

Intro to Digital Archaeology

Department of History

Carleton University

Fall 2026



course info

- HIST 3000a, crosslisted as CLCV 3000a and DIGH 3700b
- Mondays, 11.35 - 2.25
- Dr. Shawn M. Graham
- Student coffee chats Wednesday mornings
- shawn.graham@carleton.ca
- Course website: <https://shawngraham.github.io/hist3000-f26/>

In case of disagreement between the pdf version and the live version of the course syllabus, the live version shall be taken as correct.

Once the excavation is over, what happens to the information created through archaeological research? What about archaeology that does not involve digging? How do archaeologists use digital technologies on site, in the lab, or on the web? This course explores the intersection of digital technologies and computing with archaeology. We will explore the ways theory gets embedded into computation; perhaps there is even a theory of digital archaeology? We will explore how digital technologies allow us to ask questions that would otherwise be impossible to ask. We will take a look at a variety of archaeological statistics. We will also look into the ways that computational creativity in archaeology allow for novel engagements with the past, from archaeogaming to 3d printing, thus moving us into a digital public archaeology.

We will be going over to the [Billings Estate National Historic Site](#) on a few occasions to practice digital data collection related to mortuary archaeology, and to practice seeing-like-an-archaeologist. We will be using digital recording devices when we're there (including 3d scanning of objects and of the environment with LIDAR). Other times, we might use the resources of the [XLab \(Cultural Heritage Informatics Collaboratory\)](#).

You all have different starting points; for you to understand your process and growth is what I am after. See the [assessment](#) page. Also, the [schedule](#) page has details on what's happening when (notice also that the individual weeks are listed in the navigation bar at left under 'schedule'. Make sure to scroll!)

This is a 0.5 credit in-person course @ Carleton University in the Fall 2026 semester, with Professor Shawn M. Graham.

Students are not required to purchase textbooks or other learning materials for this course.



What Is Digital Archaeology?

I'm glad you asked that. I'm not altogether sure.

You're going to need to get comfortable with seeking out good questions rather than finding the *right* answer.

Archaeologists have been using computers to help ask and answer archaeological questions for almost as long as computers have been around. In fact, I can identify what might be called a computational-frame-of-mind in archaeological writing that *predates* the emergence of the digital computer. I like to make a distinction though between 'computational' and 'digital' archaeology. In the former, the computer is a mere tool that permits us to do our archaeological work faster, and more efficient (where efficiency = more: more data, more sites, faster results, etc). In the latter, we also consider what the fact of computation (processing) or digitization (rendering something analog into digital format) *does* to us ourselves. A digital archaeology is a *reflexive* archaeological practice that also has something to say to the world beyond the discipline.

Note carefully the title of this course, eh? How might this all play out? The first thing you should do is set yourself a reminder:

When I read something in this class, determine: is this 'computational' archaeology or is this 'digital'?

...and then reflect on the consequences.



Consequences of That Distinction

If our use of digital tools is merely computational, then there is going to be most often just one 'right' answer. But if our use of digital tools is reflexive, then there are going to be many answers. Either way, *documenting your process* is a major part of the intellectual work of this class. Thus, the way this class operates, my philosophy of teaching, and the nature of the assessment exercises all flow from that distinction. Ask yourself: am I ok with being 'wrong'? Am I ok with talking about my process, and what I'm trying to accomplish?

There are other consequences too. You'll see it in the names of journals. You'll see it in the nature of conferences, and where scholars publish their work. You'll see it in the nature of who gets to publish, who gets cited, and the kinds of work being done. You'll see it in the politics of technology. I want you to be alive to these issues.



My Goal

My goal here is to teach you to use certain digital techs; to unpack and interrogate those techs you learn to use; and to equip you to use these things in a reflective manner. It's about archaeology using computation; but also, looking at computation from an archaeological perspective. It's going to be uncomfortable. There will be things we try here that will not work. The way things break is as important as the way things work. Through broken things, and through breaking things, we learn how the world can be imagined.



Archaeology is World Building

Set some time aside and listen to Dr. Colleen Morgan:
<https://vimeo.com/938814632?fl=pl&fe=cm>

Is this computational archaeology? Or is this digital archaeology? And how does this intersect with your training in history/classics/digital humanities to date? These are things I want to talk about.



Teaching for Uncoverage

As a general philosophy of learning, I do not aim for 'coverage'. What good would it do you for me to 'cover' all of the possible things that digital archaeology might entail? It would always be dishonest: no one can 'cover' everything. 'Coverage' implies concealing, too, now that I think of it...

