

Module Code	ACFA7004
Title	Research Methods and Professional Development
Date	11/04/2019
Level	7
Credits	20
Pre-Requisites	None

AIM(S)

- The aim of this module is for students to develop a problem solving approach to research to facilitate their production of a valid and reliable postgraduate dissertation.

LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- Generate a project proposal that meets a given domain research requirements.
- Identify and visualise a complex research problem within a specific research domain, outline the investigative approach and comprehensively consider appropriate methods and solutions.
- Critically appraise the research process and its outcomes.

INDICATIVE CONTENT

- Core lectures on the principles of postgraduate research :
 - Research principles and approaches (e.g. the research process, purpose, sources of data including primary/secondary research, quantitative/qualitative data, objective/hypothesis formation, reliability, validity)
 - Research methodologies - historical, descriptive, correlational, comparative, experimental
 - Field data - survey design, questionnaires, sampling, statistical techniques, interviews, case studies, observation
 - Developing a proposal - research statement, research outline and design research schedule
 - Project planning - project time scale control
 - Intellectual property - copyright, trademarks, patents
 - Social and cultural context, and ethical considerations
- Writing up and publishing
- Domain specific research methods:
 - Research for engineering
 - Project planning for computing
 - Advanced Quantitative research methods
 - Advanced Qualitative research methods

Study Time Allocation

The study time for the module is divided as follows:

Activity type	Hours	Percentage
Scheduled learning	48	24%
Independent learning	152	76%
Placement learning	0	0%
TOTAL	200	100%

ASSESSMENT

Assessment Component 1

☐ Written exam ☒ Coursework ☐ Practical

Mode of assessment	Volume	Weighting
Research Proposal	4,000 words	70%

Assessment Component 2

☐ Written exam ☐ Coursework ☒ Practical

Mode of assessment	Volume	Weighting
Presentation	10 mins (plus questions)	30%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	70%
Practical	30%
TOTAL	100%

INDICATIVE READING LIST

Module Code	ACFA7004	
Module Title	Research Methods and Professional Development	
Classification	Reading List entry	Electronic*
Essential	Cottrell, S. (2011) Critical Thinking Skills: Developing Effective Analysis and Argument - Palgrave Study Guides, 2 nd Edition, London: Palgrave Macmillan	☒
Essential	Cottrell, S. (2014) Dissertations and Project Reports: A Step by Step Guide, Palgrave Study Skills	☒
Essential	O'Leary, Z. (2013) Doing Your Research Project (2 nd Edition), SAGE Publications Ltd	☒
Further	Dawson, C. W. (2009) Projects in Computing and Information Systems: a Student's Guide, 2 nd Edition, Boston: Addison-Wesley	☒
Further	Dipankar, D. (2019) Engineering Research Methodology: A Practical Insight for Researchers. Springer	☐
Further	Fellows, R. and Liu, A. (2015) Research Methods for Construction, Oxford: Blackwell	
Further	Few, S. (2012) Show Me the Numbers, Burlingame: Analytics Press	☐

Further	Gregoire, T.G. & Valentine, H.T. (2008) Sampling strategies for natural resources and the environment. London : Chapman	☐
Further	Hart, C. (1998) Doing a Literature Review, Sage	☒
Further	Hewson, C., Vogel, C. & Laurent, D. (2015) Internet research methods. London: Sage	☐
Further	Kranzler, J. H. (2011) Statistics for the Terrified, 5 th Edition, Upper Saddle River: Prentice Hall	☐
Further	Leedy. P. D. and Ormrod, J. E. (2012) Practical Research Planning and Design, 10 th Edition, Boston: Pearson Education	☒
Further	Maylor, H. (2010) Project Management, Boston: Pearson Education	☐
Further	Oppenheim, A. (1992) Questionnaire Design, Interviewing and Attitude Measurement, London: Continuum	☒
Further	Spence, R. (2014) Information Visualization: an Introduction, Boston: Addison-Wesley	
Further	Thiel, D.V. (2014) Research Methods for Engineers. Cambridge UP	☒
Further	Wheater, C.P. & Cook, P.A. (2015) Using Statistics to Understand the Environment, Routledge	☒