this new therapeutic intervention where there is a clear vision for enterprise to actualise potential and opportunities in healthcare”.

The project is also enriched with an extended team of staff and researchers at AIT include Dr Gary Stack (Bioscience Research Institute), Dr Ian Major (Materials Research Institute) and Ms Emma Murphy (postgraduate researcher). This frontier project is strategically aligned with AIT and NUI Galway’s core research strengths and data generated will pump-prime many related cross-cutting projects in emerging priority areas for Ireland.
CISD
centre for industrial services and design
CISD
centre for industrial services and design

The Centre for Industrial Services and Design (CISD) fosters industrial innovation and experimentation in the cross-disciplinary area of polymer science and engineering. CISD offers extensive R&D and testing facilities of particular interest to companies in the plastic, medical and pharma sectors.

Detailed research, testing and analysis can contribute significantly in troubleshooting processing problems, comparative testing of similar products and product quality integrity. CISD operates within a fully traceable quality system including equipment calibration, project tracking and machine maintenance. Each analysis is accompanied by a comprehensive report detailing results, but more importantly conclusions and recommendations drawing on the invaluable field experience of CISD.

Our Services
Engineering and Design
We specialise in the Research and Development of chemical and polymeric systems as well as mechanical design and prototyping.

Materials Analysis and Development
We develop, characterise, test, analyse, rework and assure materials, helping to develop innovative products and applications and improve performance.

Contact Us:
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Key Facts 2007-2014:

- **140** Innovation vouchers completed
- **484** Projects completed in Medical Device Sector
- **272** Projects completed in Plastics Sector
- **137** Projects completed in Pharmaceutical Sector
- Over **400** company engagements in 2014

finalist in The Irish Laboratory Awards 2014
Dublin Design Studio is a Dublin based company providing innovative technological design solutions across a range of disciplines.

To create quality and intelligent consumer electronic devices that would enhance experience of the digital environment became somewhat of a mission statement for Dublin Design Studio, and focus was directed towards Scriba, the brand’s first product; a stylus specifically designed for your hand.

Scriba, recently launched on Kickstarter is an ergonomically friendly electronic stylus used for drawing directly onto the screen of an iPad or iPhone. Placing emphasis on control and comfort and striving to recreate pen-on-paper tactility, the Scriba is designed around the natural movements of the hand.

CISD - Innovation and Expertise

“The innovation voucher is designed to provide expertise to further innovation and development, however we were delighted that this turned into a true collaboration and like best group efforts, the results turned out better than the individual contributions”. - David Craig

How CISD Delivered the Solution

The team at the Centre for Industrial Services and Design at Athlone Institute of Technology (AIT) assisted with the DFM (Design for Manufacture) process for the Scriba - including 3D CAD surface modelling. They provided input in the testing and verification of the materials for polymer components. They placed a particular emphasis on the structural analysis of the form and the effects of repeated stress and deflection to ensure that the flexibility of the product wouldn’t deteriorate over time.

Source - http://www.getscriba.com

While CISD and Conor Hayes came highly recommended as professionals in their field, the real benefit to the development of Scriba was their ability to understand the big idea without losing site of the details. This was evident in the rationalisation of our organic geometry and the selection of appropriate materials which were to dictate the device’s performance.

David Craig
CISD provides a full service of design and engineering of products ranging from discrete plastic parts to large mechanical systems.

**Consumer and Lifestyle Products**

- Medical Device
- Baby & Children’s Products
- Construction
- Automotive
- Sports Goods
- Green Technology
- Brewery Industry
- Veterinary
- Agricultural

**Example: Consumer and Lifestyle Products**

These products are designed specifically for personal use such as kitchen products, electronics, accessories, appliances etc. These innovative products would be one of the largest that we cater for in CISD, as 30% of products designed within CISD have been consumer goods. These range from vacuum cleaners, smartphone/tablet accessories, kitchen equipment, sanitary goods etc.

**Services provided**

- Product Design - Concept to Manufacture
  - Solid and Surface 3D CAD modelling
  - Product Concept Digital Visualisation
  - Prototyping
  - Design for Manufacture / Assembly / Environment
  - Computer Aided Engineering (CAE)
  - Material Selection
  - 3D Scanning and Reverse Engineering
  - IR Thermal Analysis
  - Fixture and Jig Design
  - Engineering-Drawing
  - Manufacturing / Tooling Support

**Example: Product Design - Concept to Manufacture**

From generation of photo realistic renderings through to final product manufacture ready 3D CAD data, CISD can support development of your product. The step by step design stages we go through with our clients ensure the most successful, technical and commercially feasible product is manufactured.

