MSc in Computer Science – 4 strands
Commencing September, 2017
http://www.scss.tcd.ie/postgraduate/msc-cs

Prof. Donal O’Mahony
Course Director
Date: Sept’16
Trinity College Dublin

400+ year tradition of Excellence in Teaching & Research

Offering Masters in Computing since October, 1963

#1 University in Ireland

#98 in the World
A University at the heart of Dublin, Ireland
Silicon Valley of Europe

Historic Campus in the centre of cosmopolitan European capital city

– 15 minutes walk from European Headquarters of Google, Facebook & Amazon

– Magnet for US investment in High-Tech – established & high-growth companies

– Burgeoning start-up culture – Trinity has produced more entrepreneurs than any other European university over last 5 years
MSc in Computer Science

- Result of a year of careful planning & course design
- Common entry process & admission criteria
- Ability to specialize in one of four strands
  - Selected as Major ‘Hot’ Topics in Industry & Academia
  - Takes maximum advantage of research strengths at TCD
    - Expert Instructors – working at the cutting-edge
    - Excellent Facilities & Equipment
    - Opportunities to work with & become part of the research teams
- Course Design reviewed very positively and endorsed by leading academics across Europe & USA
Course Structure

Research Methods
Innovation
Machine Learning
Strand Specific Modules
Option 1

Advanced Software Engineering
Strand-Specific Module
Strand-Specific Module
Strand-Specific Module
Option 2

Dissertation

September  December  January  March  April  August
MSc Computer Science
Course Structure

• **Duration one calendar year: September.. August**

• **All students take common modules in:**
  - Research Methods, Innovation, Machine Learning & Advanced Software Engineering

• **Dissertation topics chosen in the first two weeks – opportunity to become a world-leading expert in your chosen topic**
  - Catalogue of topics available with panel of expert researchers to supervise
  - Work exclusively on dissertation from April..August
Data Science

Research Methods
Innovation
Machine Learning
Data Mining & Analytics
Option 1

Optimisation Algorithms for Data Analysis
Applied Statistical Modelling
Data Visualisation
Scalable Computing
Security & Privacy
Option 2

Dissertation

September, December, January, March, April, August
MSc Computer Science
Data Science Strand

- You will learn to GATHER, STORE, PROCESS data sets and deliver new knowledge & insights
- Data Mining & Analytics
  - Practical work in ‘R’ programming language
- Optimisation Algorithms
- Statistical Modelling
- Data Visualisation
- Scalable (Cloud) Computing
- Security & Privacy
- Two options from other strands
Intelligent Systems

- Research Methods
- Innovation
- Machine Learning
- Knowledge & Data Engineering
- Artificial Intelligence
- Option 1

- Advanced Software Engineering
- Information Retrieval & Web Search
- Text Analytics
- Adaptive Applications
- Option 2

- Dissertation

- September
- December
- January
- March
- April
- August
MSc Computer Science
Intelligent Systems Strand

• Knowledge & Data Engineering (Semantic Web)
• Artificial Intelligence
• Information Retrieval & Web Search
• Text Analytics
• Adaptive Applications
• Two Modules from Other Strands
• Strand linked to ADAPT Research Centre (http://adaptcentre.ie/)
Future Networked Systems

Research Methods
Innovation
Machine Learning
2 of Distributed Systems
Internet of Things
Next Generation Networks
Option 1

Advanced Software Engineering
Scalable Computing
Urban Computing
Security & Privacy
Option 2

Dissertation

September
December
January
March
April
August
MSc Computer Science
Future Networked Systems Strand

• Distributed Systems
• Internet-of-things (IoT)
• Next Generation Networks
• Scalable (Cloud) Computing
• Urban Computing (linked to Smart Cities Research)
• Security & Privacy
• Two options from other strands
• Linked to CONNECT (https://connectcentre.ie/) and Smart & Sustainable Cities (https://www.tcd.ie/futurecities/) Research Centres
MSc Computer Science
Graphics & Vision Technologies Strand

Producing graduates with the skills to lead in the Interactive Entertainment Technology industry

• Computer Vision
• Computer Graphics
• Mathematics of Light & Sound
• Real-time Rendering
• Augmented Reality
• Two options from other strands
• Linked to work in GV2 Centre (http://gv2.cs.tcd.ie/)
MSc Computer Science
Course Admission Criteria

• Require II.1 or better from a Reputable University
• Need English competence to fully participate in coursework, classwork, activity (IELTS 6.5 with no component < 6.0)
• Need to be able to program competently in C, C++ or Java
• Need strong work-ethic – This course will be demanding in terms of contact hours, coursework, assignments & producing a publication-quality dissertation
• We are looking for Smart, Passionate & Articulate students who will become world leaders in their chosen fields
MSc Computer Science
Further Information and How to Apply

• Course Website: http://www.scss.tcd.ie/postgraduate/msc-cs
• Applications open November 1st, 2016 for entry in September 2017
• Online Application Process – will need:
  • Academic Results : Past and Estimated Graduation Grade
  • Programming Test
  • English Language Competence
• Contact Course Director: Prof Donal O’Mahony
Thank You

http://www.scss.tcd.ie/postgraduate/msc-cs