



University of Essex

Online

Research Methods and Professional Practice

Seminar 1

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Agenda

- Introductions
- About the module
- Assignments
- Q&A



Introductions

- Please introduce yourselves



About the module

On completion of this module, students will be able to:

- Appraise the professional, legal, social, cultural and ethical issues that affect computing professionals.
- Appraise the principles of academic investigation, applying them to a research topic in the applicable computing field.
- Evaluate critically existing literature, research design and methodology for the chosen topic, including data analysis processes.
- Produce and evaluate critically a research proposal for the chosen topic.



Module Overview

- Unit 1: Introduction to Research Methods. The Scientific Investigation and Ethics in Computing
- Unit 2: Research Questions, the Literature Review and the Research Proposal
- Unit 3: Methodology and Research Methods
- Unit 4: Case Studies, Focus Groups and Observations
- Unit 5: Interviews, Survey Methods, and Questionnaire Design
- Unit 6: Quantitative Methods - Descriptive and Inferential Statistics
- Unit 7: Inferential Statistics and Hypothesis Testing
- Unit 8: Data Analysis and Visualisation
- Unit 9: Validity and Generalisability in Research
- Unit 10: Research Writing
- Unit 11: Going Forward: Professional Development and Your e-Portfolio
- Unit 12: Project Management and Managing Risk



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Unit	Seminar Title
1.	<u>Introduction</u>
3.	<u>Peer Review Activity</u>
4.	<u>Case Study on Privacy</u>
7.	<u>Inferential Statistics Workshop</u>
8.	<u>Workshop on Presenting Results</u>
11.	<u>e-Portfolio Preparation</u>



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Assessment

Assessment	Length/duration	Submission	Weighting
<u>Literature Review</u>	2,000 words	By end of Unit 7	30%
<u>Research Proposal Presentation</u>	15 Minute presentation and transcript	By end of Unit 10	30%
<u>End of Module Assignment: e-Portfolio</u>	2,500 words equivalent including 1,000 word reflective piece	By end of Unit 12	40%



Unit 1: List of approved Literature review topics

Start to plan your literature review based on your chosen topic from the list provided in Unit 1.

- Your outline of the literature review can be submitted for formative feedback in Unit 4 before final submission in Unit 7.
- Consider your research proposal.
- Your outline of the proposal can be submitted for formative feedback in Unit 8 before final submission in Unit 10.
- Prepare for the next seminar session by attempting the Unit 3 preparation questions.



Grading Criteria for Literature Review

Online

Writing a Literature Review

Guiding questions to support planning, revising, and refining of a literature review*

1. What is the focus and aim of your review? Who is your audience?
2. Why is there a need for your review? Why is it significant?
3. What is the context of the topic or issue? What perspective do you take? What framework do you use to synthesise the literature?
4. How did you locate and select sources for inclusion in the review?
5. How is your review structured?
6. What are the main findings in the literature on this topic?
7. What are the main strengths and limitations of this literature?
8. Are there any discrepancies in this literature?
9. What conclusions do you draw from the review? What do you argue needs to be done as an outcome of the review?



