



U Sligo **T DUBLIN**
An Institiúid Teicneolaíochta, Sligeach
OLLSCOIL TEICNEOLAÍOCHTA
BHÁILE ÁTHA CLIATH
TECHNOLOGICAL
UNIVERSITY DUBLIN



THE ADVANCE CENTRE
for Graduate Professional Education

A THE ADVANCE CENTRE for Professional Education

OUR AIM

The ADVANCE Centre brings together academic experts and industry leaders from across the high-tech sector with the common goal of delivering a portfolio of modules and courses addressing Irish industry's future skills needs in the digital arena.

A key goal of the Centre is to support upskilling professional learners seeking flexible study options alongside full-time students.

Ways to study:

- Modular Study
- Part-time Degrees
- Full-time Degrees

ADVANCE MODULAR STUDY

ADVANCE Modular Study is for you if you:

- are in full-time employment and want to study part-time
- have a primary degree
- want to upskill on a specific topic
- don't want to commit to a part-time degree programme
- want to see if part-time study works for you with a view to starting a part-time degree course in future years
- want to learn from experts in the field
- want a pathway to a part-time degree programme
- want the recognition of completing a European Credit Transfer and accumulating (ECTS) on a credit-bearing module

As an ADVANCE Centre Learner on UCD modules, you are a fully registered UCD student, with a student card, and access to all of the facilities and supports available to other students.

ADVANCE Modular Study allows participants to take individual modules from the Centre's catalogue according to their learning needs and availability. Most modules are online so that you can fit study around your work and life.

Previous completed modules may be used as recognition of prior learning towards ADVANCE degree programmes.

Modules are taught and validated by UCD, IT Sligo & TU Dublin. Modules range from National Framework of Qualifications (NFQ) levels 6-9.

ENTERPRISE PARTNERS



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The Centre was founded in 2020 by University College Dublin, IT Sligo and TU Dublin.
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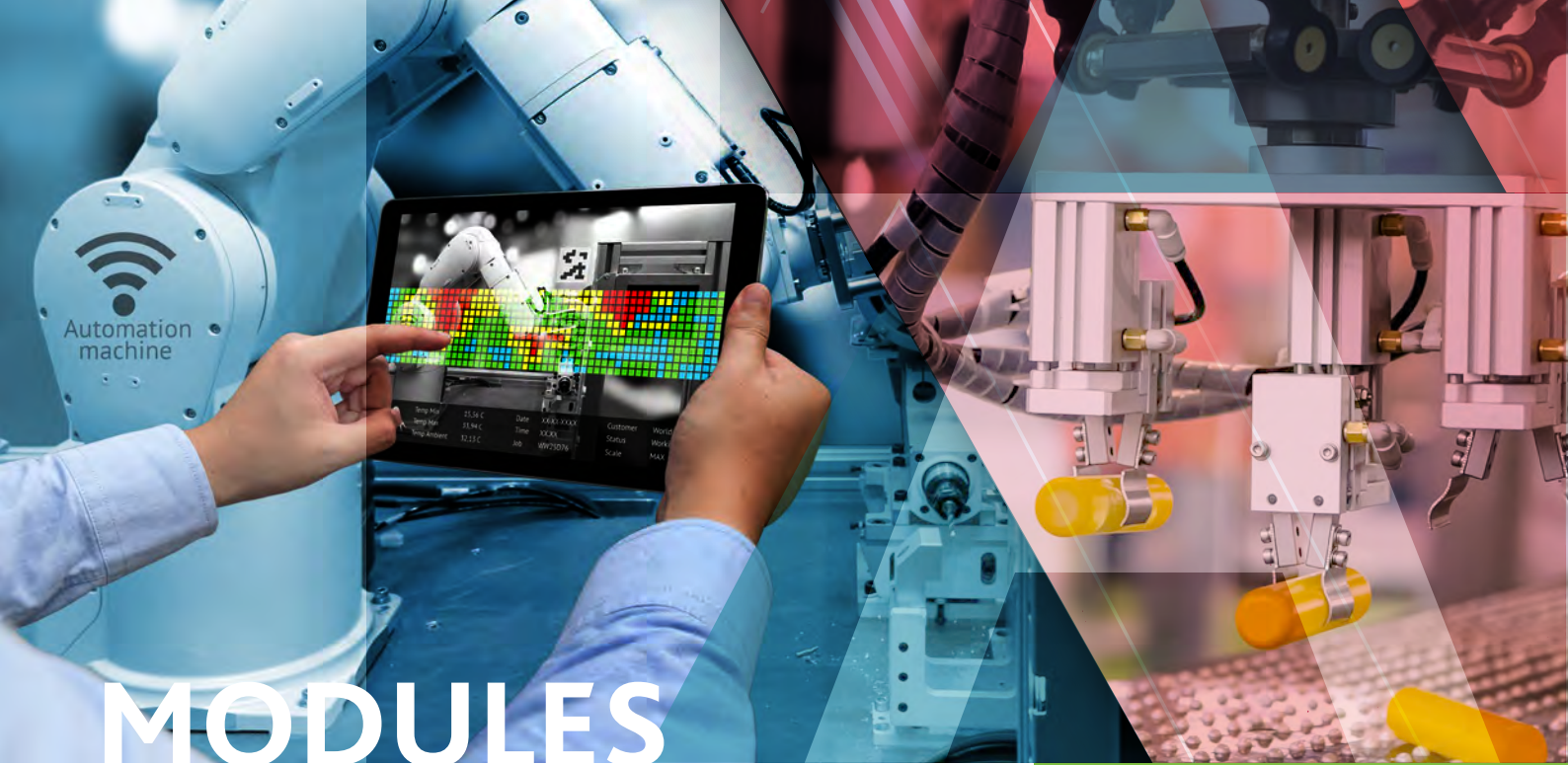
HEA | HIGHER EDUCATION AUTHORITY
AN BUIOIRIAS UM ARD-OIDEACHAS

