

FOAR705 Digital Humanities

S2 Day 2019

Dept of Modern History, Politics & International Relations

Contents

General Information	2
Learning Outcomes	3
General Assessment Information	3
Assessment Tasks	4
Delivery and Resources	6
Unit Schedule	7
Policies and Procedures	10
Graduate Capabilities	12
Changes from Previous Offering	15

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General Information

Unit convenor and teaching staff Convenor Brian Ballsun-Stanton brian.ballsun-stanton@mg.edu.au
Contact via email
Friday 12:45-1:45pm (AHH Level 2 lobby) and 4:15-5:15pm, campus hub (before and after seminar)
Convenor Shawn Ross <u>shawn.ross@mq.edu.au</u> Contact via email Friday 12:45-1:45pm (AHH Level 2 lobby) and 4:15-5:15pm, campus hub (before and after seminar)
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:

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

Recognise the environment of research transparency and research ethics.

Identify existing digital tools and approaches and apply them to your research.

Design and develop a digital tool to support your masters 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.

General Assessment Information Late Assessment Penalty

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.

Unit Requirements and Expectations

You are 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.

Extensions

Extensions will only be granted via the 'Special Consideration' process (see below), and only for bona fide emergencies, illnesses, etc. Please avoid asking for extensions as missing deadlines complicates the work of markers and puts you behind.

Marking Rubric

All assessments will have rubrics posted to iLearn.

Assessment Tasks

Name	Weighting	Hurdle	Due
Technology deployment	40%	No	Week 12
Original Software Publication	30%	No	Week 13
Lightning talk	10%	No	Week 13
Learning journal	20%	No	Weekly

Technology deployment

Due: Week 12 Weighting: 40%

Your principal task for the semester is to develop and document a proof-of-concept (POC) technology deployment that supports of your MRes research (likely an 'analytical pipeline' of some sort, involving some combination of existing open-source tools and some custom scripting).

Your POC must promote transparent and reproducible research. 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 and documented analytical pipeline (or similar) that an independent party can use.

Code with documentation due by the end of Week 12, with regular milestones earlier in the

semester beginning in Week 2).

On successful completion you will be able to:

- Acquire core technological skills needed to produce transparent and reproducible research.
- Recognise the environment of research transparency and research ethics.
- Identify existing digital tools and approaches and apply them to your research.
- Design and develop a digital tool to support your masters research.

Original Software Publication

Due: Week 13

Weighting: 30%

You will write an 'Original Software Publication' (OSP) article appropriate for a software journal detailing your analytic pipeline using the TeX SoftwareX article template provided. As per the template, the OSP will include:

- · Motivation and significance
- Software description
- Illustrative examples
- Impact
- Conclusions
- · Software metadata and link to code repository

The OSP will be marked against a rubric based on the SoftwareX reviewer criteria.

On successful completion you will be able to:

- Recognise the environment of research transparency and research ethics.
- Identify existing digital tools and approaches and apply them to your 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.

Lightning talk

Due: Week 13 Weighting: 10%

Based on your pipeline and the SoftwareX article, you will use the EGU Conference <u>pico</u> <u>presentation template</u> implemented in <u>TeX</u>, to pitch your analytic pipeline to the Faculty of Arts.

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

On successful completion you will be able to:

 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.

Learning journal

Due: Weekly

Weighting: 20%

Most weeks, you will undertake tasks of two kinds of technology tasks:

- 1. Data Carpentry for Social Sciences
- 2. Work on your proof-of-concept technology deployment

These tasks will take you at least 6 hours per week of independent study outside of seminar.

Your learning journal should document your progress through both types of tasks. A template and detailed instructions for this journal will be provided. The intention of this journal is for you to document your learning so that a year from now, you can use the journal to re-establish your knowledge.

On successful completion you will be able to:

- Acquire core technological skills needed to produce transparent and reproducible research.
- Recognise the environment of research transparency and research ethics.
- Identify existing digital tools and approaches and apply them to your research.

Delivery and Resources

Technology can help solve scholarly problems in humanities, arts, and social science disciplines. This unit teaches the fundamentals of digital literacies for qualitative and quantitative research and explores approaches to digital scholarship. The main output of this unit is a proof-of-concept deployment of a digital tool or approach that advances each student's provisional thesis topic, along with the appropriate documentation.