Grading Criteria for Literature Review

Criteria	100-90% (Exceptional-Distinction)	89-80% (Outstanding-Distinction)	79-70% (Excellent-Distinction)	69-60% (Merit)	59-50% (Pass)	49-40% (Marginal Fail)	39-30% (Fail)	29-20% (Fail)	19-0% (Fail)
Knowledge and understanding of the topic/ issues under consideration (30%)	An exceptional and systematic demonstration of knowledge and understanding, which displays originality and presents some challenges to the boundaries of academic schools of thought.	An outstanding demonstration of knowledge and understanding, displaying originality and an advanced understanding of the topic relevant to the work.	An excellent demonstration of knowledge and understanding, displaying some originality and in-depth understanding in all key areas of knowledge relevant to the work.	A very good demonstration of knowledge and understanding, displaying in-depth understanding in all key areas of knowledge relevant to the work.	A satisfactory demonstration of knowledge and understanding, displaying the required understanding in all key areas of knowledge relevant to the work.	A weak demonstration of knowledge and understanding, displaying limited understanding of some key areas of knowledge relevant to the work.	An unsatisfactory demonstration of knowledge and understanding, displaying very limited understanding of some key areas of knowledge relevant to the work.	A poor demonstration of knowledge and understanding, displaying very limited understanding across a substantial proportion of key areas of knowledge relevant to the work.	A very poor demonstration of knowledge and understanding, displaying no familiarity with the course material or work and irrelevant to the key areas of knowledge applicable to the work.
Criticality (30%)	An exceptional and comprehensive demonstration of independent critical analysis, thought and/or reflection, with regards to linking theory and practice where appropriate.	An outstanding demonstration of critical analysis, thought and/or reflection, with regards to linking theory and practice where appropriate.	An excellent demonstration of critical analysis, thought and/or reflection, with regards to linking theory and practice where appropriate.	A very good demonstration of critical analysis, thought and/or reflection, with regards to linking theory and practice where appropriate.	A satisfactory demonstration of critical analysis, thought and/or reflection, with regards to linking theory and practice where appropriate.	A weak demonstration of critical analysis, thought and/or reflection, with regards to linking theory and practice where appropriate.	An unsatisfactory demonstration of critical analysis, thought and/or reflection, with regards to linking theory and practice where appropriate.	A poor demonstration of critical analysis, thought and/or reflection, with regards to linking theory and practice where appropriate.	A very poor demonstration of critical analysis, thought and/or reflection, with no attempt to link theory and practice where appropriate.
Use of relevant sources (20%)	Exceptional evidence of extensive reading/ use of source material (primary sources/ current research at the forefront of the field/ professional practice under consideration), accurately and convincingly in support of their work.	Outstanding evidence of extensive reading/ use of source material (primary sources/ current research), accurately in support of their work.	Excellent evidence of extensive reading/ use of source material (primary sources/ current research), accurately in support of their work.	Very good evidence of a wide range of reading/ use of source material (primary sources/ current research), broadly accurately in support of their work.	Satisfactory evidence of familiar or module reading/ use of source material (primary sources/ current research), adequately used, but with errors, omissions or questionable interpretations, in support of their work.	Weak evidence of familiar or module reading / use of source material (primary sources/ current research), but with errors, omissions or questionable interpretations, in support of their work.	Unsatisfactory evidence of familiar or module reading / use of source material (mainly unreliable/ dated research), with major errors, omissions or misconceptions, in support of their work.	Poor evidence of reading/ use of source material, with very little evidence of reading and views presented are unsupported.	Very poor or no evidence of reading/ use of source material in support of their work and views are unsupported.



Grading Criteria for Literature Review

Criteria	100-90% (Exceptional-Distinction)	89-80% (Outstanding-Distinction)	79-70% (Excellent-Distinction)	69-60% (Merit)	59-50% (Pass)	49-40% (Marginal Fail)	39-30% (Fail)	29-20% (Fail)	19-0% (Fail)
Structure and Presentation (as detailed in the assessment guidance) (10%)	An exceptional structure and faultless presentation. Work is of a professional or publishable quality.	An outstanding structure and presentation, working towards a professional or publishable standard of work.	An excellent structure and presentation, which shows elements of presentation and structure at a professional or publishable standard.	A very good structure and presentation but may have some omissions against the guidelines.	A satisfactory structure and presentation that may not entirely follow the set guidelines.	Weakness in structure and presentation, that may not entirely follow the set guidelines.	Unsatisfactory structure and presentation that does not attempt to follow the set guidelines.	Poor structure and presentation that does not attempt to follow the set guidelines.	Very poor or incomplete structure and presentation that does not attempt to follow the set guidelines.
Academic integrity (10%)	An exceptional demonstration of academic writing, including correct use of academic convention, citation and/or referencing. Work shows academic integrity of a professional or publishable standard, fully conforming with institutional guidance.	An outstanding demonstration of academic writing, including correct use of academic convention, citation and/or referencing. Work shows an accurate attempt working towards a professional or publishable standard, with no errors of conforming with institutional guidance.	An excellent demonstration of academic writing, including correct use of academic conventions, citation and/or referencing. Work shows an accurate attempt, which shows elements of working towards a professional or publishable standard, with a very few errors of conforming with institutional guidance.	A very good demonstration of academic writing, including correct use of academic conventions, citation and/or referencing with only minor omissions. Work shows broadly accurate attempt, but with the odd weaknesses of conforming with institutional guidance.	A satisfactory demonstration of academic writing, including some correct use of academic conventions, citation and/or referencing. Work shows satisfactory attempt, but with some weaknesses of conforming with institutional guidance.	A weak demonstration of academic writing, including incorrect use of academic conventions, citation and/or referencing. Work shows some attempt, but with significant weaknesses of conforming with institutional guidance.	An unsatisfactory demonstration of academic writing, including incorrect use of academic conventions, citation and/or referencing. Work shows a largely weak attempt of conforming with institutional guidance.	A poor demonstration of academic writing, including incorrect use of academic conventions, citation and/or referencing. Work shows very little attempt of conforming with institutional guidance.	A very poor demonstration of academic writing, including absent and/or incorrect use of academic conventions, citation and referencing. Work shows no attempt of conforming with institutional guidance.

