

## Module 9: Dissertation / Dissertation By Practice

<b>Stage</b>	2						
<b>Semester</b>	3						
<b>Module Title</b>	Dissertation / Dissertation by Practice						
<b>Module Number</b>	9						
<b>Module Status</b>	Mandatory						
<b>Module ECTS Credits</b>	30						
<b>Module NFQ level</b>	9						
<b>Pre-Requisite Module Titles</b>	None						
<b>Co-Requisite Module Titles</b>	None						
<b>Capstone Module</b>	Yes						
<b>List of Module Teaching Personnel</b>	Dr. Waseem Akhtar Dr. Faheem Bukhatwa Mr Barry Denby						
<b>Contact Hours</b>				<b>Non-contact Hours</b>			<b>Total Effort (hours)</b>
24				576			600
<b>Lecture</b>	<b>Practical</b>	<b>Tutorial</b>	<b>Seminar</b>	<b>Assignment</b>	<b>Placement</b>	<b>Independent Work</b>	
		24				576	
<b>Allocation of Marks (Within the Module)</b>							
	<b>Continuous Assessment</b>	<b>Project</b>	<b>Practical</b>	<b>Final Examination</b>	<b>Total</b>		
<b>Percentage Contribution</b>		100			100		

### Intended Module Learning Outcomes

On successful completion of this module the learner will be able to:

1. Draw on the reflective insights and skills imparted by the Programme to carry out a systematic piece of research.
2. Integrate the learning on the programme in an effective way by undertaking a project of professional and institutional relevance.
3. Apply the technical design and implementation skills acquired during the programme.
4. Research, analyse and draw conclusions in a systematic manner
5. Reason in a consistent and methodological manner at an abstract level.
6. Write coherently and present information in a systematic manner to the required academic level.
7. Demonstrate a familiarity with research methodologies and presentation skills
8. Undertake a technical project and bring it to completion
9. Document, at a level befitting a professional the complete life-cycle from requirements acquisition to product testing

10. Demonstrate the awareness necessary to become a skilled reflective practitioner of computing science.

## **Project Proposal**

Each learner is required to perform and complete a dissertation project worth 30 ECTS credits for fulfilment of the Masters programme. The starting point of the dissertation begins in week one of semester 1 in the Research Methods Module and will carry on through Semester 1, Semester 2 and finally the full dissertation in Semester 3. There is a full process that all learners must adhere to and progress through to complete the Dissertation.

### **Semester 1 Research Methods:**

In the Research Methods module of semester 1 learners are introduced to core research skills that provide the tools for bringing a research project from start to finish. These topics include how to write project proposals, how to schedule a timeline for the entire project, how to perform background reading and a literature review of the chosen topic amongst others. Learners will use all of these skills to start and manage their research project from start to finish in Semester 3.

An exercise of the Research Methods module is to create a full project proposal in the same form as a project proposal that is generated at the start of semester 3. This is to encourage learners to perform background reading on their chosen topic and also to generate an idea for a project that they may wish to undertake in this dissertation module in semester 3. Throughout the rest of semester 1 and semester 2 learners are encouraged to read background material on their chosen subject to further inform themselves of the challenges and opportunities that their proposal contains.

### **Semester 2 Project Seminars:**

In Semester 2 while learners are completing 4 further modules of study they are expected to be researching more about their chosen topic. During the second semester project seminars are held with learners which detail the entire process of a dissertation project in semester 3. This will cover everything from project proposal, supervisor assignment through to managing the project, writing a thesis and presenting their dissertation and deliverables on the demonstration day at the end of the thirteen week period of the dissertation. Seminars are held once every two weeks for learners to prepare them for all stages of the dissertation period.

During this semester learners are expected to have performed all literature review on their chosen topic or have prepared a different project idea and have made significant advancement on the relevant literature review.

### **Semester 3 Dissertation:**

Learners who have completed all semester 1 and semester 2 modules will be asked to submit a project proposal for validation by a panel of project supervisors. Once approved the learner may commence their project work.

All proposals submitted should be no more than 2,000 words describing what is intended to be done and offer a review of current research in the area together with a literature review. A project proposal should be more than a documented idea. Learners must demonstrate that they have carried out some outline research on their proposal and have considered the appropriateness, technical complexity, feasibility and scope of their proposed project. This work will be completed under the guidance of a supervisor.