Rather, I am trying to help you learn the skills that you will need to uncover whatever aspect of method and thought that will help you with your research goals. A big part of that is trying to teach how to deal with what might feel like 'failure', on first blush. I want you to swing for the bleachers, and not to be afraid of whiffing on the ball. After all, to mix sporting metaphors, you're here for ice-time, not the Stanley Cup.

On another note, this course originally was intended to be a kind of hybrid course, blending face to face work in the classroom with resources and digital tools. Then it moved online, asynchronously for a number of years. The last time I did that (Fall 2025), I was disappointed with how many people were unwilling to try to learn and who submitted AI-sloppified 'personal' reflections. WTF. It was deeply disappointing.

If you go to the gym, and a machine lifts the weights for you, you look a bit of a dork if you then turn around and say, 'I sure worked out hard!'

If you want your mind to develop, you have to do the hard exercises.



Which Brings Us to ‘AI’

There will be points in this course where it is appropriate to use ‘ai’ as a word calculator or pattern-surfer. There are ways of using machine learning and other related technologies in archaeology that are relatively without controversy; these are not ‘ai’ as currently marketed/hyped. AI, as you’ve encountered it in copilot, chatgpt, claude, or wherever else, promises the ease of thoughts without thinkers, writing without writers. Who does that ultimately benefit, hmm?

If you are ever in doubt about all things AI, *just check with me first*, ok? If - and only if - you clear it with me first, we can put together some guardrails and guidance. There are places where the technology of the LLM can be useful for archaeological research; I [wrote an entire book about it, free for you to download](#). Again, *talk* to me first, ok? You might be surprised at what we could do.

I really would enjoy talking about this with you! But it really sucks that I have to say the following:

It is never appropriate to use such things (ChatGPT, Claude, etc) to ‘speak’ for you.

Writing is thinking. Writing is hard precisely because we don’t know what we’re thinking until we write it down. The difficulty is the point.

If you sloppify your thinking, you’re just wasting your time and ruining your mind [making yourself less capable](#). There are [political reasons why ai-in-lieu of thinking for ourselves is being so heavily pushed in the world](#).

You may not use AI tools to ‘write’ any text submitted to me, without prior documented clearance and planning. I reserve the right to ask you to reproduce or deepen the line of thought in any piece of submitted work *in person* (via oral interview or hand-written document), whereupon grades will be adjusted accordingly.

For clarity, here ‘AI’ = any large language model-powered software stack.



As Lady Gaga Never Sang:

I want your shitty prose, your broken thoughts. **That’s the whole reason I am a professor:** to help you exercise and develop your mind. It’s not about getting something ‘right’ or ‘wrong’. It’s about helping you understand the processes involved and what they do to our ability to see the past and reason in the present. If you go look at the assessment section now, you’ll see how this plays out in practice: what, exactly, will you be expected to do in this course? (Now: if you’ve read this far, send me an email with ‘why? why yes!’ as the subject line, stating that you have in fact read and thought about this page, that you’re ready to start the course, and tell me which week you’re most looking forward to and why. They say that people do not read very much any more; you’re going to read a lot in this class if you’re doing it right.)

(...the thing with the pointing hand? That's called a 'manicule'. I just like them.)

Learning Outcomes

The four points below address your analytical ability, your engagement with methodology, collaboration, argumentation, and professionalization.

- Situate the emergence and evolution of digital archaeology within the historiography of archaeology more broadly (analytical ability, argumentation)
- Implement and contribute to a contemporary archaeology via digital archaeological methods (methodology, collaboration, professionalization)
- Investigate data, artifacts, and primary sources, using the methods/techniques/perspectives of digital archaeology and digital humanities (analytical ability, methodology, collaboration, professionalization)
- Collaboration: digital archaeologists collaborate to troubleshoot or develop technologies, and through collaborative peer learning (modeling open practices to data sharing and reuse), learn to build upon each others' work in a collaborative fashion. (collaboration, professionalization, methodology)

Assessment

You are assessed on three elements:

Element	Weight
Personal Digital Archaeology Project (PDAP)	30%
Consolidation Document x2	20% each
Final Exam	30%

I want you to **explore and experiment**. I want you to push yourself out of your comfort zone, and become comfortable with trying things out. The more weeks you engage in good-faith, the better you will do. The grading is designed to reward experimentation and reflection on what works and what doesn't. Good faith means: your own writing **warts-and-all**. Machine-generated text is not good faith.