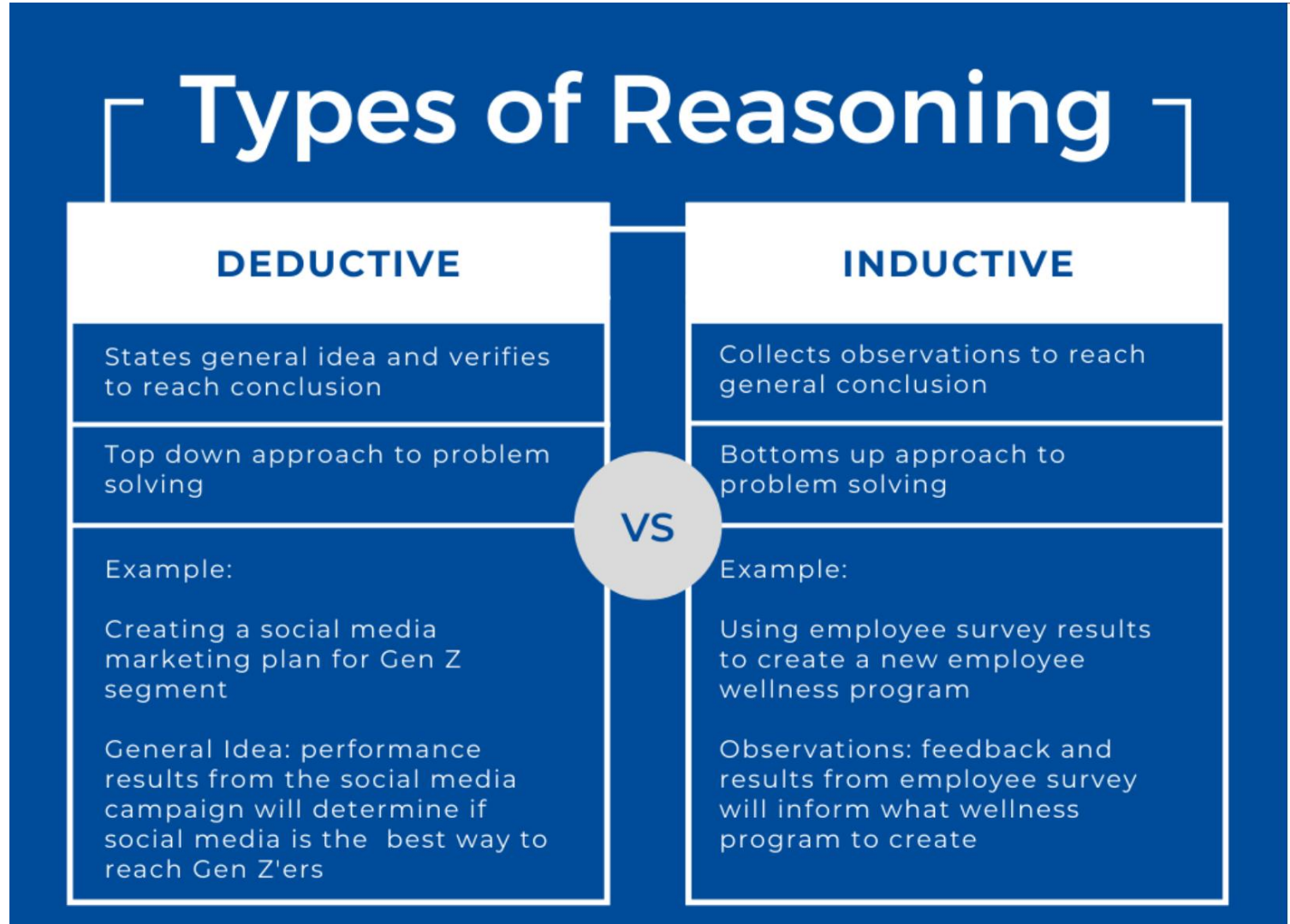


Grading Criteria for Literature Review

Assessment Criteria	Description of Standard Expectation/Proficiency
Knowledge and understanding of the topic/ issues under consideration (30%)	Does your work show comprehensive insight and understanding of the topic? Would it stimulate constructive dialogue, commentary, or a new understanding among the appropriate audience?
Criticality (30%)	Have you clearly analysed and synthesised appropriate ideas/tasks/reading in this piece of work, creating a critically in-depth argument/discussion/analysis/evaluation of the topic?
Use of relevant sources (20%)	Have you provided evidence of extensive reading on the topic(s) through the quality of references used (not just the number of references), showing how each one supports your work?
Structure and Presentation (as detailed in the assessment guidance) (10%)	Your work should be well-structured with minimal errors in spelling, grammar and punctuation. The overall message should be clear.
Academic integrity (10%)	Is there an accurate use of citations and references throughout this piece of work? Have you demonstrated the required integrity in your submission?



Unit 1: Introduction to Research Methods. The Scientific Investigation and Ethics in Computing





Unit 1: Introduction to Research Methods. The Scientific Investigation and Ethics in Computing

e-Portfolio Assessment and Formative Activities | 8 hrs

Complete the compulsory e-Portfolio reflective component.

Participate in the introductory seminar for this module.

Complete the reasoning quiz and the reflective activity.



e-Portfolio Activity: Reflective Activity 1 – Ethics in Computing in the age of Generative AI



e-Portfolio Activity: Collaborative Learning Discussion 1



Share your e-Portfolio



Reasoning Quiz



Formative activity/E-Portfolio

THIS MODULE

Research Methods and Professional Practice (All programmes)