After proposals have been received by the faculty they are collated. They will be initially scanned to see the field each project falls under to determine which member of the programme team is best suited to supervise that project (based on the supervisors' research interests). The proposals are forwarded onto the relevant supervisors to determine if projects are too simple or overly complex for Masters dissertation work. Should proposals fall into either category the learner and the supervisor will revise that proposal such that all proposals are of the same standard and quality. Once proposals are accepted by the faculty then the learners will be formally allocated a supervisor and work on the dissertation will begin.

After projects have been validated each learner will be assigned a project supervisor who is responsible for giving individual guidance and direction during the duration of the project. It is the responsibility of each learner to do the following:

1. Agree a work schedule with their supervisor.
2. Meet deadlines agreed in the work schedule.
3. Execute the research, design and implementation in accordance with professional academic standards.
4. Provide deliverables on time and in the correct format.

Learners are also expected to meet with supervisors regularly to document their progress on the project with reference the work schedule and to receive regular guidance from their supervisor for the full 13 week period of the project. Supervisors are chosen on the basis of their experience and active research interests. Each supervisor is required to agree a work schedule with the learner, guide and advise on the direction of work, set deadlines and record the performance and commitment of the learner undertaking the project. Most dissertations can be broken down into a general three phase schedule as following

Phase 1: Full design of implementation and background reading (2 weeks)

Phase 2: Implementation of the design (8 weeks)

Phase 3: Generation of thesis documentation and presentation at demonstration day (3 weeks)

## **Dissertation Assessment**

The project will be evaluated on its quality of thought, interpretation and insight as well as the contribution it makes to the field of study and the writer's own professional development. An essential ingredient will be the learner's ability to research and master a technical body of knowledge and apply it to a given problem domain. The ability to think and reason with the material at issue is crucial. The design, layout, quality of expression, structure and coherence of all documentation will be taken into account when grading the finished work. The ability of the learner to present and defend the material is also of significant importance. The marks for the project are apportioned as follows:

### **Process (20%)**

The Project is a work in progress and should be conducted in a professional manner. This means that goals and deadlines will be set based on a project plan. Marks must be awarded for meeting these goals and deadlines. A project log must be maintained by each learner.

The supervisor will also award marks to the learner based on the learner's commitment and work ethic, and their ability to meet deadlines and carry out the work involved in completing the task.

### **Product (40%)**

The goal is to deliver a product that meets the requirements laid out in the project specification. Each learner will be required to present / demonstrate their project work and defend the work they have completed. This may take the form of a software demonstration or a short lecture depending on the nature of the project.

Note: By product we mean a working software application, an original algorithm or proof of concept.

### **Project Report (40%)**

The report will describe the research, design and implementation of the project. The report will be assessed on a number of different levels.

- **Level of Complexity:** This will measure the originality, depth of knowledge and understanding of the learner.
- **Organisation and Structure:** This will measure the ability of the learner to organize the material and present it in a clear, comprehensive and logical manner.
- **Scope/Quantity:** This will measure the quantity of work completed giving due regard to the depth and difficulty of the material involved.

There are three levels of Pass.

**Hons1 (70%+)** This grade will only be awarded to learners who have mastered an extremely challenging project, have produced a comprehensive body of work and have demonstrated an ability to research, analyse and apply a body of knowledge.

**Hons2 (60%+)** This grade will be awarded where substantial mastery and application of a body of knowledge in a given problem area is demonstrated by the learner.

**Pass (40%+)** This grade will be awarded for a straightforward project where the learner demonstrates reasonable research and analytical skills and shows that they can apply a body of knowledge in a particular problem domain

## **Publication**

Following annual Exam Boards the faculty will review the work submitted and in conjunction with the College library make all Dissertations graded at H2 or above available and searchable online.

A faculty publications sub-group will be appointed each year with a view to identifying appropriate forums for publication for all Dissertations graded at H1. The group will also consider for publication any with H2 grade that are felt to be particularly strong H2 Dissertations. Supervisors will be tasked with supporting the process of publication in association with the learner where appropriate.

This approach will assist the learner who will be introduced to the discipline necessary for publication, and introduce them to research being produced elsewhere at a similar level.