





Master of Arts Interdisciplinary Studies (MAIS) 752

Special Topics Graduate Seminar—Critical Computations: Understanding and Unsettling Digital Technologies and Algorithmic Cultures (Revision 11)

Status: Replaced with new revision, see the [course listing](#)  for the current revision 

Delivery mode: [Grouped study](#) 

Credits: 3







Area of study: Arts

Prerequisite: None

Precluded: None

Faculty: [Faculty of Humanities and Social Sciences](#) 

Notes:

Focus areas: [Educational Studies](#) , [Work, Organization and Leadership](#) , [Equity Studies](#) , [Adult Education](#) , [Cultural Studies](#) , and [Writing and New Media](#) 

Overview

The entanglement of human lives in digital systems touches on virtually every dimension of our waking and sleeping lives. Who we are and who we can become are increasingly inseparable from the hardware and software that make up digital cultures in the twenty-first century. But what are these systems, how do they work, and what are the implications for politics and human rights? What does it mean for identity, livelihoods, and well-being to be inseparable from computational technologies? This course will introduce the foundations of digital technologies—what they are and how they work—and examine a range of tensions that reveal both challenges and potentials in algorithmic societies. Topics covered include the datafication of identities, the mechanics and politics of programming and code, digital materialities, the problems of bias and distortion in data and algorithms, artificial intelligence—what it is and its limitations—and emerging strategies for challenging racist, sexist, homophobic, and colonial conventions embedded in computational systems through feminist data interventions, critical technology practices, models for Indigenous data sovereignty, critical making, and more.

Outline

MAIS 752 is divided into 12 units:

Unit 1—Introduction: A Critical Approach to Computational Discourse

Unit 2—The Datafication of Identity: Subject Formation in a Digital Society

Unit 3—The Discourses of Computation: Surveillance and Prediction

Unit 4—Understanding “Digital” as Infrastructure

Unit 5—Digital Materialities: Getting to Know the Machine

Unit 6—Code Studies, Part I: Analyzing the Discourse of Programming Languages

Unit 7—Code Studies, Part II: Exclusions and Repressions in Computational Cultures

Unit 8—Data and Algorithms: The Problems of Bias, Distortion, and Manipulation

Unit 9—Artificial Intelligence, Part I: What Is It? What Is It Not?

Unit 10—Artificial Intelligence, Part II: Data Doubles, Decolonial AI, and Regulating the “Matrix of Oppression”

Unit 11—Unsettling the Digital, Part I: Feminist Data Sets, Critical Technology Practices, and Resisting Ontological Reductions

Unit 12—Unsettling the Digital, Part II: Glitch Art, Critical Making, and Critical Collaboration with AI

Learning outcomes

After completing MAIS 752, students should be able to do the following:

1. Explain the foundations of how digital technologies function, and debate the significance of digital materialities to social outcomes.
2. Apply critical analytic frameworks to the design, implementation, and outcomes of digital technologies including artificial intelligence and algorithmic regimes.
3. Explain the significance of digital technology as infrastructure.
4. Discuss the sociopolitical implications of computer programming including historical exclusions and how coding can shape knowledge and identities.
5. Describe interventions into the digital that unsettle dominant digital relations including the significance of feminist data sets, critical technology practices, Indigenous data sovereignty, and queering computing.

6. Experiment with critical creative collaboration with AI.

Evaluation

To receive **credit** [↗](#) for MAIS 752, students must complete and submit all of the assignments, and achieve a minimum grade of **C- (60 percent)** [↗](#) for the course.

Students will be evaluated on their understanding of the concepts presented in the course and on their ability to apply those concepts. The final grade in the course will be based on the marks achieved for the following activities.

Activity	Weight
Participation	20%
Short Essay	15%
Short Essay	20%
Short Essay	20%
Cocreation with AI Experiment and Analysis	25%
Total	100%

Materials

All materials, including a Course Information manual, required readings, and a Study Guide, will be available online.

Important links

- › [Master of Arts in Interdisciplinary Studies](#) [↗](#)
- › [Focus Areas](#) [↗](#)

> [Courses](#) 

> [Fees and Funding](#) 

Athabasca University reserves the right to amend course outlines occasionally and without notice. Courses offered by other delivery methods may vary from their individualized study counterparts.

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View [previous revision](#) 
