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Digital scholarship embedded in pedagogy: building blocks for computational confidence and digital literacy skills

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Digital Scholarship Embedded in Pedagogy: Building Blocks for Computational Confidence and Digital Literacy Skills



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**Let's start with how we
define
Digital Scholarship at
Binghamton**

**So, why the integration
into pedagogy?**

Binghamton Digital Humanities Research Institute

Modeled after [CUNY Graduate Center's DHRI](#) (funded by the National Endowment for the Humanities, NEH)

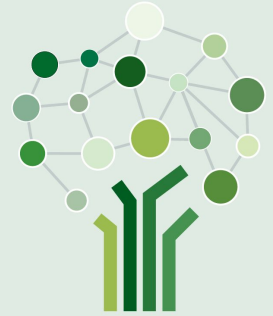
Open source-based curriculum

Co-organized by a faculty member in the humanities and a librarian

4-day intensive workshop offering seminars and hands-on training on digital humanities methods

Open to faculty and graduate students in humanities and social science fields

Check out our [page](#) to learn more or our [BingDHRI 2019](#) curriculum



Digital Humanities
Research Institute
Binghamton University
2021

**The BingDHRI led to the
growth of two pedagogical
initiatives**

First: Increase of Consultations & In-Class Sessions

Participants and non-participants of the BingDHRI began reaching out

However, the interest was more focused on integration into pedagogy instead of research

Departments

Human Development

English

History

Asian and
Asian-American
Studies

Open Source Tools

TimelineJS

Omeka S

StorymapJS

Scalar

Voyant

Types of Requests

In-class instruction /
support

Troubleshooting
session(s)

Workshops for
graduate instructors
and TAs

Examples Projects by Students

TimelineJS

TimelineJS is an open-source tool for building interactive multimedia timelines.

The backend is built using Google Sheets.

Link to student examples:

https://dhprojects.binghamton.edu/s/humdev357/page/HD357_home

Omeka S

Omeka S is an open-source publishing platform for building multimedia exhibits.

Our instance managed by the Libraries (requires server space)

Links to student examples:

[AAAS 482D](#); [HIST 480K](#)

Second: the Binghamton Codes! Program

Program funded by alumni who works at Google

Initiated due to the large gap between STEM and humanities students who are exposed to these skills before entering the job market

The program's mission is to:

- Offer courses in digital and computational literacies to humanities and social science undergraduate students
- Increase computational confidence
- Course only makes use of open educational resources (OERs)

Starting with a pilot two-course sequence focused on learning Python programming

Plan to scale in future semesters

Student Interest

Majors

Mathematics
Economics
History
Human Development
Environmental
Sciences
English
Accounting
Undecided

Why Enrolled

Desired skills for jobs
and internships

Sports analytics

Working with data

General Interest in
coding

Concerns with Learning Python

Debugging / running
into errors

Having the patience

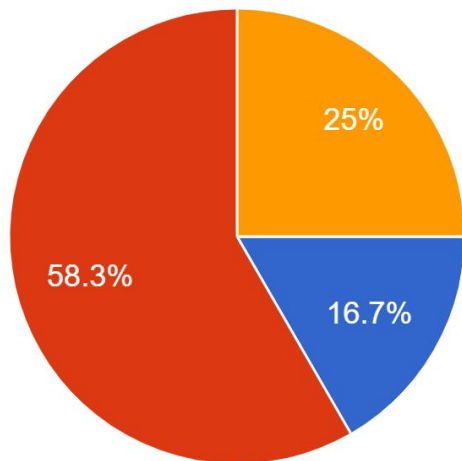
Having zero past
experience

Understanding the
material

By the end of the first course

Overall, do you feel more comfortable with coding / Python after taking part of the course sequence?

12 responses



- Very Comfortable
- Comfortable, still need a little practice in some areas
- Somewhat comfortable, but still nervous to try on my own
- Not comfortable

Pilot two-course sequence

HARP 150 - Coding in Action

Foundational skill building

4-credit course (includes lecture and a lab)

Jupyter Notebook used as interface

Apply skills learned to working with data and game creation

Impacted by Covid and had to go fully online

HARP 151 - Coding in Action II

Project-based course

4-credit course (includes lecture and a lab)

Interfaces include Jupyter Notebook, Colab, Microsoft Visual Studio (VS) Code, terminal

Also covers an overview of project management

The Benefits and Challenges Associated with Pedagogy Integration

Benefits for....

Instructors

More interactive ways to present material

Offer new modes of assessment (especially with online learning)

Learn new skills that could then be applied to research

Opens doors for cross-disciplinary collaborations

Students

Increases digital and computational literacy skills

Allows students to be creative

Builds their digital portfolio that can be linked to and shared as they move forward in their journeys

Exposes them to skills that many people are having to currently learn on the job

Challenges for....

Instructors

Learning curve, both learning the skill and how to teach it to others

Assessing digital projects / outputs

Troubleshooting / student questions

Having proper resources available

Time

Students

Learning curve

Limited time in a semester

Troubleshooting

Having proper resources available

Course workload

Our Future Plans

Binghamton Digital Humanities Research Institute 2021

- 4-day session, additional 3-day advanced session

Virtual panel on instruction, resources, and assessment of digital scholarship projects

- Includes faculty who have taught courses, an instructional designer, and librarians

Digital Scholarship Toolkits

- This is my work in progress (will be available on our Open Repository when toolkits are ready)

Scaling the Binghamton Codes! Program

- Increase course size for next group; adding gen.ed. attribute; assess future programs

Places to Get Started

At your own institution:

- Learn what resources are already available to you, including librarians and this larger community of practice
- Offer your own model of the DHRI at your institution (CUNY Graduate Center's [open core curriculum](#) to get started is on GitHub)

Free tutorials:

- CUNY's open core curriculum (linked above)
- W3 Schools: <https://www.w3schools.com/>
- Kaggle: <https://www.kaggle.com/learn/overview>
- CodeCademy: <https://www.codecademy.com/>
- Knightlab Tools: <https://knightlab.northwestern.edu/>

Thank you!

Please reach out if you are interested in further discussions!

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