**Platform technologies**

- Computer Aided Design
- SLA Prototyping
- FDM Prototyping
- Silicon Part Prototyping
- Finite Element Analysis
- Infrared Thermography (IRT)
- 3D Scanning

**Example: Computer Aided Design**

CISD employs a commercial license of CAD software suite PTC Creo Parametric. This CAD software is optimised for the product development process, with capabilities for 3D parametric and direct modelling, 2D drawings and renderings, simulation and analysis. This enables us to optimise products through the creation of three-dimensional virtual prototypes that can help improve product quality and speed of time to market by automating the product development process. It provides us with the tools from initial concept design and styling, 2D and 3D design, simulation and analysis and engineering calculations.
Faculty of Engineering & Informatics

Our postgraduate courses have been specifically designed to meet skills gaps in industry and to imbue graduates with the skills and qualifications necessary to carve out a successful career in STEM.
Welcome to
The Faculty of Engineering & Informatics

Postgraduate education is becoming an increasingly important part of our programme portfolio. This year, we’re offering a Master of Science in Software Engineering which is designed for computer professionals and engineers to enhance their knowledge and expertise in areas of current active research and development in software engineering.

Through the programme, participants will gain exposure to the various techniques for performing academic research. The course will also provide an environment in which the participant is exposed to new technological developments, to ethical and social issues affecting the computer industry.

The Faculty of Engineering and Informatics has an excellent track record of mentoring students and providing learning supports across all of its programmes (both taught and by research). The success of our graduates on a national and international stage is a testament to the quality of education they receive at our award-winning institute.

We offer internationally-recognised qualifications that balance theory with practical application in our state-of-the-art engineering facilities. Strategic and practical, our programmes equip students with the skills and knowledge to excel in industry or to pursue further research.

Dr Sean Lyons
Dean of Faculty of Engineering & Informatics

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About this course
The Department of Electronics and Informatics has a strong academic profile offering courses from Level 6 (Higher Certificate) to Level 10 (PhD). The Software Research Institute (SRI) which is co-located within the School of Engineering works with over 70 companies and has attracted over €20M in industrial focused research funding since its foundation. This experience and industrial focus together with the academic expertise of the lecturing staff underpins the MSc in Software Engineering. Encompassing technologies such as cyber security, data science, data visualisation and feature rich applications the programme, which can be undertaken in full time and part time modes, provides graduates with leading edge skills required to advance in an innovative ICT environment.

According to the Ireland’s Skills Strategy 2025 from the Department of Education and Skills, there are skills shortages for professionals in many areas of ICT. The shortage of ICT talent is particularly significant for a number of sectors, in particular software development. According to the Forfas Vacancy Overview Report, 35% of all difficult to fill vacancies were for the ICT sector, primarily for professional roles in software development. A total of 7,265 Employment Permits were issued in last year. The ICT industry accounted for 2,499, or 34% of all employment permits issued.

Graduates of this programme have the skills and expertise to find employment in this exciting sector.

What will I Study

Career Opportunities
Ireland is likely to face an average increase in demand for high-level ICT skills of around 5% a year with the employment anticipated to rise to just over 91,000 according to the Department of Education and Skills. Due to unprecedented growth and innovation in the sector, the shortage of talent in ICT is a global problem. The shortage of software graduates in Ireland is particularly significant for professionals with experience as software designers and programmers.

This course provides graduates with the practical skills required to gain employment in this innovative sector.

Minimum Entry Requirements
Honours (Grade 2.2) degree in an appropriate engineering, computing or cognate discipline, or an equivalent qualification. Appropriate experience (or appropriate qualifier) may also be required depending upon the degree qualifications.

Contact
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Tel: +353 (0)90 6471877
What are you doing now?
I am currently working as the manager of the Irish software lab of ARK-Energy, and as vice president of product development. In my day-to-day job, I liaise with the Italian entity to prioritize the resource allocation and manage the delivery of features for various projects. In terms of product development, I focus on the Usability and UI design side of things. As we are a small company, I also develop software features, and am part of the UI architecture team.

In terms of my current job and career progression, it was not only the technical side of things that were important, as I progressed through the ranks, it was the non-technical things that I learned while learning how to code that stood to me. Things like teamwork, presentation skills, report writing, leadership. Learning how to get on with working with people that you don’t necessarily get along with. I learned a lot about group dynamics and how to get the best from a team.