HCI | Human
Capital
Initiative



IT Sligo
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MODULES

How does it work?

Most modules require a 2.2 degree in a related discipline or equivalent professional experience. 5-credit modules are typically 1 trimester (15 weeks) in duration and involve 125 hours of student work in the case of study-for-credit.

How are modules assessed?

Typically assessment is a mix of continuous assessment in the form of assignments and class tests or examinations. For more information, click on the module name in the catalogue to view the Module Details.

What modules are available?

You can browse the full catalogue of pilot modules available on the ADVANCE Centre website at:
advancecentre.ie/catalogue.html

How are modules delivered?

Most modules are provided online meaning that all lectures and tutorials are provided remotely via the Internet. Some modules with the laboratory components are blended, typically meaning that the labs are in-person on-campus while the lectures and tutorials are online.

How much are the fees?

The fees for 5-credit and 10-credit UCD modules are €875 and €1750, respectively. The fees for 5-credit (level 6-7) IT Sligo modules are €550.

How can I book?

Prospective participants should apply by clicking on the "APPLY" link in the catalogue.

For further information contact info@advancecentre.ie

Students can choose from a range of courses including:

Software Engineering

Data Science

Cyber Security

Digital Manufacturing

Financial Mathematics

Health Data Analytics

Digital Agriculture

Advanced Electronic System Design

Data in Context

AI for Medicine

Quantum Engineering

OUR COURSE RANGE



CORPORATE EDUCATION

ADVANCE Corporate Education engages with companies to develop integrated Continuing Development Programmes (CPD) that recognise in-company training and ADVANCE Centre study.

ADVANCE Corporate Education is for you if you:

- want to integrate ADVANCE Centre modules or courses with your company's CPD programme.
- want the ADVANCE Centre to develop tailored modules or educational programmes for you company.
- want to recognise in-company training and project work as part of an accredited ADVANCE Centre programme.

Please email us at info@advancecentre.ie or visit www.advancecentre.ie/corporate.html