1. Appraise the professional, legal, social, cultural and ethical issues that affect computing professionals
2. Appraise the principles of academic investigation, applying them to a research topic in the applicable computing field
3. Evaluate critically existing literature, research design and methodology for the chosen topic, including data analysis processes
4. Produce and evaluate critically the resulting research proposal for the chosen topic.

2 Collaborative Discussion Forum Summaries (These will cover learning outcomes 1, 2, and 3).

Reflective Piece This covers a key aim for this module.

The Portfolio should also include the following, as part of professional development aspect of the module:

- Feedback from peers and tutors
- Professional Skills Matrix and action plan (PDP)

Other artefacts developed during the module should be included in the portfolio. xxx You will need to describe/show how those artefacts relate to the module learning outcomes.

Skills to be gained here are:

- Time management
- Commercial Awareness
- Critical thinking and analysis
- Decision-making
- Problem-solving
- Initiative
- Entrepreneurial
- Communication and Literacy skills
- Numeracy
- IT and Digital
- Interpersonal
- Critical Reflection
- Research



Unit 2: Research Questions, the Literature Review and the Research Proposal

e-Portfolio Assessment and Formative Activities | 10 hrs

Continue with the [Unit 1 Discussion forum](#). Considering what you have now learned in both units, you should respond to at least three of your peers' contributions from Unit 1. Please try to limit your posts to 200-300 words maximum, so that others may be encouraged to reflect on, and respond to your ideas. Your follow-up responses should be labelled as 'Peer Response'. For guidance, look at the guidelines for the peer review process on the [Department's homepage](#). This provides an excellent way to understand and constructively feedback on other peoples' points of view.