How did the course prepare you for your current job?
The MSc equipped me with the skills to solve a problem from first principles, to see the big picture, and understand how to break it down into solvable chunks and provide a delivery plan. I was taught the foundations of coding - how to code, not just the rules of a specific language. This has been important in my career as I have been able to learn other programming languages on the job and have not been phased by a change in technology or new challenge. We had regular side research projects, and this instilled a discipline of lifelong learning and continuous professional learning and development.

Did you face any challenging social attitudes towards women in STEM?
AIT has a lot of strong female role models and encouraging lecturers, both male and female, that supported me throughout my academic journey. Thankfully, I have never experienced sexism in my career. In my previous two jobs, I progressed swiftly to management ranks and have maintained professional links with most of my former bosses and supervisors. I attribute this to graduation from AIT fully equipped with presentation and communication skills, and confidence in my technical ability.
Faculty of Science & Health

Our health and science programme offerings include Biopharmaceutical Technology and Intellectual Disability Nursing among others. Each programme has been specifically designed to furnish graduates with the skills and knowledge necessary to fill skills gaps in industry or continue on to PhD research.
Welcome to
The Faculty of Science & Health

The Faculty of Science and Health has developed a range of full-time and part-time courses in the areas of biopharma, nursing, child and youth care and social care practice. We pride ourselves in offering relevant, industry and employment-focussed postgraduate programmes that meet skills gaps in industry.

Whether you are a recent graduate from a science, nursing or social science programme or someone who has worked in industry for a number of years, the Faculty of Science and Health may have a postgraduate programme to suit your needs and help prepare you for the next phase of your professional or academic career.

Our academic staff are experienced and dedicated educators and researchers who are always willing to provide their expertise and knowledge in guiding you through your postgraduate programme. By the end of your study, you will be equipped with an arsenal of critical thinking and research skills.

With that said, I look forward to welcoming to our award-winning institute as a postgraduate student.

Dr Don Faller
Dean of Faculty of Science and Health

Email: dfaller@ait.ie
Tel: +353 (0)90 6442587
Master of Science/Postgraduate Diploma in Biopharmaceutical Technology

Nine of the top ten global pharmaceutical and biotechnology companies have significant operations in Ireland and seven of the ten worldwide ‘blockbuster’ drug products are manufactured in Ireland.

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<td>9</td>
<td>1 Year</td>
<td>On Application</td>
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Course Overview
The Master of Science/Postgraduate Diploma (MSc/PgDip) in Biopharmaceutical Technology builds on the expertise and significant industry links AIT has developed over the last number of years. In addition to lectures and laboratory sessions at AIT, and site visits to local biopharmaceutical plants, students on the MSc/PgDip will receive practical training at the National Institute for Bioprocessing Research & Training (NIBRT) in Dublin.

NIBRT is a replica of a functional bioprocessing plant, equipped with all of the manufacturing equipment you would expect to find in a modern bioprocessing facility (for example, upstream, downstream, fill finish and bioanalytical facilities). The NIBRT placement will allow students to gain hands-on experience of the processes involved in biopharmaceutical production.

What will I Study
AIT’s MSc in Biopharmaceutical Technology runs from September to August. The programme consists of theory and practical classes which are held at AIT, a training period in the National Institute for Bioprocessing Research & Training (NIBRT), site visits to biopharmaceutical plants and guest lectures from individuals working at the cutting edge of the biopharmaceutical industry. **Course modules include:** Analytical Tools for Characterising Biopharmaceuticals, Cell Culture and Cell Line Development, Protein Biochemistry, Lean Six Sigma for Biopharma, Immunobiologics, Contemporary Issues in Biopharma, Bioprocess Technology, Quality by Design and Project Management, Practical Elements, Research Project (MSc students only).

Career Opportunities
The Irish Government’s Expert Group on Future Skills Needs has identified the Biopharma sector as one which will continue to require highly qualified and skilled scientists over the coming years. The modules offered on the Master of Science/Postgraduate Diploma in Biopharmaceutical Technology were designed to meet these identified current and future skills shortages in the Irish and international Biopharmaceutical sector. The programme also provides a route towards a career in Research and Development within academia and industry. Graduates from this programme can expect to develop careers in a variety of roles in the Biopharmaceutical, Medical Device, Biotechnology and Medical Diagnostics sectors.