Title	Code	HEI	NFQ	Delivery	Next Start
Advanced Electronic System Design					
Wireless Systems	EEEN40050	UCD	9	Blended	Sep 21
Advanced Signal Processing	EEEN40130	UCD	9	Blended	Sep 21
RF Electronics	EEEN40150	UCD	9	Blended	Sep 21
Power Electronics Technology	EEEN40310	UCD	9	Blended	Sep 21
Analogue Integrated Circuits	EEEN40570	UCD	9	Blended	Sep 21
Optimisation Techniques	EEEN40580	UCD	9	Blended	Sep 21
Digital RF	EEEN40610	UCD	9	Blended	Sep 21
Optoelectronics	EEEN40640	UCD	9	Blended	Sep 21
Applied Quantum Mechanics	PHYC40020	UCD	9	Online	Sep 21
Data Science in Python (MD)	COMP47670	UCD	9	Blended	Sep 21
Structured Digital Design and Simulation 1	SDDS H6000	TU Dublin	9	Blended	Sep 21
EMC and Transmission Modelling	TBC	TU Dublin	9	Blended	Sep 21
Machine Learning using Python	TBC	TU Dublin	9	Blended	Sep 21
Digital Communications	EEEN40060	UCD	9	Online	Jan 22
Power System Design	EEEN40090	UCD	9	Online	Jan 22
Applications of Power Electronic	EEEN40120	UCD	9	Online	Jan 22
Digital & Embedded Systems	EEEN40280	UCD	9	Blended	Jan 22
Mixed-Signal Integrated Circuits	EEEN40600	UCD	9	Online	Jan 22
Optical Engineering	EEEN40630	UCD	9	Online	Jan 22
Artificial Intelligence for Medicine					
High Throughput technologies	MDCS42220	UCD	9	Blended	Sep 21
Biological Princpl & Cellular Org	MDCS42280	UCD	9	Blended	Sep 21
Professional Skills & Career Development	MDCS42210	UCD	9	Blended	Sep 21
Medical Research Design, Regulations & Ethics	MDCS42240	UCD	9	Blended	Sep 21
Data Programming with R	STAT40620	UCD	9	On Campus	Sep 21
Data Programming with R (Online)	STAT40730	UCD	9	Online	Sep 21
Data Prog with Python	STAT40800	UCD	9	Online	Sep 21
Clinical Information and Decision Support	PHPS41040	UCD	9	On Campus	Sep 21
Intro to Genetic Epidemiology	PHPS40880	UCD	9	Online	Sep 21
Med Research design, regs, eth	MDCS42240	UCD	9	Blended	Sep 21
Prof. Skills & Career Develop.	MDSA40280	UCD	9	Blended	Sep 21
Python for the Life Sciences	MEIN40310	UCD	9	Blended	Sep 21
Medical Records	MEIN40050	UCD	9	Blended	Sep 21
LifeScienceMachineLearning Aut	MEIN40370	UCD	9	Blended	Sep 21
DataMiningForLifeSciences Aut	MEIN40380	UCD	9	Blended	Sep 21
High Throughput technologies	MDCS42220	UCD	9	Blended	Jan 22
Genomics enabled Drug Discover	MDCS42230	UCD	9	Blended	Jan 22
Precision Oncology	MDCS42250	UCD	9	Blended	Jan 22
Biological Principles & Cellular Organisation	MDCS42280	UCD	9	Blended	Jan 22
Bioinformatics analysis of high throughput data	MDCS42270	UCD	9	Blended	Jan 22
Statistics for Human Genomics	PHPS40870	UCD	9	Online	Jan 22
Intro to Genetic Epidemiology	PHPS40880	UCD	9	Online	Jan 22
Statistical Machine Learning (online)	STAT40750	UCD	9	Online	Jan 22
Translational Bioinformatics	MEIN40250	UCD	UCD	Blended	Jan 22
Data Mining for Life Sciences	MEIN40290	UCD	UCD	Blended	Jan 22
Life Sciences Machine Learning	MEIN40300	UCD	UCD	Blended	Jan 22
Precision Oncology	PATH40060	UCD	UCD	On Campus	Jan 22
Genomics enabled Drug Discover	PATH40070	UCD	UCD	Blended	Jan 22
Precision Medicine in Infectious disease	PHPS41100	UCD	UCD	On Campus	Jan 22
Interoperability, Standards, Introduction to XML	MEIN40090	UCD	UCD	Blended	Jan 22
Data Science					
Intro Data Analytics	STAT40720	UCD	9	Online	Sep 21
Data Prog with R	STAT40730	UCD	9	Online	Sep 21
Data Prog with Python	STAT40800	UCD	9	Online	Sep 21

