MASTER OF ARTS IN DIGITAL STUDIES OF LANGUAGE, CULTURE, AND HISTORY

Department Website: http://digitalstudies.uchicago.edu

PEOPLE

Faculty Director: David Schloen
Associate Director: Miller C. Prosser
Digital Studies Faculty Board (https://digitalstudies.uchicago.edu/people/)

OVERVIEW

The University of Chicago's program in Digital Studies of Language, Culture, and History provides a one-year Master of Arts (https://digitalstudies.uchicago.edu/overview-timeline/) curriculum intended for full-time students who have a bachelor’s degree in the humanities or in a related discipline such as history, anthropology, or linguistics. In addition, a joint BA/MA (https://digitalstudies.uchicago.edu/bama/) and undergraduate Minor (https://digitalstudies.uchicago.edu/minor/) in Digital Studies are offered to students in the College of the University of Chicago, and a Graduate Certificate (https://digitalstudies.uchicago.edu/graduate-certificate/) in Digital Studies is available to graduate students in other programs of the University. The MA in Digital Studies (https://digitalstudies.uchicago.edu/overview-timeline/) qualifies as a STEM Designated Degree Program (https://www.ice.gov/sites/default/files/documents/Document/2016/stem-list.pdf) under the regulations of the United States Immigration and Customs Enforcement agency.

The Digital Studies program at the University of Chicago responds to the growing demand for academic rigor in the loosely defined field of digital humanities (https://en.wikipedia.org/wiki/Digital_humanities/) and the need to certify technical competence in this area. The program equips students of the humanities to pursue careers that utilize their skills in research, writing, and critical thinking in tandem with the use of software for the study of human languages and cultures, past and present.

The Digital Studies faculty and staff (https://digitalstudies.uchicago.edu/people/) represent a wide range of academic fields, including linguistics, literary studies, media studies, history, philosophy, anthropology, archaeology, art history, visual arts, musicology, and religious studies. They share a common interest in understanding the impact of digital technology and in using digital tools to represent, analyze, and preserve the products of human language and culture. Collectively, their work shows how digital studies encompass the full range of human activities, from everyday speech and writing to historical documents and literary texts, and include music and art as well as mundane objects, places, and institutions.

The core courses (https://digitalstudies.uchicago.edu/course-descriptions/) and electives (https://digitalstudies.uchicago.edu/electives/) in Digital Studies (DIGS) are designed to foster, not just technical skills in coding and data analysis, but an understanding of the history of computing and its cultural impact from the perspective of the humanities. Students in these courses are introduced to computer programming and the use of software libraries via three widely used programming languages: Python, R, and JavaScript. Learning to code in these languages is the gateway for students to understand and use cutting-edge digital tools and data standards to manage, analyze, and publish information, with emphasis on the kinds of data commonly encountered in the humanities, including texts, images, maps, and other media.

In addition to the general MA in Digital Studies, which entails six core courses (https://digitalstudies.uchicago.edu/course-descriptions/) and three electives (https://digitalstudies.uchicago.edu/electives/), there are three specialized concentrations in which two of the electives are replaced with courses in a particular subject area and students do a thesis project in that area. The three concentrations are the MA in Digital Archaeology, the MA in Digital Media, and the MA in Digital Texts.

DEGREE REQUIREMENTS

The general MA in Digital Studies requires six core courses (https://digitalstudies.uchicago.edu/course-descriptions/), three elective courses (https://digitalstudies.uchicago.edu/electives/), and a thesis project (https://digitalstudies.uchicago.edu/thesis/). Students who do a specialized concentration in Digital Archaeology, Digital Media, or Digital Texts must take two additional required courses in their area of concentration and do a thesis in that area, and so will have only one elective course. The general MA requires the following:

- Three core courses in the Autumn Quarter consisting of (1) an introduction to computer programming using the Python programming language; (2) basic statistics and data analysis using Python and Jupyter Notebooks; and (3) an introduction to digital humanities that surveys the history and theory of digital computing, the various uses of computers in the humanities, and current debates concerning digital humanities. Students who have previously taken a programming course and/or a statistics course may be exempted from one or both of those requirements and take additional electives instead, subject to the approval of the Director of Digital Studies. To receive an exemption from the Autumn Quarter “Introduction
to Computer Programming,” students must take a competency test to demonstrate their knowledge of programming and of Python.