Minimum Entry Requirements
Eligible candidates should have a first or a second-class honours grade or an international equivalent in a Biology or Chemistry-related primary degree (for example Biotechnology, Toxicology, Biochemistry, Microbiology, Pharmaceutical Science, Genetics, Neuroscience, Pharmacology, Physiology, Medicinal Chemistry or an equivalent qualification).

Graduates who hold equivalent qualifications in related science and technology disciplines or who have relevant industrial experience will be considered for places on a case-by-case basis. Non-EU nationals must provide evidence of ability to follow classes in English (IELTS 6.0, TOEFL 550 or 213 C.B.T, 110 iBT or equivalent). Applicants may be required to attend AIT for an interview. Skype interview may be arranged for international students.

Contact
Dr Don Faller
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Course Overview
Nurses in intellectual disability (ID) work in a broad range of services including long-stay settings, community, day-care, care of the older person, child and adolescent. Nurses in ID have a diversity of roles, on a continuum ranging from intensive physical nursing of persons with a severe degree of disability to supportive guidance in the management of children, adults and older persons.

Evidence of health needs for people with an intellectual disability highlight the clear need for the nurse in intellectual disability services to have an intellectual disability qualification. The rationale for this part-time master’s degree/postgraduate diploma is to facilitate the upskilling of qualified nurses working in this critical area. The philosophy which underpins this programme is grounded in values and beliefs relating to the nature of four fundamental philosophical nursing concepts, namely; nursing, environment, person and health.

This programme is designed to provide the nurse with the opportunity to become knowledgeable, informed, reflective and to develop his/her professional self so that he/she can be empowered and enabled to fully undertake the role and responsibility of nursing care, within the intellectual disability services.

What will I Study
Modules include:

Year 1: Primary Health and Social Care, Advanced Management and Leadership Skills, The Evolving Role of the Nurse in the ID Service, Contemporary Issues in Intellectual Disability Nursing, Health-related Research Clinical Practice Module

Year 2: Critical Ethical and Legal Issues in Intellectual Disability, Advanced Health Research, Dissertation

Career Opportunities
Upon successful completion of the programme, graduates will be able to critically examine the supports and barriers that influence the ability of people with an intellectual disability to integrate into their community. They will also be able to critically evaluate the specialist knowledge and skills required to care for service users in the intellectual disability service. Furthermore, they will have attained a threshold of practitioner skills as required by registration and professional bodies, in particular An Bord Altranais agus Cnaimhseachais na hEireann/the Nursing and Midwifery Board of Ireland.

Minimum Entry Requirements
Applicants will have a BSc in Nursing/Midwifery or in any discipline of Nursing (General Nursing, Midwifery, Public Health Nursing, Intellectual Disability Nursing or Psychiatric Nursing), plus a minimum of three years’ post-registration clinical nursing experience, two of which should be immediately prior to application. Applicants may be interviewed for recognition of prior learning purposes. Candidates for the course must be registered on the active file as a nurse with The Nursing and Midwifery Board of Ireland. Applicants must have current direct experience of working with clients with an intellectual disability for the duration of the course.

Contact
Dr Pearse Murphy
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Master of Arts in Child and Youth Studies

This programme has both a theoretical and practice-based focus.

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<td>9</td>
<td>1 year full-time or 2 years part-time</td>
<td>On Application</td>
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Course Overview

The MA in Child and Youth Studies aims to equip highly competent and motivated child and youth workers and graduates of cognate disciplines with the knowledge and skills necessary to become leaders in the profession and to advance the field to internationally accepted standards of best practice.

This programme will equip students with a specialised knowledge of child development and risk and resilience, an advanced knowledge of the legislative framework affecting children and youth, to appreciate and advocate the rights approach to the practice of child and youth work, with specific training in management of child and youth settings and to conduct and evaluate research in relation to children and youth.

What will I Study

Modules include: Research Methods, Models of Care, Child and Youth Law, Therapeutic Approaches and Interventions, Children’s Rights, Management in Child and Youth Settings, Research Dissertation.

Career Opportunities

Graduates of the programme can reasonably expect to rise to advanced positions within the child and youth sector and to be in a position to consider a more diverse range of career opportunities than those available to bachelor’s degree level graduates. For example, in addition to the traditional roles of child and youth workers, graduates of the programme will be well equipped to take on professional roles in child and youth advocacy, in developing intervention-based programmes, in conducting research and evaluating the effectiveness of programmes and in managerial, advisory and policy-development roles within the sector. It is expected that graduates of the programme will be at the forefront of the development of the child and youth sector, in particular, in the context of its increasingly rights-based, legislative and research-based framework.