Title	Code	HEI	NFQ	Delivery	Next Start
Predictive Analytics I	STAT40790	UCD	9	Online	Sep 21
Monte Carlo	STAT40820	UCD	9	Online	Sep 21
Time Series	STAT40860	UCD	9	Online	Sep 21
Machine Learning	COMP09012	IT Sligo	9	Online	Sep 21
Applied Linear Algebra	MATH09003	IT Sligo	9	Online	Sep 21
Data Analytics and Visualisation	COMP09014	IT Sligo	9	Online	Sep 21
Statistical Machine Learning (Online)	STAT40750	UCD	9	Online	Jan 22
Bayesian Analysis (online)	STAT40850	UCD	9	Online	Jan 22
Multivariate Analysis (Online)	STAT40740	UCD	9	Online	Jan 22
Machine Learning and AI	STAT40970	UCD	9	Online	Jan 22
Inference for Data Analytics (online)	STAT30280	UCD	9	Online	Jan 22
Adv Pred Analytics (online)	STAT40770	UCD	9	Online	Jan 22
Applied Statistics and Probability	MATH09004	IT Sligo	9	Online	Jan 22
Prog for Big Data	COMP09014	IT Sligo	9	Online	Jan 22
Introductory Programming for Data Science (sem 1)	COMP09016	IT Sligo	9	Online	Jan 22
Digital Agriculture					
Hyperspectral Imaging	BSEN40500	UCD	9	Blended	Sep 21
Precision agriculture	BSEN30210	UCD	8	Blended	Jan 22
Precision livestock management	BSEN40510	UCD	9	Blended	Jan 22
Sensors and sensing systems	BSEN30520	UCD	8	Blended	Jan 22
Optical Sensing Technology	BSEN40520	UCD	9	Blended	Jan 22
Numerical methods for agriculture	BSEN30530	UCD	8	Blended	Jan 22
Digital Manufacturing					
Introduction to Mfg Simulation & Robotics	MEEN41070	UCD	9	Blended	Sep-21
Supply Chain Design & Analysis	MEEN40790	UCD	9	On Campus	Sep 21
Engineering Operations Management	MEEN40260	UCD	9	Blended	Sep-21
Systems Analysis & Improvement	MEEN41120	UCD	9	On Campus	Sep 21
Decision Analysis	MEEN40360	UCD	9	Blended	Sep 21
Human Resource Management	HRM40100	UCD	9	Blended	Sep 21
Marketing for Engineering Managers	MEEN40830	UCD	9	Blended	Sep 21
Six Sigma 1 - Intro to Lean Sigma Quality	QLTY07030	IT Sligo	7	Online	Sep 21
Quality Management Systems	QLTY07024	IT Sligo	7	Online	Sep 21
Mathematics and Statistics	MATH07017	IT Sligo	7	Online	Sep 21
Control Systems 301	MECT07024	IT Sligo	7	Online	Sep 21
Supervisory Control and Data Acquisition	MECT07029	IT Sligo	7	Online	Sep 21
Programming Communications and Interfacing	MECT06018	IT Sligo	6	Online	Sep 21
Instrumentation 1	MECT06013	IT Sligo	6	Online	Sep 21
Pneumatic / Electro-Pneumatic and Hydraulic Systems	MECT06017	IT Sligo	6	Online	Sep 21
Electronics for Sensors/Cyber Physical Systems	EEEN3xxxx	UCD	9	Online	Jan 22
Operations Management	MEEN41100	UCD	9	Online	Jan 22
Quality Mgt	MEEN40270	UCD	9	Blended	Jan 22
Six Sigma Quality Management	MEEN50020	UCD	9	Blended	Jan 22
Engineering Project Management	MEEN40310	UCD	9	Blended	Jan 22
Business System Design	MEEN40300	UCD	9	On-Campus	Jan 22
Engineering Cost Analysis	MEEN40730	UCD	9	Blended	Jan 22
Online Technical Communications	MEEN40820	UCD	9	Online	Jan 22
Behaviour, Leadership & Change	BMGT44260	UCD	9	Blended	Jan 22
Managing Negotiations	MEEN40950	UCD	9	On-Campus	Jan 22
Corporate Intrapreneurship - Creating Growth Strategies	MEEN40940	UCD	9	On-Campus	Jan 22
Operations Strategy	MEEN40280	UCD	9	On-Campus	Jan 22
Six Sigma 1 - Intro to Lean Sigma Quality	QLTY07030	IT Sligo	7	Online	Jan 22
Six Sigma 2 - Statistical Control	QLTY07022	IT Sligo	7	Online	Jan 22
People Management in Practice	HRM07018	IT Sligo	7	Online	Jan 22
Production Management	MGMT07040	IT Sligo	7	Online	Jan 22
Six Sigma 3 - Project	PROJ07024	IT Sligo	7	Online	Jan 22