- Three core courses in the Winter and Spring Quarters on data management, data publication, and data analysis for the humanities. Students must take either “Data Analysis for the Humanities II” in the Winter or “Data Analysis for the Humanities III” in the Spring; or they may choose to take both of these data analysis courses if they use one of them as an elective.
- Three elective courses in the Winter and Spring Quarters in any field of the humanities or social sciences. At least one of the three electives must deal with digital computing in some way, whether or not it entails actual coding.
- Completion of the MA thesis by May 15 for graduation at the end of the Spring Quarter, with the option of completing it by June 15 for graduation at the end of the Summer Quarter in August.

**AUTUMN QUARTER**
- DlGS 30001 Introduction to Computer Programming
- DlGS 30002 Data Analysis for the Humanities I
- DlGS 30007 Introduction to Digital Humanities

**WINTER QUARTER**
- DlGS 30003 Data Management for the Humanities
- DlGS 30004 Data Analysis for the Humanities II
- An approved elective course (for the general MA) or NlEA 30061 Ancient Landscapes I (for the MA in Digital Archaeology), or a CMST course on digital media (for the MA in Digital Media) or DlGS 30031 Digital Texts I: Opening New Paths for Textual Scholarship (for the MA in Digital Texts)
- Selection of MA thesis topic and confirmation of a thesis adviser

**SPRING QUARTER**
- DlGS 30005 Data Publication for the Humanities
- DlGS 30006 Data Analysis for the Humanities III: Deep Learning
- An approved elective course (for the general MA) or DlGS 30021, “Digital Archaeology” (for the MA in Digital Archaeology), or a CMST course on digital media (for the MA in Digital Media)
- Ongoing work on the MA thesis, due May 15 for June graduation or June 15 for August graduation

**SUMMER QUARTER**
Completion of the MA thesis, if the student has not submitted it in time to receive the MA degree at the end of the Spring Quarter in mid-June. The final deadline by which the thesis must be submitted to the faculty adviser and to the Director of Digital Studies is June 15, in time for the student to receive the MA degree at the end of the Summer Quarter in late August.

Students who have not completed a thesis by May 15 may still participate in the June Convocation (https://convocation.uchicago.edu/), provided that they have fulfilled all other degree requirements; however, they will not receive the MA degree until the thesis has been completed and deemed acceptable.

Students who submit a thesis by May 15 are eligible to graduate with the MA degree in mid-June, if the thesis is deemed acceptable. However, many students will require more time to complete the thesis and will submit it by June 15 in the expectation of receiving the MA degree at the end of the Summer Quarter.

Students do not need to register for any courses in the Summer Quarter and they are not required to be in residence in the Chicago area while they complete the thesis.

**ADMISSION**
The Master of Arts in Digital Studies of Language, Culture, and History program welcomes a cohort of students dedicated to exploring humanistic knowledge in the digital realm.

**INFORMATION ON HOW TO APPLY**
The application process for admission and financial aid for all graduate programs in the Humanities is administered through the divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines and department specific information is available online at: http://humanities.uchicago.edu/students/admissions. Questions pertaining to admissions and aid should be directed to humanitiesadmissions@uchicago.edu or (773) 702-1552.