Minimum Entry Requirements

Students are expected to have a minimum of an honours bachelor’s degree (level 8) at grade 2.2 in child/youth studies, social care or cognate discipline. Candidates with qualifications in social disciplines and relevant work experience will be eligible for the programme.

Contact

Oliver Hegarty
Head of Dept of Social Science
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Tel: +353 (0)90 6442530
Master of Arts/ Post Graduate Diploma in Advanced Social Care Practice

This innovative programme was developed following extensive consultation with the social care sector to reflect the changing needs of social care work.

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<tr>
<td>9</td>
<td>3 Years, part-time</td>
<td>On Application</td>
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**Course Overview**

The social care profession is dedicated to protecting and assisting the most vulnerable in our society. Social Care Workers are on the front line in attempting to address pertinent social issues like: child welfare and protection, domestic violence, mental health, promoting equality of opportunity for those with special needs, and the rights and social inclusion of the most vulnerable and marginalised in our society.

Such a profession requires highly competent, confident and qualified persons with specialised training and knowledge of national and international best practice. The MA/PgDip in Advanced Social Care Practice is designed to support professionals to develop specialised knowledge and skills, linked to evidence-based practice. It will encourage Social Care Workers to keep themselves well-informed on current policy, strategy and quality considerations that impact on their work.

**What will I study?**


**Career Opportunities**

The future of social care focuses on promoting high standards of: professional conduct, education, training and standards of proficiency, as outlined by CORU. In line with this, the MA in Advanced Social Care Practice will help professionals to develop their skills and competencies in providing the relevant supports and care to those within the social care sector. It aims to support the Continuing Professional Development (CPD), knowledge and skills of Social Care Workers through the pedagogies of Continued Professional Education (CPE). Graduates of the programme can reasonably expect to rise to advanced positions within the social care sector and to be in a position to consider a more diverse range of career opportunities. Graduates of this course may be eligible to pursue further postgraduate training and research leading to a PhD (NFQ Level 10) qualification.

**Minimum Entry Requirements**

Candidates must hold a BA (Honours) Degree at Level 8 in Applied Social Studies/Social Care or a relevant cognate discipline, at a minimum 2.2 level. Applicants must be currently employed in the social care sector.

**Please note:** this programme will not necessarily entitle you to register as a social care worker if you do not hold an appropriate undergraduate social care qualification.

**Contact**

Oliver Hegarty
Head of Dept of Social Science
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Tel: +353 (0)90 6442530
Course Overview
This programme will provide a stimulating and challenging academic and scholarly environment for students who wish to advance their academic and professional development. It will also enable students to develop a mastery of complex and specialised knowledge, with a critical awareness of issues at the forefront of nursing. Students will develop their conceptual knowledge and advanced understanding of how techniques of enquiry enable the critical and objective analysis, interpretation and application of research and scholarly evidence. Through completion of a dissertation, challenge existing knowledge and facilitate the development of new ideas and ways of thinking.

The teaching strategies employed in this Master of Nursing programme will reflect the move from a teacher-centred approach to a learner-centred one. This programme is designed to be dynamic and challenging leadership skills using scenario and case study. It will stimulate the learner to become active in his/her own learning through reflection and debate.

Assessment Information
Assessment is a continuous process which aims to measure the achievement of students in relation to the learning outcomes. It is combined with appropriate feedback, to assist students in improving their performance in relation to set criteria for progression towards, or for the award of the degree. Assessment can be practical or theoretical, formative and/or summative, and administered by lecturers, students themselves or their peers. The use of self and peer-assessment is used regularly as a formative strategy to develop students’ skills in gauging and evaluating their own performance and that of their fellow colleagues. Assessment strategies are focused on the measurement of outcomes and competencies as identified in this programme. At the beginning of each academic year, all students are given an Assessment Schedule so that they can plan and organise their work. Each module has clear marking criteria that is available to students and external examiners when they are reviewing the work.

Career Opportunities
Graduates from this MSc or the embedded awards (i.e. Certificate/Postgraduate Diploma) have the potential for employment in multiple domains of practice. There are multiple areas for career advancement, both nationally and internationally with MSc identified as an essential requirement for career progression and promotion in both administrative and clinical managerial posts. Alternatively, graduates would be ideally positioned to continue in PhD programmes.

Minimum Entry Requirements
Bachelor of Science in Nursing (Level 8) 2:1 or equivalent qualification will be required for entry to this programme.