Digital archaeology is a social practice. We work together, we help each other, and we learn to ask for help: no heroic lone scholars here!

Personal Digital Archaeology Project

In the same way that there are Roman archaeologists, Greek archaeologists, Palaeolithic archaeologists, Historic archaeologists, Maya archaeologists and so on, there are *contemporary* archaeologists. These are folks who look at the materials surrounding us in the here and now, and deploy archaeological methods and theories for understanding what they're seeing. I'm one myself (given my work on the human remains trade, and the archaeology of the International

Space Station, and of Mt. Everest). PDAP lets you practice the skills and ideas you learn about digital archaeology on something you've observed around Carleton.

Deadline: End of November. You will submit a link to a **Github repository** containing your materials to me **via email** with the subject line 'PDAP - your_name - ready for viewing'. This repo may if you wish be made private.

What you do

1. define a question of interest *to you*
2. show how you have designed and built a data collection strategy/tool
3. collect data and transform it
4. build a one-page website to communicate your findings
5. document 1,2,3,4 and your choices/issues encountered and associated implications in a **paradata.md** document.
6. complete practice-based exercises to build your skills as you go

Practice-based exercises

These exercises are not about finding the 'right' answer. Your **process** matters more than the outcome. Code breaks, approaches go out of date, things change: this is expected. How you deal with that is what I'm trying to teach you. When something breaks, explain what you expected to happen and what actually happened, and try to understand that space between. Ask for help from me, your peers, or your TAs. You learn more from a broken pot than the one in the museum display case.

There are about **23 exercises**; that number might fluctuate as I see how the class progresses. Some are easy, some are harder. Pick what interests you and give it a whirl. **Everyone comes to digital work with different levels of exposure.** A good-faith effort from someone who already knows Python looks different than for someone who podcasts.

What you submit (weekly compendium, in Github)

You will get your Github repository set up in week 1. You will add user 'shawngraham' as a collaborator (my avatar is a bearded Minion). Add our TAs.

Your practice-based compendium is a subfolder in your Github repository. Each week it must contain:

- **Log.md:** A file documenting **which exercises you tried** and what happened (the literal process and outcomes). This can be bullet-point.
- **Files:** any files you create in the course of trying an exercise

- **Overview.md** an overview note connecting what you tried to the questions raised by what you've read, what I've said in class, and/or other exercises you've tried. Whose code or insights or help did you build on? The overview document can be bullet-point.

Then, working towards your own personal research project:

- in your main PDAP repository, update with any relevant work completed that week. You might find it easiest to keep this as a kind of journal or diary; call it **PDAP-update.md**.

The three elements of the practice based exercises plus your PDAP-update constitute a minimum good-faith effort for a given week.

GOOD-FAITH WEEKS	GRADE	POINTS
12	A	26
11	A-	25
10	B+	23
9	B	22
8	C	19
7	D	16
0-6	F	-

Feel free to use the [checklist](#) document to track your progress.

Consolidation documents (x2)

At the end of each module, you will write a consolidation document during class time by hand, without devices (subject to accommodations).

These documents are opportunities to look back over the previous weeks and work out what you've been learning, where the problems have been, and what this all means for you going forward; you draw on your own experiences/exercises, on the readings, and on the lectures; you make and explore a claim (or claims) about how digital archaeology relates to the broader discipline.

See the relevant week for details on what the different consolidation documents ask for, and guidance for what constitutes a good consolidation.

Final

The final exam takes the form of one last consolidation document, 3 hours. It will in particular ask you about your PDAP.

Schedule

There is a rough parallel between what we do in this course, and the sequence of actions that turns human debris into archaeological knowledge. Roughly, we move from **capturing/creating** data, to **considering/critiquing** both the data and our methods working with and through the information, to **communicating** the data (both to other researchers, and to wider publics). This last one can also include reproduction/replicability of earlier studies, which means that all of this isn't linear, but circular. That circularity carries with it the implication that your *research process*, your notes, your thinking about what you're doing, and all of that messy ephemera, are *also* archaeological data and need to be documented, and fed into the circle.

See <https://shawngraham.github.io/hist3000-f26/schedule.html> for the precise weekly breakdown of readings, lecture themes, and activities.

Real Names Policy

You do not need to use your real name or identity on any public-facing work that you do in this course. Nor do you need to explain to me that you wish to use a pseudonym. It is sufficient that you send an email to me with the following message:

'I would like to use the following username in all public-facing work: xxxxxxxx'

...where xxxxxx is the name you have selected. For safety's sake, if you decide to use a pseudonym, do not use one that you have used on any other website or social media platform.

