

H9RS: Research Project

Module Code:	H9RS
Long Title	Research Project CONDITIONAL APPROVAL
Title	Research Project
Module Level:	LEVEL 9
EQF Level:	7
EHEA Level:	Second Cycle
Credits:	25
Module Coordinator:	CRISTINA HAVA MUNTEAN
Module Author:	Cheryl Cooney
Departments:	
Specifications of the qualifications and experience required of staff	
Learning Outcomes	
<i>On successful completion of this module the learner will be able to:</i>	
#	Learning Outcome Description
LO1	Analyse, select and implement appropriate research methods and techniques
LO2	Research and critically analyse the state of the art of a problem domain
LO3	Propose, architect and implement an ICT solution related to the programme area
LO4	Evaluate the solution based on identified measures
LO5	Investigate potential future research possibilities
LO6	Present and defend the research findings through a viva, artefact/product demo and research paper style report.
Dependencies	
Module Recommendations	
No recommendations listed	
Co-requisite Modules	
No Co-requisite modules listed	
Entry requirements	

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Module Content & Assessment	
Indicative Content	
<p>Project Learners have to submit a portfolio that consists of a research paper style report, an artefact/product, a user configuration manual and a presentation to be defended in a viva. A demo of the artefact/product developed will be required to be presented in the viva. The learner must attend and pass the viva. Students that wish to commercialise their project work or a project related technology have the opportunity to explore this path. In this case, students will be required to complete a template that identifies the potential commercial opportunities and explores the related markets. This document aims to justify the commercialisation of products or services as a results of work done for the project. Technology commercialisation applications will be reviewed by NCI Technology Transfer Office in terms of commercialisation potential. If the application is approved, NCI will provide protection for company spin-out, protection of the invention and support for negotiation of licence agreements. Research paper style report The research paper style report shall comprise 4,000 to 6,000 words, up to 20 pages, and describes the individual research and production of an ICT solution. It shall follow the following format: introduction, background, design, implementation, evaluation and conclusion. A literature review should be included to situate the work in existing research. Learners are also required to critically analyse insights gained throughout the development and evaluation of their research application. In addition, learners should also identify future commercialisation opportunities and further research possibilities. Throughout the project learners are required to engage in formative assessments to evaluate their progress.</p>	
<p>Literature review The literature review should demonstrate evidence of independent research critically analysing the potential of an application / idea and provide insights into how it can be implemented and evaluated. This may build upon the work conducted in Semester 2 as part of Research in Computing module, but will have to be updated and revised based on feedback from supervisors.</p>	
<p>Project Specifications The project specifications describe the research background that includes the research question and definition of research variables.</p>	
<p>Solution Development Learners develop a solution that addresses the research question. This may involve the development of an application prototype, the design of an algorithm, the implementation of an innovative service or component of a system.</p>	
<p>Evaluation comprehensive evaluation must be conducted by each learner using multiple strategies; for example, an algorithm may be benchmarked by performance specific metrics whilst an internet application or mobile application may be evaluated using suitable usability testing techniques. Statistical tools should be used to critically evaluate and assess the experimental research outputs and levels of significance.</p>	
<p>Conclusion and Future Work Learners must arrive at a conclusion from their research question as defined within the position paper. A detailed future work section must be included showing the learners understanding of their own research conducted.</p>	
<p>Viva The viva shall involve a presentation of the research work carried out and a demonstration of the final results to at least two academic examiners. A demonstration of the developed artefact/product will be required during the viva.</p>	
Assessment Breakdown	%
Coursework	100.00%
Assessments	
Full Time	

Coursework			
Assessment Type:	Project	% of total:	10
Assessment Date:	n/a	Outcome addressed:	1,2,3,4,5,6
Non-Marked:	No		
Assessment Description: Research paper style report: Literature review			
Assessment Type:	Project	% of total:	10
Assessment Date:	n/a	Outcome addressed:	1,2,3,4,5,6
Non-Marked:	No		
Assessment Description: Research paper style report: Project specification			
Assessment Type:	Project	% of total:	20
Assessment Date:	n/a	Outcome addressed:	1,2,3,4,5,6
Non-Marked:	No		
Assessment Description: Research paper style report: Arte- fact/Product evaluation			
Assessment Type:	Project	% of total:	10
Assessment Date:	n/a	Outcome addressed:	1,2,3,4,5,6
Non-Marked:	No		
Assessment Description: Research paper style report: Conclusion and future work			
Assessment Type:	Project	% of total:	5
Assessment Date:	n/a	Outcome addressed:	1,2,3,4,5,6
Non-Marked:	No		
Assessment Description: Research paper style report: Referencing and references			
Assessment Type:	Project	% of total:	30
Assessment Date:	n/a	Outcome addressed:	1,2,3,4,5,6
Non-Marked:	No		
Assessment Description: Artefact/Project Development			
Assessment Type:	Project	% of total:	5
Assessment Date:	n/a	Outcome addressed:	1,2,3,4,5,6
Non-Marked:	No		
Assessment Description: User configuration manual			
Assessment Type:	Project	% of total:	10
Assessment Date:	n/a	Outcome addressed:	6
Non-Marked:	No		
Assessment Description: Viva			
No End of Module Assessment			
No Workplace Assessment			
Reassessment Requirement			
Coursework Only			
<i>This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.</i>			

