Postgraduate Course: Data Science, Technology and Innovation Dissertation (INFR****)

Course Outline

School          Informatics          College          College of Science & Engineering
Credit level (Normal year SCQF Level 11 (Postgraduate) taken)
Course type     Online Distance Learning      Availability     Not available to visiting students
SCQF Credits   60                           ECTS Credits     30

Summary

This is a major piece of independent work which occupies the final months of the MSc course. It is intended to allow students to demonstrate their ability to organise and carry out a substantial investigation into a problem in data science, according to sound scientific principles. The project involves both the application of skills learnt in the past and the acquisition of new skills. The final submission will be expected to be at a level appropriate for an independent researcher and be a good indication of a students potential to go on to be a productive researcher in a relevant sub-discipline of Data Science.

In this dissertation course you will be working independently on an extended piece of writing which is original and presents new research within it in the form of a sustained argument. The dissertation marks the final stage of your Masters degree and demonstrates that over the course of the programme you have gained the skills and knowledge required to engage in the formal and rigorous process of research. This process entails, but is not restricted to, identifying a suitable research topic, formulating research objectives, organising/analysing data, organising and reviewing relevant literature, devising an appropriate research methodology, reporting results, drawing conclusions and possibly even making relevant recommendations to the wider research community.

The design and conduct of the project will require a high level of commitment and application from the student. The dissertation demonstrates their ability to think scientifically and complete a research report that follows expected academic conventions of style, tone, structuring and referencing. Supervisory support will be supplemented by the detailed project handbook given to all students.
The types of activity involved in each project will vary but will include most of the following:
- researching the literature and gathering background information
- analysing requirements, comparing alternatives and specifying a solution
- analysing and extending relevant theory in novel ways
- designing and implementing the solution
- experimenting with and evaluating the solution
- discussing existing results and presenting new research
- developing written and oral presentation skills

Communication with supervisors, including discussion progress and review of draft materials, will be determined by the student and supervisor and is most likely to be carried out by a combination of email and telephony, although all parties are encouraged to use a wiki which will be set up for each student’s project. The wiki allows greater version control of submitted work and clearer documentation of discussions/comments than do email or telephone.

Entry Requirements (not applicable to Visiting Students)
Pre-requisites Students MUST have passed: 
Co-requisites
Prohibited
Combinations
Other requirements None

Course Delivery Information
Academic year 2018/19, Not available to visiting students (SS1)
Quota: None
Course Start Flexible
Course Start Date 01/09/2018
Timetable Timetable
Learning and Teaching activities Total Hours: 600 (Programme Level Learning and Teaching Hours 12, Directed Learning and Independent Learning Hours 588)
(Further Info)
Assessment Written Exam 0%, Coursework 100%, Practical Exam 0%
(Further Info)
Additional Written Exam 0%
Information Coursework 100%
(Assessment) Practical Exam 0%
Feedback Not entered

No Exam Information
Learning Outcomes
On completion of this course, the student will be able to:

1. Structure and summarise a body of knowledge relating to a substantial project topic in data science.
2. Critically evaluate previous work in the area.
3. Conduct a programme of work in further investigation of issues related to the topic.
4. Discuss and solve conceptual problems which arise during the investigation; justify design decisions made during the investigation.
5. Critically evaluate the investigation; present their work, with demonstration of working artifacts where appropriate.

Reading List
Project dependent

Additional Information
Within the work to be undertaken, this course will provide the MSc candidate with the opportunity to develop or further develop the following key graduate attributes:

- in-depth knowledge of specialist discipline
- develop new understanding by exercising critical judgment and challenging knowledge
- be a self-directed and curious learner
- solve problems effectively taking ethical, professional and environmental issues into account
- use information responsibly in a range of contexts
- engage in reflective practice and self-development
- collaborate with others, capitalising on their different thinking, experience and skills
- communicate (written, oral, online) effectively respectful of social and cultural diversity
- application of numeracy
- application of IT

Graduate Attributes and Skills

Keywords
Research project, dissertation, thesis

Contacts
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