Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

School of Computer Science & Statistics (SCSS)
Faculty of Science, Technology, Engineering and Mathematics (STEM)

BA (Mod) in Management Science and Information Systems Studies

Course Code TR034

Special Entry Requirements:
Leaving Certificate: H4 Mathematics

Other Examination Systems:
www.tcd.ie/Admissions/undergraduate

What is Management Science and Information Systems (MSISS) about?

The primary objective of the MSISS programme is to produce graduates who are both business and computer literate and who have a solid understanding of how to approach and solve practical problems using a variety of tools and techniques.

You will learn how to use techniques from disciplines such as business, mathematics, computer science, statistics and management science to solve real world problems. You will also learn how to develop a range of interpersonal skills such as team working, interviewing and making presentations.

All of this will provide you with a unique blend of skills and experience. It is this mix which makes MSISS unique amongst other third level courses in Ireland and helps contribute significantly to the success MSISS graduates have in getting jobs. The MSISS programme reflects the needs of the workplace of today and of the future.

Why do MSISS?

- If you like technology, have a passion for business and a solid mathematical ability, MSISS is a course that will equip you well for a successful career.
- MSISS has one of the best graduate employment records of any undergraduate course in Ireland.
- Employers include large financial institutions, management consultants and other businesses both nationally and internationally for example Deloitte, Ernst and Young, Accenture, McKinsey, KPMG, PwC, BearingPoint, PA Consulting, FTI Consulting, Bank of America Merill Lynch, CitiBank, CreditSuisse, Barclays, Deutsche Bank, JP Morgan, HSBC, RBS, Bank of Ireland, Ulster Bank, Irish Life, Aviva, Mercer, Paddy Power, First Derivatives, Boylesports, KerryGroup, Google, ColgatePalmolive, Proctor and Gamble and United Drug.

MSISS is a four year programme designed to develop four sets of skills.

Quantitative Methods	Business and Management	Information Technology/ Systems
Interpersonal		

Quantitative Methods

A key objective of the course is that students graduate with a high level of numeracy and are at ease with the practical application of important mathematical and statistical tools. To this end, this part of the programme covers mathematics, statistics, probability, business and data analytics, forecasting and management science/ operations research methods.

Business and Management

Courses are taken in conjunction with Business Studies students and include finance, accounting, economics and management.

Information Technology/Systems

The emphasis here is on system design and development using state of the art technology. The programme starts with basics, including fundamentals of programming and use of end-user software such as spreadsheets and website design tools. This is supplemented in later years with more in-depth courses looking at information systems, database design and commercial application development.

Interpersonal

Throughout the four years there is continuous development of personal skills such as verbal communication, interviewing and teamwork. There is also a strong focus on written communication skills.

The first two years of the degree are about acquiring a good grounding in each of these areas. In third year, whilst continuing to study these topics at a more advanced level, you start to use the techniques that you have learned in various group and individual projects.

In each of the third and fourth years, you also get to choose an elective subject from a list which ranges from corporate finance to computing.

Throughout the four years there is a considerable emphasis on practical work. For example, in third year, working in small teams, you are presented with a company that is in difficulties. Your team interviews company executives (role played by staff members), you try to get to the bottom of the problems, analyse them, solve them and then write up a report recommending what the company should do. In another third year course, you take part in a new business competition which is judged by a jury of independent entrepreneurs and business consultants. These courses are a preparation for the final year project.

Final Year Projects

As part of your final year, you undertake a project for a client in the real business world. The range of projects is quite wide, varying from the development of small computer systems to evaluating procedures, developing models or undertaking statistical analysis of client data.

The following are examples of the projects undertaken in recent years:

- Development of a trading strategy for an investment company
- An economic analysis of income tax relief for childcare undertaken for an Independent TD.
- Investigation into the value of new games for an online gaming company.
- Design of an integrated data base system for a large NGO.
- Development of a programme support system for a large international conference.
- Using data analytic techniques to predict lapsed customer accounts for a large computer firm.

You are given a choice of projects or you can propose you own project. There is a prize, awarded by IBM, for the best project each year.