AI

No generative AI product is to be used in the creation of your research compendium unless vetted by me first. Do not represent any generative AI product's 'writing' as if it was your own.

Caveat: Google colab offers an 'explain code' feature. You may use this without prior permission, but you must indicate in your log for the relevant work why you used it and what it suggested, ie 'I didn't understand why I couldn't load the csv into the notebook, but with LLM review it turned out I'd mixed up the syntax. The proper syntax is....'.

When Life Intervenes

There's nothing we can't roll with, in this class. That said, I can't help you if I don't know you need help, a breathing space, some direction. When something comes up, just let me know. You don't have to share the details with me. It is enough for me to know that something has intervened. I trust you. When something comes up and this course has to move to the backburner, contact me and we can figure out something else to do, or something else that will help you be successful here. It's our course - we can change things up as we need to. Just send me an email and put "something has come up" in the subject line.

Contacting Me

shawn.graham@carleton.ca

Student Coffee Hours: Wednesday Mornings, 9 - 11, Library coffee shop.

REGULATIONS COMMON TO ALL HISTORY COURSES

COPIES OF WRITTEN WORK SUBMITTED

Always retain for yourself a copy of all essays, term papers, written assignments or take-home tests submitted in your courses.

PLAGIARISM

The University Academic Integrity Policy defines plagiarism as “*presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one’s own.*” This includes reproducing or paraphrasing portions of someone else’s published or unpublished material, regardless of the source, and presenting these as one’s own without proper citation or reference to the original source. Examples of sources from which the ideas, expressions of ideas or works of others may be drawn from include but are not limited to: books, articles, papers, literary compositions and phrases, performance compositions, chemical compounds, artworks, laboratory reports, research results, calculations and the results of calculations, diagrams, constructions, computer reports, computer code/software, material on the internet and/or conversations.

Examples of plagiarism include, but are not limited to:

- any submission prepared in whole or in part, by someone else, including the unauthorized use of generative AI tools (e.g., ChatGPT);
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another’s data or research findings without appropriate acknowledgement;
- submitting a computer program developed in whole or in part by someone else, with or without modifications, as one’s own; and
- failing to acknowledge sources through the use of proper citations when using another’s work and/or failing to use quotations marks.

Plagiarism is a serious offence that cannot be resolved directly by the course’s instructor. The Associate Dean of the Faculty follows a rigorous process for [academic integrity allegations](#), including reviewing documents and interviewing the student, when an instructor suspects a violation has been committed. Penalties for violations may include a final grade of “F” for the course.

COURSE SHARING WEBSITES and COPYRIGHT

Classroom teaching and learning activities, including lectures, discussions, presentations, etc.,

by both instructors and students, are copy protected and remain the intellectual property of their respective author(s). All course materials, including PowerPoint presentations, outlines, and other materials, are also protected by copyright and remain the intellectual property of their respective author(s).

Students registered in the course may take notes and make copies of course materials for their own educational use only. Students are not permitted to reproduce or distribute lecture notes and course materials publicly for commercial or non-commercial purposes without express written consent from the copyright holder(s).

STATEMENT ON CLASS CONDUCT

The Carleton University Human Rights Policies and Procedures affirm that all members of the University community share a responsibility to:

- promote equity and fairness,
- respect and value diversity,
- prevent discrimination and harassment, and
- preserve the freedom of its members to carry out responsibly their scholarly work without threat of interference.

Carleton University Equity Services states that “every member of the University community has a right to study, work and live in a safe environment free of discrimination or harassment”. [In May of 2001 Carleton University’s Senate and Board of Governors approved the Carleton University Human Rights Policies and Procedures. The establishment of these policies and procedures was the culmination of the efforts of the Presidential Advisory Committee on Human Rights and a Human Rights Implementation Committee.]

GRADING SYSTEM

Letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100 (12)	B = 73-76 (8)	C - = 60-62 (4)	F = 0-49 (0) – Failure: no academic credit
A = 85-89 (11)	B - = 70-72 (7)	D+ = 57-59 (3)	
A - = 80-84 (10)	C+ = 67-69 (6)	D = 53-56 (2)	
B+ = 77-79 (9)	C = 63-66 (5)	D - = 50-52 (1)	

The following additional final course grades may be assigned by instructors:

- GNA Grade not available. This is used when there is an allegation of an academic offence. This interim notation is assigned only after consultation with the Dean’s Office and indicates that the grade for this course is not available. This notation is replaced with the appropriate grade for the course as soon as it is available.
- SAT Satisfactory performance in an ungraded program requirement or option. This grade can be assigned only in courses that are designated to be graded on this basis.
- UNS Unsatisfactory performance in an ungraded program requirement or option. This grade can be assigned only in courses that are designated to be graded on this basis.
- IP In Progress – a notation (IP) assigned to a course by a faculty member when: At the undergraduate level, an undergraduate thesis or course has not been completed by the end of the period of registration. At the graduate level, a graduate thesis, research essay, independent research project or comprehensive examination has not been completed by the end of the period of registration.

