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|------------------------|-----------------------------------------|
| Module code: MOD002695 | Version: 4    Date Amended: 13/Jul/2022 |
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| <b>1. Module Title</b> |
| Research Methods       |

|                          |
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| <b>2a. Module Leader</b> |
| Jin Zhang                |

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| <b>2b. School</b>                            |
| School of Computing and Information Sciences |

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| <b>2c. Faculty</b>                 |
| Faculty of Science and Engineering |

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| <b>3a. Level</b> |
| 7                |

|                        |
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| <b>3b. Module Type</b> |
| Standard (fine graded) |

|                    |
|--------------------|
| <b>4a. Credits</b> |
| 15                 |

|                        |
|------------------------|
| <b>4b. Study Hours</b> |
| 150                    |

| <b>5. Restrictions</b>                             |             |             |           |
|----------------------------------------------------|-------------|-------------|-----------|
| Type                                               | Module Code | Module Name | Condition |
| Pre-requisites:                                    | None        |             |           |
| Co-requisites:                                     | None        |             |           |
| Exclusions:                                        | None        |             |           |
| <b>Courses to which this module is restricted:</b> | None        |             |           |

## LEARNING, TEACHING AND ASSESSMENT INFORMATION

### 6a. Module Description

This module helps to prepare a postgraduate student for undertaking research. Its purpose is twofold: to introduce students to the discipline of research and, at the same time, to help lay the essential foundations for a dissertation of MSc quality. Student interests, time constraints and other practical considerations usually set, and limit, the topic, the research approach and study, and the selection of suitable method(s) appropriate for a MSc dissertation. The module therefore includes: - a consideration of research design issues; - an introduction to research skills; - an evaluation of alternative research methods. A programme of lectures, discussions, seminars and workshops supports the module. Topics covered include, for example, research planning and design, alternative research methods, productive use of the Internet, research analysis and effective time management. During the module the student will define an area of study that could or will form the basis of their research project. The student will be expected to undertake an appropriate and critical review of the available literature and other information germane to the proposed project. If a laboratory-based project is envisaged the student will need to give due consideration to the instrumentation required, provide experimental design criteria, at least for the initial stages of the proposed work, and also take account of all health and safety regulations (including COSHH) and appropriate ethical considerations. If necessary, the student will need to prepare a formal application for ethical approval of their work. Students should be aware that failure to present in their report, as an appendix or otherwise, all necessary health and safety information (e.g. risk assessments of laboratory work) and/or consideration of ethical implications when these are required by law and/or University Regulations will result in failure of the module.

### 6b. Outline Content

Understanding research and the research process  
Research design and alternative approaches to research  
Choosing a suitable dissertation topic  
Preparing a research proposal  
Methods of data collection and appropriate methods of data analysis  
Presenting the results  
Ethical considerations in research

### 6c. Key Texts/Literature

The reading list to support this module is available at: <https://readinglists.aru.ac.uk/>

### 6d. Specialist Learning Resources

These will vary according to negotiated topic of study and indicative resources will be identified during the design phase.

| 7. Learning Outcomes (threshold standards) |                                                             |                                                                                                                                                                                     |
|--------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No.                                        | Type                                                        | On successful completion of this module the student will be expected to be able to:                                                                                                 |
| 1                                          | Knowledge and Understanding                                 | Plan and document work in accordance with all best-practice requirements                                                                                                            |
| 2                                          | Knowledge and Understanding                                 | Critically evaluate complex issues from a variety of viewpoints and rigorously apply appropriate methodologies, techniques and practical strategies; being sensitive to the context |
| 3                                          | Intellectual, practical, affective and transferrable skills | Devise an effective and practical research proposal for their dissertation                                                                                                          |
| 4                                          | Intellectual, practical, affective and transferrable skills | Demonstrate originality in the solution of identified practical problems                                                                                                            |

| 8a. Module Occurrence to which this MDF Refers |            |                                             |          |                  |
|------------------------------------------------|------------|---------------------------------------------|----------|------------------|
| Year                                           | Occurrence | Period                                      | Location | Mode of Delivery |
| 2025/6                                         | ZZF        | Template For Face To Face Learning Delivery |          | Face to Face     |

| 8b. Learning Activities for the above Module Occurrence |       |                   |                                                   |
|---------------------------------------------------------|-------|-------------------|---------------------------------------------------|
| Learning Activities                                     | Hours | Learning Outcomes | Details of Duration, frequency and other comments |
| Lectures                                                | 12    | All               | 24 hours lectures and teacher managed learning    |
| Other teacher managed learning                          | 12    | All               | 24 hours lectures and teacher managed learning    |
| Student managed learning                                | 126   | All               | Student managed learning                          |
| TOTAL:                                                  | 150   |                   |                                                   |

| 9. Assessment for the above Module Occurrence |                   |                   |               |                         |                     |
|-----------------------------------------------|-------------------|-------------------|---------------|-------------------------|---------------------|
| Assessment No.                                | Assessment Method | Learning Outcomes | Weighting (%) | Fine Grade or Pass/Fail | Qualifying Mark (%) |
| 010                                           | Coursework        | 1-4               | 100 (%)       | Fine Grade              | 30 (%)              |
| 3000 word Report                              |                   |                   |               |                         |                     |

| Assessment components for Element 010 |                        |                                                   |               |                                         |
|---------------------------------------|------------------------|---------------------------------------------------|---------------|-----------------------------------------|
| Component No.                         | Assessment Title       | Submission Method                                 | Weighting (%) | Components needed for Mark Calculation? |
| 010/1                                 | In class test (1 hour) | Scheduled Activity:<br>Timetabled assessment task | 20 (%)        | All                                     |
| 010/2                                 | Research proposal      | Canvas                                            | 80 (%)        |                                         |

**In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7\*).**

**In addition, students are required to:**

- (a) achieve the qualifying mark for each element of fine graded assessment as specified above**
- (b) pass any pass/fail elements**

**[\* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]**