International students must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). (Current minimum scores, etc., are provided with the application.) For more information, please see the Office of International Affairs website at https://internationalaffairs.uchicago.edu, or call them at (773) 702-7752.
Further information is available at https://digitalstudies.uchicago.edu/application (https://digitalstudies.uchicago.edu/application/)

CONTACT INFORMATION

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DIGITAL STUDIES COURSES

DIGS 30001. Introduction to Computer Programming. 100 Units.
This course provides an introduction to computer programming and computational concepts using the Python programming language. It is a prerequisite for many of the other Digital Studies core courses (students who are already experts in Python may request an exemption from taking this course, subject to the approval of the Director of Digital Studies). The textbook for this course is Think Python (second edition) by Allen B. Downey, which is available online, free of charge.
Instructor(s): Clovis Gladstone Terms Offered: Autumn
Equivalent Course(s): DIGS 20001

DIGS 30002. Data Analysis for the Humanities I. 100 Units.
This course provides an introduction to statistics and computational data analysis. Topics covered include probability, distributions, and statistical inference, as well as linear regression and logistic regression. Students will learn how to use Python libraries for statistics and plotting within Jupyter Notebooks. The textbook for this course is OpenIntro Statistics, which is available online, free of charge. Students who have taken the University of Chicago course STAT 22000 or an equivalent statistics course may request an exemption from taking this course, subject to the approval of the Director of Digital Studies.
Terms Offered: Autumn
Equivalent Course(s): DIGS 20002

DIGS 30003. Data Management for the Humanities. 100 Units.
This course introduces concepts and techniques related to the representation and management of digital data, with emphasis on the forms of data encountered in the humanities. Topics covered include: (1) digital text encoding using the Unicode and XML standards, with attention to the TEI-XML tagging scheme of the Text Encoding Initiative; (2) digital typefaces ("fonts") for displaying encoded characters; (3) digital encoding of 2D images, 3D models, sound, and video; (4) database models and querying languages (especially SQL for relational databases and SPARQL for non-relational RDF-graph databases), with attention to methods for integrating and querying the kinds of semi-structured and heterogeneous data characteristic of the humanities; (5) ontologies, the Semantic Web, and related technical standards; and (6) cartographic concepts (e.g., coordinate systems and map projections) and the basics of geospatial data management using Geographic Information Systems. This course has no prerequisite; i.e., prior knowledge of computer programming is not required.
Terms Offered: Autumn
Prerequisite(s): DIGS 20001/30000/30001, “Introduction to Computer Programming” (or an equivalent course in computer programming)
Equivalent Course(s): DIGS 20003

DIGS 30004. Data Analysis for the Humanities II. 100 Units.
This course builds on DIGS 20002/30002, "Data Analysis for the Humanities I," by introducing students to the R language and R packages for data analysis. Topics covered include data visualization, textual analysis, social network analysis, geospatial data analysis, and high-performance computing (HPC) techniques for analyzing large datasets. The goal is to make students familiar with these methods and aware of their role in linguistic, cultural, and historical studies, as a basis for further study of these methods.
Terms Offered: Winter
Prerequisite(s): DIGS 20001/30000/30001, “Introduction to Computer Programming” (or an equivalent course in computer programming) and DIGS 20002/30002, “Data Analysis for the Humanities I” (or an equivalent statistics course)
Equivalent Course(s): DIGS 20004

DIGS 30005. Data Publication for the Humanities. 100 Units.
This course introduces software techniques and tools for building Web browser apps written in HTML5, CSS, and JavaScript with emphasis on user interfaces for presenting information to researchers and students in the humanities. Topics covered include: (1) the use of application programming interfaces (APIs) to integrate into Web apps the various analysis, visualization, and database services provided by external systems; (2) the transformation of data into formats appropriate for publication on the Web; and (3) the use of persistent identifiers for reliable citation of published data and the problems of archiving and preserving scholarly data.
Terms Offered: Winter
Prerequisite(s): DIGS 20001/30000/30001, “Introduction to Computer Programming” (or an equivalent course in computer programming)
Equivalent Course(s): DIGS 20005
DIGS 30006. Data Analysis for the Humanities III: Deep Learning. 100 Units.
This course focuses on applications of deep neural networks and machine learning ("deep learning") in the humanities. Topics covered include AI-assisted natural language processing (NLP) and machine translation, audio analysis (e.g., speech recognition and musical analysis), image analysis (computer vision), and the philosophical issues raised by artificial intelligence and especially non-symbolic (second-wave) AI based on deep learning.
Terms Offered: Spring
Prerequisite(s): DIGS 20001/30001, “Introduction to Computer Programming” (or an equivalent course in computer programming), and DIGS 20002/30002, “Data Analysis for the Humanities I” (or an equivalent course in statistics).
Equivalent Course(s): DIGS 20006