We will begin by examining why researchers might employ digital approaches to improve research quality. Then we introduce approaches to research design, data, analysis, and scholarly communication. Showcases will also explore the forms digital scholarship takes in different disciplines and how it can be used to help answer particular research questions. Students will learn how to design and manage a research project, find appropriate tools and solutions, acquire the knowledge required to deploy those solutions, and present results in an accessible way.

Students will develop technological literacy and confidence, up to and including coding in R (a statistical scripting language) and Linux shell, using <u>Data Carpentry</u>. Students will also cultivate

their ability to 'learn how to learn' digital approaches and software tools. This unit includes approaches useful for research across 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.

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

Unit Schedule

A typical week will be divided into three activities. Occasionally class will be organised differently, with activities expanded or eliminated.

Digital fundamentals (60 minutes)

The teaching of fundamental digital literacies uses the proven pedagogy of Data Carpentry for the Social Sciences, which will teach appropriate use of spreadsheets and data cleaning tools (OpenRefine). It will also demystify 'coding' by introducing students to the command line (Linux shell) and a statistical programming language (R). Understanding these basics of programming is essential to becoming a producer rather than just a consumer of technology.

Digital scholarship in HASS (30-60 minutes)

Digital scholarship aims to familiarise students with research design and management, research data, analysis, and scholarly communication. It will also introduce tools and approaches relevant to various disciplines. Topics include: research design, project management, data discovery (locating existing research datasets), data acquisition (generating new data), data management (collaboration, processing, and analysis), data archiving and dissemination (curating and publishing data), qualitative and quantitative analysis, 'traditional' and 'alternative' scholarly communication, and critical approaches to technology.

Showcase (30 minutes)

Most weeks will also include a showcase where staff from the faculty present technological aspects of their own research. Topics may include: surveys, web-scraping, analysis of social media, gamification and game design, geospatial analysis, statistical analysis, text analysis, network analysis, or use of social media for scholarly communication.

Preliminary schedule (may be revised or updated - see iLearn for the most recent version)

Week	Digital fundamentals	Digital	Showcase	Assignments
		scholarship		

1	Introduction to Data Carpentry	Introduction to the	e unit	Read:
2 Aug	Motivations: why Data Carpentry? Initial Set-up <u>https://datacarpentry.org/socials</u> <u>ci-workshop/</u>	Introduction to the unit 'Program or be programmed' - consuming vs. producing technology Why digital scholarship? Thinking about information infrastructures 'Reproducibility', transparency, and verification in HASS (FAIR data; TOP guidelines) Ethics and regulation Efficiency and scalability Collaboration set-up Github, Slack, Cloudstor, Overleaf How do Learning Journals work		https://impossibleh g.com/an-unexpecte d-ass-kicking/
2 9 Aug	Spreadsheets for Social Sciences https://datacarpentry.org/spread sheets-socialsci/ Introduction, Formatting Data Tables, Formatting Problems	Research design Importance of research design Inductive, deductive, abductive research Idiographic, nomothetic research Research design and statistical approaches Project management 'Agile' PM Scoping & analysis Technical elaboration Iterative development (fail often and early)		Initial Scoping Exercise due (Using LaTeX to produce the document)
3 16 Aug	Spreadsheets for Social Sciences https://datacarpentry.org/spread sheets-socialsci/ Dates as data, Quality assurance, Exporting data (Remainder of lesson to be completed as self-work)	Data in HASS What is 'data' in HASS? The data lifecycle Data management planning Security basics		Updated Scoping exercise due (Using LaTeX to produce the document)
4 23 Aug	Software Carpentry: Shell http://swcarpentry.github.io/shelll-novice/ Introduction, Navigating Files and Directories, Working with Files	Data in HASS Data acquisition Locating legacy data Acquiring new data Useful tools	FAIMS Data acquisition in HASS disciplines (Shawn Ross)	Elaboration plan due (Using LaTeX to produce the document) Spreadsheets Learning Journal (with all exercises complete) Due