Standing in a course is determined by the course instructor subject to the approval of the Faculty Dean. This means that grades submitted by the instructor may be subject to revision. No grades are final until they have been approved by the Dean.

WITHDRAWAL WITHOUT ACADEMIC PENALTY

September 30, 2026: Last day for a full fee adjustment when withdrawing from full **fall** and **fall/winter (full year)** courses (financial withdrawal). Withdrawals after this date will create no financial change to fall term fees and will result in a permanent notation of WDN appearing on your official transcript.

November 15, 2026: Last day for academic withdrawal from full **fall** courses.

March 15, 2027: Last day for academic withdrawal from **fall/winter (full year)** courses.

STUDENT MENTAL HEALTH

As a student you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you. For more information, please consult <https://wellness.carleton.ca/>

Emergency Resources (on and off campus)

- Crisis/Urgent Counselling Support: 613-520-6674 (Mon-Fri, 8:30-4:30)
- Suicide Crisis Helpline: call or text 9-8-8, 24 hours a day, 7 days a week.
- For immediate danger or urgent medical support: call 9-1-1

Carleton Resources:

- Mental Health and Wellbeing: <https://carleton.ca/wellness/>
- Health & Counselling Services: <https://carleton.ca/health/>
- Paul Menton Centre: <https://carleton.ca/pmc/>
- Academic Advising Centre (AAC): <https://carleton.ca/academicadvising/>
- Centre for Student Academic Support (CSAS): <https://carleton.ca/csas/>
- Equity & Inclusivity Communities: <https://carleton.ca/equity/>

Off Campus Resources:

- Distress Centre of Ottawa and Region: (613) 238-3311, TEXT: 343-306-5550, <https://www.dcottawa.on.ca/>
- Mental Health Crisis Service: (613) 722-6914, 1-866-996-0991, <http://www.crisisline.ca/>
- Good2Talk: 1-866-925-5454, <https://good2talk.ca/>
- The Walk-In Counselling Clinic: <https://walkincounselling.com>

ACADEMIC ACCOMMODATION

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances, are outlined on the Academic Accommodations website (students.carleton.ca/course-outline).

Informal accommodation due to short-term incapacitation: Students may be asked by their instructor to provide the Self-Declaration for Academic Considerations form (<https://carleton.ca/registrar/wp-content/uploads/self-declaration.pdf>) which replaces medical notes.

Pregnancy obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For accommodation regarding a formally-scheduled final exam, you must complete the Pregnancy Accommodation Form ([click here](#)).

Religious obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details [click here](#).

Academic Accommodations for Students with Disabilities: The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, please request your accommodations for this course through the [Ventus Student Portal](#) at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (*if applicable*). Requests made within two weeks will be reviewed on a case-by-case basis. For final exams, the deadlines to request accommodations are published in the [University Academic Calendars](#). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: <https://carleton.ca/equity/sexual-assault-support-services>

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation will be provided to students who compete or perform at the national or international level. Write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

PETITIONS TO DEFER

Students unable to write a final examination because of illness or other circumstances beyond their control or whose performance on an examination has been impaired by such circumstances may apply to the Registrar's Office for permission to write a deferred examination. The request must be fully and specifically supported by a medical certificate or other relevant documentation. The deadline to apply for a deferral is within 3 working days after the original final examination date or the original due date of the take-home examination. Only deferral petitions submitted to the Registrar's Office will be considered.

CONTACTS

- Department of History history@carleton.ca
- Registrar's Office registrar@carleton.ca
- Academic Advising Centre academicadvising@carleton.ca
- Paul Menton Centre pmc@carleton.ca
- Centre for Student Academic Support – Study Skills, Writing Tutorials, Bounce Back csas@carleton.ca

Application for Graduation Deadlines

- Spring Graduation (June): April 1
- Fall Graduation (November): August 31
- Winter Graduation (February): November 30