DIGS 30007. Introduction to Digital Humanities. 100 Units.
This course surveys the history and theory of digital computing, the use of computers in the humanities, and recent debates in digital humanities. Topics discussed include the impact of digital media in modern culture, the philosophical questions raised by artificial intelligence (AI), and the ethical dilemmas created by the pervasive use of software. This course has no prerequisite; i.e., prior knowledge of computer programming is not required.
Instructor(s): David Schloen Terms Offered: Autumn
Equivalent Course(s): DIGS 20007

DIGS 30008. Thesis Preparation. 000 Units.
Digital Studies MA and BA/MA students will enroll in this non-credit course in the Spring Quarter, when they begin work on their MA thesis projects in consultation with a faculty adviser and with staff members who will provide technical advice, as needed. The thesis must have a software component as well as a written component in which the student explains the computational aspects of the project and reflects critically on the methods being used, with attention to current debates in digital humanities.
Terms Offered: Spring

DIGS 30011. Introduction to Digital History I. 100 Units.
What is digital history and how do we do it? This lab-based experimental class will devote two sessions each week to questions of theory and methodology, considering what digital approaches can offer to the field of history; we will also examine and critique recent work by historians engaging with digital methods. In the third meeting of the week, a mandatory Friday lab session, students will learn the basics of digital mapping, network analysis, text mining, and visualization. (No prior technical knowledge is needed or expected.) By the end of the quarter, students will be asked to reflect on the advantages and limits of digital approaches in the historical field and to develop a proposal for a digital project of their own. Students who wish to see this work to fruition are invited to enroll in "Introduction to Digital History II," which will offer students more advanced technical training and will coach them toward completion of their projects.
Instructor(s): F. Hillis Terms Offered: Autumn
Note(s): Making History courses forgo traditional paper assignments for innovative projects that develop new skills with professional applications in the working world. Open to students at all levels, but especially recommended for 3rd- and 4th-yr students.
Equivalent Course(s): HIST 39530, HIST 29530, DIGS 20011

DIGS 30012. Introduction to Digital History II. 100 Units.
This course focuses on advanced research design and methods in digital history for students who have completed "Introduction to Digital History I." The course will culminate in a public exhibition of student projects.
Instructor(s): F. Hillis Terms Offered: Winter
Prerequisite(s): HIST 29530, HIST 39530, DIGS 20011, or DIGS 30011.
Note(s): Making History courses forgo traditional paper assignments for innovative projects that develop new skills with professional applications in the working world. Open to students at all levels, but especially recommended for 3rd- and 4th-yr students.
Equivalent Course(s): DIGS 20012, HIST 39521, HIST 29531

DIGS 30013. Graduate Computational Linguistics. 100 Units.
This course is a graduate-level introduction to topics at the intersection of computation and language. We will study computational linguistics from both scientific and engineering angles: the use of computational modeling to address scientific questions in linguistics and cognitive science, as well as the design of computational systems to solve engineering problems in natural language processing (NLP). The course will combine analysis and discussion of these approaches with training in the programming and mathematical foundations necessary to put these methods into practice. The course is designed to accommodate students both with and without prior programming experience. Our goal is for all students to leave the course able to engage with and critically evaluate research in cognitive/linguistic modeling and NLP, and to be able to implement intermediate-level computational models for novel computational linguistics research.
Instructor(s): J. Goldsmith Terms Offered: Spring
Prerequisite(s): CMSC 12200, 15200 or 16200, or by consent
Equivalent Course(s): LING 38600, CMSC 35050
DIGS 30015. Musical Robotics. 100 Units.
Musical Robotics is a skills and discussion-based class for students interested in learning analog and digital electronics to build robotic musical instruments or sound art installations. Discussions will be organized around readings related to art and technology with a special focus on sound-based works. Students will learn to program Arduinos to control DC motors, solenoids, and servos with music applications like Logic Pro and Max/MSP. As a final project students will present a new instrument they've created or plans for an art installation featuring a kinetic sculpture element.
Instructor(s): Bryan Jacobs Terms Offered: Autumn
Prerequisite(s): For this advanced course, a background in low-level, functional, or graphical (Max/MSP, PD) computer programming is assumed. It is also assumed that students have done some work to develop musical ideas or worked towards developing an aesthetic perspective.
Equivalent Course(s): MUSI 26720, MUSI 36620, DIGS 20015, MAAD 26720