5 30 Aug 6	Software Carpentry: Shell <u>http://swcarpentry.github.io/shell-nc</u> Pipes and Filters, Loops (Remainder completed as self-work) Data Cleaning with OpenRefine <u>https://datacarpentry.org/openref</u>	<u>vvice/</u> er of lesson to be Data in HASS Data archiving Data	Data in HASS 'Active' data management and collaboration Useful tools Showcase TBD	TBD Elaboration results due (Using LaTeX to
Sep	Introduction, Working with Open Refine, Filtering and Sorting	dissemination		document) Shell Scripts learning Journal due (with all exercises)
7 13 Sep	Data Cleaning with OpenRefine <u>https://datacarpentry.org/openref</u> <u>ine-socialsci/</u> Examining Numbers, Using Scripts, Exporting (Remainder of lesson to be completed as self- work)	Analysis in HASS Qualitative analysis Useful tools	Showcase TBD	Proof of concept design due (Using LaTeX to produce the document)
8 4 Oct	R for Social Scientists https://datacarpentry.org/r-socialsci/ Before we start	Analysis in HASS Quantitative/ Qualitative analysis Useful tools	Unknown staff presentation	Open Refine learning Journal due (with all exercises)
9 11 Oct	R for Social Scientists https://datacarpentry.org/r-socialsci/ Introduction to R	Analysis in HASS GitHub and code dissemination Cloud computing HPC HASS VLs: Tinker; Alveo	Showcase TBD	Proof of concept demonstration

10 18 Oct	R for Social Scientists https://datacarpentry.org/r-socialsci/ Introduction to R	Scholarly communication Digital aspects of 'Traditional' outputs Data papers Software papers Useful tools (reference management; typsetting software)	Unknown staff presentation	Lightning talk v1.0
11 25 Oct	R for Social Scientists https://datacarpentry.org/r-socialsci/ Starting with Data		Introduction to methods101, a resource for HASS computational methods and statistics. (The what's next after the carpentries problem) Nick Harrigan Hang Young	Proof of concept linking component demonstration
12 1 Nov	Critical digital humanities Lightning talk v2.0 (Jessica McClean) Lightning talk v2.0			
13 8 Nov	R for Social Scientists <u>https://datacarpentry.org/r-social</u> <u>sci/</u> Introducing dplyr and tidyr	Practice lightning ta	lks	Minimum Viable Product for Proof of Concept due Software Paper due by end of week (Using LaTeX to produce the document) R Learning Journal Due (up to dplyr and tidyr)
After semester: FOAR705 showcase (Lightning talks and discussion)				

Policies and Procedures

Macquarie University policies and procedures are accessible from <u>Policy Central (https://staff.m</u> <u>q.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-centr</u> <u>al</u>). 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
- <u>Special Consideration Policy</u> (*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 <u>Student Policy Gateway</u> (<u>htt</u> <u>ps://students.mq.edu.au/support/study/student-policy-gateway</u>)</u>. 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 (http s://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/p olicy-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 published on platform other than <u>eStudent</u>, (eg. iLearn, Coursera etc.) 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 <u>eStudent</u>. For more information visit <u>ask.mq.edu.au</u> or if you are a Global MBA student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit <u>http://stu</u> dents.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

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

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

When using the University's IT, you must adhere to the <u>Acceptable Use of IT Resources Policy</u>. 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

- Recognise the environment of research transparency and research ethics.
- · Identify existing digital tools and approaches and apply them to your research.
- Design and develop a digital tool to support your masters research.

Assessment tasks

- Technology deployment
- Original Software Publication
- Learning 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

- Acquire core technological skills needed to produce transparent and reproducible research.
- Design and develop a digital tool to support your masters 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.

Assessment tasks

- Technology deployment
- Original Software Publication
- Lightning talk
- Learning 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 existing digital tools and approaches and apply them to your research.
- Design and develop a digital tool to support your masters 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.

Assessment tasks

- Technology deployment
- Original Software Publication
- Lightning talk
- · Learning 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

- Acquire core technological skills needed to produce transparent and reproducible research.
- Design and develop a digital tool to support your masters 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.

Assessment tasks

- Technology deployment
- Original Software Publication
- Lightning talk
- Learning 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

- Original Software Publication
- Lightning talk

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

• Recognise the environment of research transparency and research ethics.

Assessment tasks

- Technology deployment
- Original Software Publication
- Learning journal

Changes from Previous Offering

- Addition of Original Software Paper
- Revised rubrics
- · Addition of Data Carpentry for Social Sciences
- Addition of showcases
- · Revision of Unit Guides and iLearn site