



FOAR705

Digital Research Methods for Humanities, Arts and Social Sciences

S2 Day 2018

Dept of Modern History, Politics & International Relations

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General Information

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Credit points

4

Prerequisites

Admission to MRes

Corequisites

Co-badged status

Unit description

This unit explores cross-disciplinary approaches to research that fall under the rubric of eResearch, the aim of which is to use technology to solve scholarly problems in humanities, arts and social science disciplines. We will begin by asking what forms eResearch can take, specifically how digital approaches can help answer particular research questions. Students will learn how to frame questions, find appropriate tools and solutions, acquire the knowledge required to deploy those solutions and present results in an accessible way. In short, students will cultivate their ability to 'learn how to learn' digital approaches and software tools. The main output of this class is a proof-of-concept deployment of a digital tool or approach that advances each student's provisional thesis topic. Topics covered include:

- Defining eResearch, knowledge infrastructure, data and related concepts
- Overview of major approaches and tools
- Framing questions
- Selecting appropriate approaches
- Finding and learning appropriate tools
- Managing data
- Project management
- Digital presentation and visualisation
- Digital publication and data sharing

This unit includes approaches used by or useful for research in many disciplines. Students are encouraged to bring their own disciplinary perspectives to the course and will explore how their own research can benefit from digital methods.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

On successful completion of this unit, you will be able to:

Identify useful digital tools and approaches and apply them to your research, specifically your MRES thesis.

Imagine, scope, and implement new approaches to your research in collaboration with technologists.

Acquire core technological skills needed to produce transparent and reproducible research.

Learn how to discover and learn new digital tools.

Explain, orally and in writing, a technical subject to a non-technical audience, developing the ability to translate between the domains of humanists and technologists in the process.

General Assessment Information

Unit Requirements and Expectations

You are all HDR students undertaking an MRes-level postgraduate seminar at a research university with an international reputation. As such, we expect a high level of commitment,

diligence, and engagement.

Students must achieve an overall mark of 50% or above to complete this unit satisfactorily. A mark of less than 70, however, represents cause for serious concern in an HDR program.

Assignment submission

All written work will be submitted digitally, using a platform we will determine early in the unit (probably not iLearn). Feedback will be provided using the same platform.

Please ensure that others can understand and contextualise your assessment submissions (e.g., who you are, what issue you are addressing, what you are arguing).

Extensions

All weekly work is due for assessment by your peers by noon the day before seminar. The peer assessment is due by the seminar.

Likewise, the eResearch proof-of-concept major project, SoftwareX article, and prepared Pico presentation, are due by noon the day before the final presentation (to be scheduled during week 13 instead of the seminar).

Please avoid asking for extensions as missing deadlines complicates the work of markers and puts you behind. If you have to ask for an extension, please request it before the deadline, and only request the extension if you face serious crises that can be documented in some way (e.g. with a medical certificate). 'Getting behind with your work', 'I ran out of time' or 'the computer lost my work' are not excuses.

Extensions can only be granted in exceptional cases and may only be sought in consultation with the unit convenor and with support of documentary evidence. If you anticipate any difficulty in meeting assigned due dates then it is important that you contact the course's convenor as early as possible.

Unless a Special Consideration request has been submitted and approved, (a) a penalty for lateness will apply – two (2) marks out of 100 will be deducted per day for assignments submitted after the due date – and (b) no assignment will be accepted more than seven (7) days (incl. weekends) after the original submission deadline. No late submissions will be accepted for timed assessments – e.g. quizzes, online tests."Written assessment tasks submitted without proper referencing, i.e. little or no page numbers or no bibliography will receive an automatic fail.

Marking Rubric

All assessments will have posted rubrics.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>eResearch Proof-of-concept</u>	30%	No	Week 11
<u>Journal Article</u>	30%	No	Sunday before Week 12

Name	Weighting	Hurdle	Due
Pico Presentation	10%	No	Week 13
Software Development Journal	30%	No	Weekly

eResearch Proof-of-concept

Due: **Week 11**

Weighting: **30%**

Your principal task for the semester is to develop and document a minimum viable prototype of one "analytical pipeline" in support of your MRes research question.

Find one or more appropriate open source software tools that contribute to your research. These tools and your usage of them must promote transparent and reproducible research. With these tools, develop a "analytical pipeline" to accomplish an agreed upon research goal. This agreed goal will include explicit milestones.

Note that simply using software to manipulate digital objects (i.e., using office productivity, image / video editing, or other consumer software in an ad hoc manner) is insufficient for this task. You must develop an approach that enhances or transforms your research - and be able to explain how it does so.

The assessible output of this task is:

A functioning research pipeline, built from existing software tools, that an independent party can run marked on the basis of how many previously agreed milestones the analytic pipeline has met.

The rest of the unit supports this assessment.

Code due by noon the day before the seminar in Week 11. Demo in seminar.

On successful completion you will be able to:

- Imagine, scope, and implement new approaches to your research in collaboration with technologists.
- Acquire core technological skills needed to produce transparent and reproducible research.

Journal Article

Due: **Sunday before Week 12**

Weighting: **30%**

Using the TeX SoftwareX article template, write an article appropriate for journal submission detailing your analytic pipeline.

You will be marked against the [SoftwareX reviewer criteria](#).

On successful completion you will be able to:

- Identify useful digital tools and approaches and apply them to your research, specifically your MRES thesis.
- Acquire core technological skills needed to produce transparent and reproducible research.
- Explain, orally and in writing, a technical subject to a non-technical audience, developing the ability to translate between the domains of humanists and technologists in the process.