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Module Workload				
Module Target Workload Hours 0 Hours				
Workload: Full Time				
Workload Type	Workload Description	Hours	Frequency	Average Weekly Learner Workload
Lecturer Supervised Learning	No Description	12	Once per semester	1.00
Independent Learning Time	No Description	488	Once per semester	40.67
Total Weekly Contact Hours				1.00
Workload: Part Time				
Workload Type	Workload Description	Hours	Frequency	Average Weekly Learner Workload
Lecturer Supervised Learning	supervision - circa one per week	1	Once per semester	0.08
Independent Learning Time	No Description	41	Once per semester	3.42
Total Weekly Contact Hours				0.08

Module Resources	
Recommended Book Resources	
<p>Zobel, J.. (2004), Writing for computer science., 2nd Edition. Springer, Berlin.</p> <p>Berntsson, M.. (2008), Thesis projects: a guide for learners in computer science and information systems, Springer, London.</p> <p>Chishti, Susanne and Janos Barberis. The FINTECH Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries, Wiley, [ISBN: 111921887X].</p> <p>Webster, Jane and Richard TWatson. Analyzing the past to prepare for the future:Writing a Literature Review, MIS Quarterly.</p>	
Supplementary Article/Paper Resources	
<p>(MSC IN CLOUD COMPUTING) Journal. Springer Journal of Cloud Computing, http://www.springer.com/computer/communication+networks/journal/13677</p> <p>(MSC IN CLOUD COMPUTING) Journal. Inderscience International Journal of Grid and Utility Computing, http://www.inderscience.com/IJGUC</p> <p>(MSC IN CLOUD COMPUTING) Journal. Elsevier Future Generation Computer Systems, http://www.journals.elsevier.com/future-generation-computer-systems/</p> <p>(MSC IN CLOUD COMPUTING) Journal. Elsevier Journal of Parallel and Distributed Computing, http://www.journals.elsevier.com/journal-of-parallel-and-distributed-computing/</p> <p>(MSC IN CLOUD COMPUTING) Journal. IEEE Transactions on Parallel and Distributed Systems, http://www.computer.org/portal/web/tpds</p> <p>(MSC IN CLOUD COMPUTING) Website. How to Write an Informatics Paper (Prof Alan Bundy, University of Edinburgh), http://homepages.inf.ed.ac.uk/bundy/how-tos/writingGuide.html</p> <p>(MSC MOBILE TECHNOLOGIES) Journal. How to Write an Informatics Paper (Prof Alan Bundy, University of Edinburgh), http://homepages.inf.ed.ac.uk/bundy/how-tos/writingGuide.html</p> <p>(MSC MOBILE TECHNOLOGIES) Journal. IEEE Transactions on Communications, http://host.comsoc.org/transcom/home.html</p> <p>(MSC MOBILE TECHNOLOGIES) Journal. IEE Transactions on Mobile Computing, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=7755</p> <p>(MSC MOBILE TECHNOLOGIES) Journal. IEEE International Wireless Communications and Mobile Computing Conference (IWCMC 2013), http://iwcmc.org/2013/</p>	
Other Resources	
<p>[Website], Prof Alan Bundy. How to Write an Informatics Paper, http://homepages.inf.ed.ac.uk/bundy/how-tos/writingGuide.html</p> <p>[Website], Journal of Electronic Markets: Special Issue on FinTech and the transformation of the Financial Industry., http://www.electronicmarkets.org/call-for-papers/single-view-for-cfp/datum/2016/01/27/cfp-special-issue-on-fintech-and-the-transformation-of-the-financial-industry/</p> <p>[Website], IEEE Transactions on Communications., http://host.comsoc.org/transcom/home.html</p>	
Discussion Note:	