Careers

MSISS provides a base for following a remarkably wide range of careers within management consultancy, the financial services and several of the professions. In addition, MSISS graduates have pursued careers in information technology management, quality control, marketing and the civil service to name but a few. Some graduates have set up their own business. Others have chosen to pursue postgraduate study at Trinity and other universities at home and abroad.

Demand for MSISS graduates has always been steady as the wide ranging skill sets developed in the course of study together with the problem solving and teamworking skills are much sought after by employers. The combination of a high level of numeracy, good business awareness and fluency in the use of modern technology is a major attraction for employers in the 21st century.

Management Consultancy

MSISS graduates are particularly sought after by leading management consultancy firms. Over the years, the course has developed a strong alumni presence in many of these firms and graduates regularly return to recruit students to join their companies. Many MSISS graduates have gone on to senior positions in the consultancy industry.

Financial Services

MSISS graduates can be found in almost all aspects of modern financial services from derivatives trading to insurance and risk management. Many of these graduates work in London, New York and also in the IFSC here in Dublin.

Professions

Each year, a number of graduates go on to study accountancy with a smaller number to actuarial studies. Other graduates have qualified in specialised areas such as insurance and quality control.

"Making the decision about what to do after school is a massive step and my biggest concern was always around how to position myself best for employment opportunities three or four years down the line. I had a natural love for business and was always interested in technology so from quite early on MSISS was on my radar.

MSISS provides you with a core skillset that is valued across a number of different industries and roles. Further to this and perhaps most crucially it offers the ability to develop your thinking with respect to problem solving. It also has one of the best employment records for any course in the country. My current role as a Mobile Propositions Manager is responsible for defining the product direction and functionality for Barclays Pingit – an award winning and disruptive player in the payments market. I was driven to succeed from early on and MSISS has been an invaluable tool in allowing me to achieve my ambitions."

Darragh Keogh

MSISS is a unique blend of technology, business and data analytics modules. This coupled with the strong emphasis on professional development such as team work and public speaking make MSISS students highly sought after by employers. Months before my final year exams had even begun, all my classmates had received job offers. A great advantage of MSISS is that it broadens your graduate opportunities to a variety of career paths.

After graduating, I decided to pursue a business strategy and analytics role for LinkedIn, an international tech company. My classmates went on to work in management consulting, accounting, banking or technology with some even going on to start up their own companies.

There is a great social side to the course. The core class size is small so MSISS students from all years run their own society where social events and trips abroad are regularly organised. This allowed me to develop long lasting friendships with classmates who are still some of my best friends.

Aisling O'Reilly

BA (Mod) in Management Science and Information Systems Studies

First Year – Junior Fresh
Management Science Covers a range of subjects in management science at an introductory level
Economics Basic concepts and tools in economics
Organisation and Management Introduces students to the nature and form of organisations and their management
Mathematics Foundation mathematical skills
Statistical Analysis An introduction to basic statistical concepts
Computer Science Introduction to programming
Software Applications Introduction to practical use of computer applications and web design

Second Year – Senior Fresh
Management Science Developing and solving mathematical models of real life problems
Applied Probability Understanding uncertainty in systems
Accounting and Financial Analysis Finance and operations management
Mathematics Follow up of the first year course
Quantitative Analysis A second course in statistics
Computer Science Advanced programming skills
Software Applications Advanced use of computer applications

Third Year – Junior Sophister
Management Science Case Studies Consultancy role playing
Information Systems Applications of computing in business
Multivariate Analysis & Forecasting Analysis of high dimensional data and forecasting methods
Statistical Analysis Practical analysis of data
Research Methods Understanding the research process
Software Applications Application and web-application programming
Elective Options in business, finance economics, computer science and statistics

Fourth Year – Senior Sophister
Decision Analysis Applications of Decision Theory
Strategic Information Systems The use of computing in business
Data Analytics Extracting useful information from large data bases
Final Year Project A practical project dissertation
Elective Options in business, finance, economics, computer science and statistics

EUROPEAN UNION
Investing in your future
European Social Fund

Ireland's European Structural and Investment Funds Programmes 2014-2020
Co-funded by the Irish Government and the European Union

HEA HIGHER EDUCATION AUTHORITY
AN tÚDARÁS um ARD-OIDEACHAS

These courses are co-funded by the Irish Government and the European Union under the European Social Fund.

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