Title	Code	HEI	NFQ	Delivery	Next Start
Applied Statistical Improvement	QLTY07023	IT Sligo	7	Online	Jan 22
Automation Programming	MECT06023	IT Sligo	6	Online	Jan 22
Instrumentation 2	MECT06012	IT Sligo	6	Online	Jan 22
Financial Mathematics					
Measure Theory & Integration	MATH40790	UCD	9	Online	Sep 21
PDE for Financial Mathematics	ACM 30120	UCD	8	Online	Sep 21
Health Data Analytics					
Patient Reported Outcomes	PHPS41160	UCD	9	Online	Sep 21
Medical Devices and Connectivity	PHPS41060	UCD	9	Online	Sep 21
Corporate Systems in Health	TBC	UCD	9	Online	Sep 21
Introduction to Knowledge Synthesis, Systematic Reviews & Meta-analysis	PHPS40980	UCD	9	Online	Sep 21
Software skills for health data analytics	TBC	UCD	9	Online	Sep 21
Introduction to Biostatistics	PHPS41150	UCD	9	Online	Jan 22
Biostatistics II	PHPS40460	UCD	9	Online	Jan 22
Introduction to Genetic Epidemiology	PHPS40880	UCD	9	Online	Jan 22
Clinical Trials	PHPS40970	UCD	9	Online	Jan 22
Health Technology Assessment	PHPS41120	UCD	9	Online	Jan 22
Systematic Reviews and Meta-analysis	PHPS40980	UCD	9	Online	Jan 22
Software Engineering					
High Performance Computing	COMP40730	UCD	9	Online	Sep 21
Comparative Software Eng Process Frameworks	MIS40850	UCD	9	Online	Sep 21
Agent-Oriented Software	COMP40040	UCD	9	Online	Jan 22
Knowledge-based Techniques for Industrial Systems	COMP40080	UCD	9	Online	Jan 22

Degree Programmes

The ADVANCE centre also offers the opportunity for students to progress to a full degree award if they wish via a range of degree programmes (subject to meeting eligibility criteria).

An ADVANCE degree is for you if you wish to study for an accredited Level 7, 8 or 9 qualification, and want the flexibility of accessing a certificate, diploma or Masters qualification to become an expert in your field.

For further information on application, fees, start dates and assessment, please email us at info@advancecentre.ie or visit <http://advancecentre.ie/parttime.html> | <http://advancecentre.ie/fulltime.html>

BSc in Manufacturing Management	SG_EMANM_J07	IT Sligo	7	Online	Sep 21
BSc in Quality	SG_SQUAL_JO7	IT Sligo	7	Online	Sep 21
BSc (Hons) in Quality Management and Technology	SG_EQLTY_K08	IT Sligo	8	Online	Sep 21
MSc in Quality	SG_EQLTY_M09	IT Sligo	9	Online	Sep 21
Professional Diploma in Electronic Design	T362	UCD	9	Blended	Sep 21
Professional Diploma in Electronic Design	T360	UCD	9	Blended	Jan 22
MSc Advanced Software Engineering	T347	UCD	9	Online	Sep 21
ME Management	T169	UCD	9	Blended	Sep 21
MSc Data Analytics	F084	UCD	9	Online	Sep 21
MSc Artificial Intelligence for Medicine & Medical Research	X929	UCD	9	On Campus	Sep-21
Professional Diploma in Operational Excellence	T365	UCD	9	Blended	Sep-21
Professional Diploma in Operational Excellence	T366	UCD	9	Blended	Jan-22

You can browse the full catalogue of modules
available on the ADVANCE Center website

advancecentre.ie

A THE ADVANCE CENTRE for Professional Education



University College Dublin
Belfield
Dublin 4
D04 V1W8



An Institiúid Teicneolaíochta, Sligeach

IT Sligo
Ash Lane
Sligo
F91 YW50



TU Dublin - Tallaght Campus
D24 FKT9

Further information

E-mail: info:advancecentre.ie

Website: www.advancecentre.ie

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