Readings from Ermel et al. (2021) will offer good insights in literature review of scientific disciplines.

Plan your Literature Review and Research Proposal Outlines using the questions document below.

Prepare for next week's seminar session by attempting the preparation questions, available in unit 3.



e-Portfolio Activity: Literature Review and Research Proposal Outlines

Mark as done



Literature Review Guide Questions

Mark as done



Unit 3: Methodology and Research Methods

e-Portfolio Assessment and Formative Activities | 12 hrs

Continue with the [Unit 1 Discussion forum](#). You should now provide a summary post into to the discussion in Unit 1 based on your initial post and the feedback from your peers. Please try to limit your posts to 200-300 words maximum. Your follow-up responses should be labelled as '**Summary Post**'. These posts should be included in your e-Portfolio.

Participate in the seminar this week.

Complete the e-Portfolio Activity below.

Prepare for next week's seminar session by attempting the Seminar preparation questions available in Unit 4.



e-Portfolio Activity: Research Proposal Review

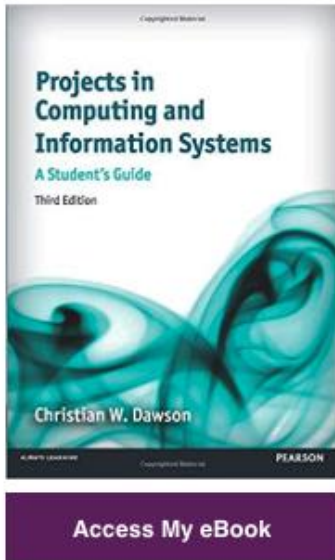


Main e-portfolio and formative activities

Unit(s)	Component	Deadline	e-Portfolio/Formative
1 - 3	Collaborative Discussion 1	End of unit 3	e-Portfolio
1	Reasoning Quiz	End of unit 1	Formative
1	Reflective Activity 1: Ethics in Computing	End of unit 1	e-Portfolio/Formative
2	e-Portfolio Activity: Literature Review and Research Proposal Outlines	End of unit 4	e-Portfolio/Formative
3	e-Portfolio Activity: Research Proposal Review	End of unit 3	e-Portfolio/Formative
3	Seminar 2: Peer Review Activity	End of unit 3	Formative
4	Seminar 3: Case Study on Privacy	End of unit 4	Formative
4	Literature Review Outline Submission	End of unit 4	Formative
5	Reflective Activity 2: Case Study: Inappropriate Use of Surveys	End of unit 5	Formative
5	Wiki Activity: Questionnaires	End of unit 5	Formative
7 - 9	Collaborative Discussion 2: Case Study on Accuracy of Information	End of unit 9	e-Portfolio
7	Seminar 4: Inferential Statistics Workshop and Statistics Worksheet	End of unit 7	Formative/e-Portfolio (worksheets)
8	e-Portfolio Activity: Research Proposal Outline	End of unit 8	e-Portfolio/Formative
8 - 9	Statistical Worksheet Submissions	End of unit 10	e-Portfolio (compulsory)
9	e-Portfolio Activity: Charis Example Worksheet	End of unit 9	e-Portfolio/Formative
11	Seminar 6: e-Portfolio Preparation	End of unit 11	e-Portfolio/Formative
12	Self Test Quiz	End of unit 12	Formative



eBooks



Projects in Computing and Information Systems: A Students Guide

Edition: 3rd

Author(s): Dawson, C.

Date of Publication: 2015

Publisher: Pearson

Place of Publication: Harlow



Basic Business Statistics: Concepts and Applications

Edition: 14th

Author(s): Berenson, L., Levine, D., Szabat, K. & Stephan, D.F.

Date of Publication: 2020

Publisher: Pearson

Place of Publication: Harlow

Access via the University of Essex Library.



Thank you

Any questions?

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