DIGS 30017. Latinx Lives: Finding and Filling the Gaps. 100 Units.
The first half of the course will focus on postcolonial and decolonial theoretical approaches to the digital humanities, such as Roopika Risam, Antonio A. Casilli, and Lorena Gauthereau. Students will have two main digital projects: creating a Wikipedia page of a digital archive and a short podcast on said Latinx project. Considering this framework, students will analyze how current digital projects have worked with archival sources to fill historical gaps. This course will utilize accessible materials written by Latinx communities that non-profit organizations, such as Arte Público Press, and a range of universities have recovered in digital projects. The course will explore the intersection between oral histories, storytelling, audio-documentaries, and digital studies. Students will learn to use existing digital archives responsibly, craft an audio-documentary with their current digital tools, and analyze the existing boundaries between history and fiction in digital projects.
Instructor(s): Jessica Marroquin Terms Offered: Winter
Note(s): Taught mostly in Spanish, with readings in English. Students will need a computer and recording device (a mobile phone should work). Undergrads must be in their third or fourth year.
Equivalent Course(s): LACS 22021, SPAN 32021, DIGS 20017, SPAN 22021, LACS 32021

DIGS 30018. Digital Approaches to Text Analysis: opening new paths for textual scholarship. 100 Units.
The purpose of this course is to introduce students of literature, and more generally the humanities, to digital humanities methodologies for the study of text. Among the various digital approaches which will be introduced in class are concordances (retrieving occurrences of words), semantic similarity detection (finding similar passages across texts), sentiment analysis, stylometry (analysis of literary style), and topic modeling (automatic classification of texts). The course will highlight how these approaches to text can provide new avenues of research, such as tracing intellectual influence over the longue durée, or uncovering the distinguishing stylistic features of an author, work, or literary movement. Students need no prior knowledge of such methods, and the course will aim at providing the basics of computer programming in Python to give students the necessary tooling to conduct a digital humanities project. The source material for the course will be drawn from literary sources, and students will be free (and encouraged) to use texts which are relevant to their own research interests.
Instructor(s): Clovis Gladstone Terms Offered: Winter
Note(s): Students will need to bring a laptop to class.
Equivalent Course(s): RLLT 34500, DIGS 20018, RLLT 24500

DIGS 30019. Classification as World-Making. 100 Units.
To classify,” write Geoffrey Bowker and Susan Star, “is human.” There can be no doubt that classification sits at the heart of almost any form of knowledge production—arguably even thought itself. But what diversity hides under such atruism? This course will explore a set of exemplary fields in order to track genealogies and discontinuities in classificatory. We will begin with two philosophers, Aristotle and Kant, who stand as respective avatars of ancient and modern categorical thought. We will then proceed to sites where classification has flourished: the biological sciences which sought to capture the diversity of the living world; the social sciences—notably anthropology—which challenged the universality of Western cultural categories; and statistics or data science, which seek to understand numerical aggregates as categories. We will conclude by reflecting on the present explosion of digital techniques of classification, from social media algorithms to artificial intelligence, which structure more and more of our lives, often without human oversight. In this sense, classification is perhaps nonhuman as well. Moving between history, epistemology, and practice, this course will furnish students with a rich set of classificatory ideas that they can bring to their own research and disciplinary communities. Above all, it will ask students to account for both the construction and effects of categories, which are too often taken to be a neutral substrate of knowledge or conve
Instructor(s): Alexander Campolo Terms Offered: Spring
Equivalent Course(s): SOCI 30331, DIGS 20019, HIPS 26065, KNOW 36065, CHSS 36065, SCTH 36065