Pico Presentation

Due: **Week 13**

Weighting: **10%**

Based on your pipeline and the SoftwareX article, you will use the EGU Conference [pico presentation template](#) to pitch your analytic pipeline to the Faculty of Arts.

This presentation will be assessed by presentation attendees using a rubric.

On successful completion you will be able to:

- Acquire core technological skills needed to produce transparent and reproducible research.
- Explain, orally and in writing, a technical subject to a non-technical audience, developing the ability to translate between the domains of humanists and technologists in the process.

Software Development Journal

Due: **Weekly**

Weighting: **30%**

Every week, you will be given research tasks (like independent completion of a Software Carpentry module or direct work on their analytic pipeline.) These tasks will take you at least 6 hours per week of independent study. The journal should document your progress through these research tasks. A template for this journal will be provided. The intention of this journal is to document your learning so that a year from this class, you can use the journal to re-establish your knowledge. Your peers will mark each week against a rubric.

On successful completion you will be able to:

- Identify useful digital tools and approaches and apply them to your research, specifically your MRES thesis.
- Imagine, scope, and implement new approaches to your research in collaboration with

technologists.

- Acquire core technological skills needed to produce transparent and reproducible research.
- Learn how to discover and learn new digital tools.

Delivery and Resources

Unit structure

Each weekly seminar will have dedicated time to review and discuss your Software Development Journal working through most problems. Seminars may also have a mini-lecture or workshop.

Unit Guide

Students should check the Unit Guide for deadlines and instructions. The best way to start on a path to success is to read and understand it. Once you have read this Unit Guide, please email us a picture of a dinosaur.

Unit Schedule

Week 1

- Establish research question parameters.
- Explore structure and expectations of class.
- Begin software carpentry independent study.
- Walkthrough of the software development journal.

Week 3

- Feedback on software development journal and feedback on peer marks from instructors.

Week 5

- Pipeline scoping complete
- Students will have a written and agreed upon research goal with instructors.

Week 7

- Pipeline "health check"
- Discuss SoftwareX, Pico presentation, and Pipeline parameters

Week 9

- Demonstration of research Pipeline
- Preliminary writing towards SoftwareX
- Start practice Pico presentation.

Week 10

- Discuss draft SoftwareX article.
- Practice Pico presentation.

Week 11

- Pipeline complete with full pipeline demo
- Practice Pico presentation.

Week 12

- More presentation practice
- SoftwareX article due Sunday midnight after class.

Week 13

- Pico presentations for a public audience

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Undergraduate students seeking more policy resources can visit the [Student Policy Gateway \(https://students.mq.edu.au/support/study/student-policy-gateway\)](https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/student-conduct>

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit ask.mq.edu.au.

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and

decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

Learning outcomes

- Imagine, scope, and implement new approaches to your research in collaboration with technologists.
- Acquire core technological skills needed to produce transparent and reproducible research.
- Learn how to discover and learn new digital tools.

Assessment tasks

- eResearch Proof-of-concept
- Journal Article
- Pico Presentation
- Software Development Journal

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcomes

- Identify useful digital tools and approaches and apply them to your research, specifically your MRES thesis.
- Imagine, scope, and implement new approaches to your research in collaboration with technologists.
- Explain, orally and in writing, a technical subject to a non-technical audience, developing the ability to translate between the domains of humanists and technologists in the process.

Assessment tasks

- eResearch Proof-of-concept
- Journal Article
- Pico Presentation
- Software Development Journal

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience,

of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

Learning outcomes

- Identify useful digital tools and approaches and apply them to your research, specifically your MRES thesis.
- Imagine, scope, and implement new approaches to your research in collaboration with technologists.
- Learn how to discover and learn new digital tools.

Assessment tasks

- eResearch Proof-of-concept
- Journal Article
- Software Development Journal

PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

Learning outcomes

- Identify useful digital tools and approaches and apply them to your research, specifically your MRES thesis.
- Imagine, scope, and implement new approaches to your research in collaboration with technologists.
- Acquire core technological skills needed to produce transparent and reproducible research.
- Learn how to discover and learn new digital tools.

Assessment tasks

- eResearch Proof-of-concept
- Journal Article
- Pico Presentation
- Software Development Journal

PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcome

- Explain, orally and in writing, a technical subject to a non-technical audience, developing the ability to translate between the domains of humanists and technologists in the process.

Assessment tasks

- Journal Article
- Pico Presentation

PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

Learning outcome

- Acquire core technological skills needed to produce transparent and reproducible research.

Assessment tasks

- eResearch Proof-of-concept
- Journal Article
- Pico Presentation
- Software Development Journal

Changes from Previous Offering

This unit has been fully revised from the previous offering.

- Refocused from Digital Humanities to HASS research methods.
- Clear requirement for technical deliverables

- Documentation of technical deliverables via SoftwareX style article
- Clarification of weekly journal activity
- Marking Rubrics for all assessments

Getting technical help

In this unit, we are asking you to 'learn how to discover and learn' digital tools. As such, many of your weekly 'IT implementation' assignments will come with few or no instructions *from us*. Rest assured, however, that *instructions and help are available*.

With that in mind, do not contact us with technical questions until you have completed - and documented - the following process:

1. Avail yourself all help provided of the creators of the tool or technology.
2. Search online (including the Stack Exchange Network, YouTube, etc.)
3. Ask your classmates.

If you are still unsuccessful after going through this process, then you should:

1. *Replicate* the error or failure (don't just try once!).
2. Document *exactly* where and how your implementation failed, including any errors, in your 'reflection'.

We will review failures and errors before class, and either contact you or (more likely) walk you through the problem in class.