

COURSE SPECIFICATION DOCUMENT

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| Academic School / Department: | Science, Innovation & Technology |
| Programme: | MSc Applied Computer Science (Conversion) MSc Artificial Intelligence |
| FHEQ Level: | 7 |
| Course Title: | Research Methods for Computing |
| Course Code: | COMP 7100 |
| Total Hours: | 100 |
| Timetabled Hours: | 26 |
| Guided Learning Hours | 4 |
| Independent Learning Hours: | 70 |
| Credit | 10 UK CATS credits 5 ECTS credits 2 US credits |

Course Description:

This course introduces students to the principles, methodologies and analytical techniques used in computing research. It provides an understanding of how knowledge is generated, evaluated and communicated within the discipline, with emphasis on research design, data collection, data analysis and academic writing.

Students learn to critically interpret research literature, formulate research questions, select appropriate methodological approaches, and reflect on ethical and professional considerations relevant to computing research. The course prepares students for project-based work and professional inquiry by developing core skills required to conduct and evaluate research in academic and applied contexts.

Prerequisites:

None.

Aims and Objectives:

- Introduce a range of research approaches and methodologies used within computing.
- Develop the ability to search, evaluate and synthesise academic literature.
- Enable students to formulate research questions and select suitable methodological frameworks.
- Provide experience in data collection, data analysis and interpretation.
- Foster academic writing, referencing, communication and critical reflection skills.

- Prepare students for project work, industry research tasks and further postgraduate study.

Programme Outcomes:

A2, A3, B1, B4, B5, C5, D1, D4

A detailed list of the programme outcomes are found in the Programme Specification. This is located at the archive maintained by Registry and found at:

<https://www.richmond.ac.uk/programme-and-course-specifications/>

Learning Outcomes:

1. On successful completion of the course, students will be able to:
Critically evaluate research literature, methodologies and evidence within the field of computing. (A2, A3, B4)
2. Formulate coherent and justifiable research questions, selecting appropriate methodological approaches for investigation. (B4, B5)
3. Apply appropriate methods of data collection and analysis, demonstrating understanding of their suitability and limitations. (B1)
4. Construct well-structured academic or professional reports, communicating research processes and findings clearly and accurately. (D1)
5. Reflect critically on ethical, professional and methodological considerations in the design and execution of research. (C5, D4)

Indicative Content:

- Nature and purpose of research in computing
- Research paradigms: qualitative, quantitative, mixed methods
- Literature searching, reading and critical evaluation
- Research ethics, consent, confidentiality and responsible practice
- Formulating research aims, objectives and questions
- Data collection techniques: interviews, surveys, observation, experiments
- Data analysis: coding, statistical analysis, interpretation
- Academic writing style, structure and referencing
- Research proposal development
- Communicating research to technical and non-technical audiences

Assessment:

This course conforms to the Richmond University Standard Assessment Norms approved at Academic Board and are located at <https://www.richmond.ac.uk/university-policies/>

Teaching Methodology:

Teaching includes lectures, seminars, guided learning, critical reading exercises and practical activities in research design and data analysis. Students receive formative feedback on written work, research planning and critical evaluations. Independent study is required to engage with research literature, develop research ideas and practise analysis techniques.

Indicative Text(s):

- Gray, D. (2025). *Doing Research in the Real World*. 6th edn. London: Sage Publications.
- Lazar, J., Feng, J.H. and Hochheiser, H. (2017). *Research methods in human-computer interaction*. Oxford: Elsevier.
- Muratovski, G., Quint, E. and Davis, M.J. (2025). *Research for designers: a guide to methods and practice*. Third edition. London: Sage Publications Ltd.

See syllabus for complete reading list.

Change Log for this CSD:

| Nature of Change | Date Approved & Approval Body (School or AB) | Change Actioned by Registry Services |
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| Guided Learning Hours menu updated | October 2025 | |
| Total Hours Updated | October 2025 | |
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