DIGS 30022. Sounding Viral - Metaphor, Media, Aesthetics. 100 Units.
Earworms, hooks, catchy tunes, sticky sounds. Far predating Old Town Road or Gangnam Style, music has been conceived of as an infectious cultural force—but the 21st-century regime of ubiquitous digital and social media platforms has amplified and accelerated the potential for music-gone-viral. In this seminar we will grapple with a range of questions that interrogate specific digital assemblages, as well as longer histories and broader concepts of sonic contagion. What does virality sound like? Look like? Feel like? What are the aesthetics of the viral? What does digital viral circulation have to do with "real" biological contagion, in its patterns and
mechanisms of infection and social spread? How does digital virality happen? What are its media, social, structural preconditions? (How) is it musical? In seeking to answer these questions, and in surveying what it might mean to engage in a musicology of the digital age more broadly, we will read across disciplines including musicology and popular music studies, sound studies, philosophy and critical theory, media and platform studies. The quarter will begin with an investigation of keywords and more "canonical" texts, and will proceed through case studies and practical (auto)ethnographic engagements with contemporary digital sonic culture.

Instructor(s): Paula Harper Terms Offered: Autumn
Equivalent Course(s): MUSI 44422, MAPH 44422

DIGS 30031. Digital Texts I: Opening New Paths for Textual Scholarship. 100 Units.
The purpose of this course is to introduce students in the humanities to digital methodologies for the study of text. Students will not only learn how to construct a digital text collection, but also how to process text as data. Among the various digital approaches which will be introduced in class are concordances (retrieving occurrences of words), semantic similarity detection (finding similar passages across texts), sentiment analysis, or stylometry (analysis of literary style). The course will highlight how these approaches to text can provide new avenues of research, such as tracing intellectual influence over the longue durée, or uncovering the distinguishing stylistic features of an author, work, or literary movement. Students need no prior knowledge of such methods, and the course will aim at providing both the basics of computer programming in Python and to give students the necessary tooling to conduct a digital humanities project. The source material for the course will be drawn from literary sources, and students will be free (and encouraged) to use texts which are relevant to their own research interests. Students will need to bring a laptop to class.

Instructor(s): Gladstone, Clovis Terms Offered: Winter
Equivalent Course(s): RLLT 34550, DIGS 20031, RLLT 24550

DIGS 30032. Digital Texts II. 100 Units.
This course is designed to expose students who already have experience in Python programming and text processing to more advanced computational approaches to text analysis. Over the course of the quarter, students will learn how to leverage existing Python libraries to extract the morphological structure from texts, they will become adept at building, analyzing, and refining their own machine-learning models using a variety of preprocessing and feature engineering methods. We will be covering clustering methods such as topic modeling, as well as different supervised learning or word embedding approaches. Our class content will be supplemented by readings which highlight the uses of these computational methods in current academic research. The source material for the course will be drawn from literary and/or media resources, and students will be free (and encouraged) to use texts which are relevant to their own research interests. At the end of the course, students will be expected to produce their own digital project using some of the methods covered in class. Students will need to bring a laptop to class.

Instructor(s): Gladstone, Clovis Terms Offered: Spring
Prerequisite(s): DIGS 20031/30031: Digital Texts I DIGS 20001/30001: Intro to Computer Programming (or an equivalent course)
Note(s): Prerequisites may be waived by permission of the instructor for students who have sufficient background in the subject.
Equivalent Course(s): RLLT 20032, DIGS 20032, RLLT 30032

DIGS 49900. Reading and Research. 100 Units.
Reading and Research
Instructor(s): David Schloen Terms Offered: Spring