Non-EU applicants must provide evidence of ability to follow classes in English (IELTS 6.5, or equivalent). Applicants may be required to attend AIT for an interview. Skype interview may be arranged for international students.

Contact
Des Cawley
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Faculty of Business & Hospitality

Our Business and Hospitality offerings, which include a prestigious Executive MBA programme as well as a Master of Business Studies and Master of Arts in Accounting, are designed to furnish graduates with a comprehensive grounding in key business principles.
Welcome to
The Faculty of Business & Hospitality

Our applied postgraduate programmes inspire original thinking and challenge students to think outside the box. The Faculty of Business and Hospitality has an excellent track record of mentoring students and providing earning supports across all of its programmes. The success of our graduates on the national and international stage is a testament to the quality of education that they received at our award-winning institute.

Cultural diversity is sewn into the very fabric of our Faculty, with students from around the world choosing to study at Athlone Institute of Technology. This lends to a truly international educational experience and helps enrich the cultural and educational environment.

A postgraduate qualification from our institute will furnish graduates with a broad range of skills necessary to get ahead in the world of business. We offer some of the most widely recognised global business qualifications and, in keeping with our provision as a technological higher education provider, have a strong focus on practical, applied learning.

Strategic and practical, our programmes will equip students with the skills and knowledge to overcome conventions, disrupt the status quo and generate better economic and social outcomes.

I look forward to welcoming you to the Faculty of Business and Hospitality as you undertake your postgraduate programme of study.

Dr Eoin Langan
Dean of Faculty of Business and Hospitality

Tel: 353 (0)90 646 8290
Email: elangan@ait.ie
Course Overview
Data Analytics is the process of examining vast quantities of data, often referred to as Big Data, in order to draw conclusions and insights about the information they contain. Some examples of Data Analytics applications include real-time fraud detection, complex competitive commercial analysis, website optimisation, intelligent air, road and other traffic management and consumer spending patterns.

Big Data presents three primary problems: there’s too much data to handle easily; the speed of data flowing in and out makes it difficult to analyse; and the range and type of data sources are too great to assimilate. With the right analytics and techniques, these Big Data can deliver hidden and unhidden insights, patterns and relationships from multiple sources using Data Analytics techniques.

Athlone Institute of Technology, recently voted Institute of Technology of the Year 2018, has developed an industry-focussed, contemporary master’s programme that will equip graduates with the skills and aptitudes necessary to excel in the emerging field of Big Data and Data Analytics.

What will I Study?
Modules include: Relational Databases in the Era of Big Data, Programming for Big Data, Data Analytics, Statistics for Data Analysis, Data Driven Decision Making, Advanced Analytics, Research Methods, Databases for Big Data, Data Visualisation, Industry-led Project.

Career Opportunities
As Data Analytics is a relatively new and emerging field, the application of analytics spans a vast range of industries including finance, marketing, healthcare and biopharma. Career opportunities for graduates of this programme include: Data Analyst, Data Scientist, Performance and Analytics Analyst, Data Operations Analyst, Financial Market Analyst, Business Intelligence Analyst, Customer Insight Analyst.

The Expert Group on Future Skills Needs report identified Data Analytics as an area of skills deficit. Given the wide range of industries in which Data Analytics can be utilised, the demand for Data Analytics graduates continues to soar. According to IBM, this demand is to increase by 28% by the year 2020 (Forbes, 2017). The average salary for Data Analysts in the US is $69,949 (PwC, 2017), in Ireland, the average salary is €44,758 (indeed.ie, 2017).

Minimum Entry Requirements
A Level 8 or equivalent honours degree in Business, Science or Engineering, with a minimum grade of 2.1 (60%), comprising of at least 30 ECTS credits in any combination of maths, computer science or engineering. In line with institute policies, non-native English speakers are required to have an IELTS level of 6.5 or higher. All applicants will be subject to an interview.

Contact
Trevor Prendergast
Head of Dept of Accounting and Business Computing
Email: tprendergast@ait.ie
Tel: +353 (0)90 6471857
Executive Master of Business Administration
The Executive MBA is a prestigious master’s degree designed for middle managers, senior executives and consultants.

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<td>2 Years</td>
<td>On Application</td>
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Course Overview
The Executive MBA programme at Athlone Institute of Technology is characterised by applying the latest thinking in management and leadership to solve real-world business problems. Students will be challenged by lecturers with extensive experience of industry, and whose teaching connects ground-breaking theory with the business stories making the news. Students will also develop the analytical skills and acumen to appreciate business forces and decision-making scenarios.

Students will hone their teamwork skills by working with classmates to solve complex business problems. A significant proportion of time will be spent on case exercises and working on assignments in small groups. This will provide an opportunity for understanding different viewpoints, as well as sharing experiences and ideas. Group work allows students to practice skills of analysis and, through discussion, to argue for and negotiate solutions to problems.

What will I Study?

Career Opportunities
The executive MBA programme is designed for middle and aspiring managers and as such the programme provides opportunities for promotion and career progression.

Assessment Information
Students are assessed in a number of ways that include: group and individual projects, assignments, peer review, reflective practice and presentations. Some modules also have an exam component. A novel feature of the programme is the consulting project that takes place in Semester 2 of year 2, where students have to work on a group project in a real-world scenario, with a real client (which can be nominated by the student). In addition, students will be expected to deliver a 20,000 word thesis.

Minimum Entry Requirements
Minimum Entry Requirements: Entry to the executive MBA requires at least five years’ work experience, ideally, some of which is in a management role, but this is not essential. In addition, you should hold one of the following:
- a recognised Level 8 degree in any field,
- a postgraduate diploma in management,
- a relevant professional qualification.

Contact
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Course Overview
This master’s is designed for students who have graduated from a broad spectrum of business and related degree programmes who wish to upgrade and enhance their knowledge and skills to avail of global business opportunities. This MBS will provide students with a lot of versatility in terms of job choices and the skills are transferable to a variety of job contexts.

Central to the course design is engagement with external businesses and organisations. Students will have the opportunity to learn specialized professional skills in a variety of business courses such as team working, project management, research skills and report writing. Students will also gain a deeper understanding of businesses and the environments they operate in, as well as skills such as marketing, strategic analysis and information systems.

What will I Study?

Career Opportunities
Graduates from this MBS can find gainful employment in both the public and private sectors, and in education. Past students of the programme have obtained jobs in business development roles, digital marketing, logistics management, financial advisory roles and project management.

Minimum Entry Requirements
Minimum Entry Requirements: Entry to the executive MBA requires at least five years’ work experience, ideally, some of which is in a management role, but this is not essential. In addition, you should hold one of the following:
- a recognised Level 8 degree in any field,
- a postgraduate diploma in management,
- a relevant professional qualification.

Graduate Profile
“I chose to study at AIT because it has a wonderful reputation and a wide range of courses, facilities and approachable lecturers and staff. The location also suited me as it was close to home. I undertook multiple courses at AIT. Initially, I trained to be a chef, followed by a degree in hotel management, an honours degree in tourism and finally a Master of Business. Each course was a continuation on from the next. AIT enables me to complete my studies in stages in a way that felt manageable whilst still working on my career.”
David McKane Banqueting Chef de Cuisine at Adare Manor (Graduate of Culinary Arts, Hospitality and MBS).

Contact
Owen Ross
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Tel: +353 (0)90 6471895
Course Overview
This course is a challenging one-year taught programme aimed at preparing business graduates for entry into the accountancy profession. The programme earns generous exemptions from Chartered Accountants Ireland, in that they gain exemption from the CAP 2 series of examinations.

There will be a relatively small number of students on the programme. This will enable you to gain outstanding support from lecturers. Full time study enables you to develop a real depth of knowledge without the pressure of work.

On the programme, students will share experiences and knowledge to maximise learning. AIT has an outstanding record of staff/student engagement which creates a brilliant learning environment. The programme is intensive with a strong emphasis on self-directed learning.

Modules concentrate on the core accounting modules: management accounting, financial reporting, auditing, taxation and financial management. Students also undertake case studies which involve real-life scenarios incorporating different aspects of accounting. There is no requirement to complete a dissertation. However, a small project is undertaken.

What will I Study?

Career Opportunities
Most of our graduates initially pursue a career in an accounting practice rather than industry. The majority gain employment with the Big 4 firms. The vast majority qualify as accountants within 2 years upon graduation and can expect to rise to more senior executive level, in private industry, in the public and private sectors, and in education. AIT has developed very strong links with accounting practices across the country and the reputation of our past graduates is excellent and we have no doubt future graduates will achieve similar recognition.

Minimum Entry Requirements
- 2.2 honours relevant degree.

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Course Overview
Our Postgraduate Steps Model has been specifically designed to furnish Business graduates with a step-by-step approach to securing a Master of Business qualification. This programme may be of particular interest to students seeking to further their education on a part-time basis. The first step on the programme is a Minor Award in Advanced Business Practice. Students can then work their way up to a master's qualification or exit with a minor qualification. Modules are normally taught one night per week for ten weeks, in addition to two Saturdays. Assessments are typically based on live issues based on the student’s workplace. The next Module is entitled “Management of People, Culture and Change”.

What will I Study?
Year 1: Designed Modules delivered to date: Management of People, Culture & Change; Managerial Finance; Leadership; Selling and Influencing; Innovation and Creativity; Taxation; Services Marketing Management
Year 2: Management of People, Culture and Change Developing skills in the supervision of people, culture and change will equip you with the skills and knowledge to work in a supervisory role, in a cross-functional capacity. Every aspiring leader needs to understand fundamental elements of supervisory management competencies in order to leverage their career success.

Career Opportunities
Graduates with a master's degree (level 9) can reasonably be expected to rise to more advanced positions, including senior executive level in industry, in the public and private sectors, and in education. Any learner who enrols will have three potential avenues open to them as follows:
- Master of Business Studies in Advanced Practice: Completion of 4 designed modules of 10 credits each in addition to the module “Research Methods” and the Dissertation
- Postgraduate Diploma in Advanced Business Practice: Completion of 6 Designed Modules worth 60 Credits
- Minor Award (level 9) associated with the Master of Business in Advanced Business Practice: Completion of one or more designed modules.

Applications can be received in advance of either the semester 1 (September-December) or the Semester 2 (February- May)

Minimum Entry Requirements
Students are expected to have a minimum of a Bachelor degree (level 8) in Business Studies or a cognate discipline at 2.2 level or an approved equivalent qualification.

Contact
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<td>9</td>
<td>12 Weeks</td>
<td>On Application</td>
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Higher Diploma Programmes

Higher Diploma in Computing............ 46
Higher Diploma in Business............... 47
Course Overview
The Higher Diploma in Computing will provide formal education and training for graduates (in any discipline) who wish to pursue careers in areas related to computing and information technology. The one-year programme will imbue students with an understanding of the key competencies involved in business analysis, as well as the theoretical concepts and practical aspects associated with the ICT industry.

Students will develop a critical awareness of the strategies and methodologies used in providing computerised solutions to business-related problems as well as gain the ability and sensitivity to plan, design, implement and review a project using the necessary supervisory, interpersonal and project management skills. Finally, students will obtain a detailed understanding of the workings of commercial computerised systems and develop an analytical awareness of the implications, uses and potential of the internet as a tool for the development of e-business.

What will I Study?

Career Opportunities
Graduates of this programme can expect to find gainful employment across a broad range of sectors in areas involving programming, business analysis and information systems, they will also be suitable for vacancies in a smaller organisation where a broader base of knowledge and skills is required, while a career in computer hardware/software sales is another realistic objective. Graduates are also eligible to progress to the MSc in Software Engineering at AIT.

Minimum Entry Requirements
Students are expected to have a minimum of a Bachelor degree (Level 7 or 8) in any non-computing discipline.

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<td>8</td>
<td>1 Year</td>
<td>On Application</td>
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Course Overview
The Higher Diploma in Business is a one-year programme which is aimed at developing the range of cross-enterprise skills required of modern competitive organisations. The programme is ideal for anyone without a business qualification wishing to develop key business and management skills over two semesters. It has been designed with business skills as a dominant focus. The course is designed with strong industry input with a view to producing more efficient and effective employees. Incorporating modules such as Management and Strategy, Economics, Marketing, Business Law, Entrepreneurship, Financial management, Business applications and HRM, this programme provides an opportunity to pursue a career in management and leadership in organisations. All modules assume no previous knowledge of the subject. This programme provides students with the fundamental skills to work in business and will complement your existing degree. It also provides students with an opportunity for further postgraduate study.

Career Opportunities
Once you graduate, you will gain an established and nationally recognised qualification that will equip you for employment in a wide range of business settings. The skills needed for modern organisations have changed significantly and this course will seek to address the modern skills needs in business management.

Graduates have been successful in gaining employment in businesses both nationally and internationally in: Business development and consultancy, HRM, Marketing, Financial and risk analysis, Operations management, IT, Innovation management and Establishing new business start-ups. Students who successfully complete this programme, with a classification of 2.2 or higher, are eligible to apply for the Master of Business in Athlone Institute of Technology.

Minimum Entry Requirements
Students with a level 7 or level 8 degree in any discipline other than business studies are eligible to apply for this programme.

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