

# HUMAN-CENTERED ARTIFICIAL INTELLIGENCE MAJOR

**Program Director:** Eric Pacuit, Ph.D.

The Bachelor of Arts in Human-Centered Artificial Intelligence (AI) has two primary goals. The first is to provide students with the technical skills necessary to engage with contemporary AI in a meaningful way.

The second is to provide students with training in human-facing disciplines allowing them to understand, evaluate, and contribute to work in AI in a unique way. The skills developed in this major should be useful for careers in arts, business, education, government, law, medicine, policy, or indeed any field that requires a scientific understanding of AI along with a rigorous appreciation of its ethical, social, and cultural impact.

## Program Learning Outcomes

1. Apply concepts and ideas from human-facing disciplines to critically evaluate the implications of current and emerging AI technologies.
2. Critically evaluate the ethical, social, and cultural implications of AI technologies and their applications.
3. Analyze AI systems for biases, transparency, and accountability to ensure fairness, accountability, and responsible outcomes.
4. Write technical reports explaining the implementation, challenges, and outcomes of AI projects.
5. Contribute to the design and development of AI applications with an understanding of their technical foundations while ensuring alignment with societal and human values.

## REQUIREMENTS

In addition to the ARHU college requirements (<https://arhu.umd.edu/academics/advising/academic-plans>) which include MATH115 for the B.A. in Human-Centered AI, the major consists of **16 courses**:

1. **9 Core Courses:** This includes 6 technical core course and 3 social and ethical core courses.
2. **6 Specialization Courses:** In addition to completing 9 mandatory core courses, students will choose, by the fall of their junior year, a specialization consisting of 6 courses (along with any extra prerequisites, which may vary across specializations). Currently, there are seven specializations:
  - Arts
  - Design and User Experience
  - Ethics
  - Language and Cognition
  - Logic, Epistemology, and Machine Learning
  - Law, Policy, and Governance
  - Society, Culture, and Technology
3. **1 Capstone Seminar:** Finally, all students will complete a capstone seminar in their final term. The topics for this course will vary from year-to-year. Students may replace this course with an internship.

### Technical Core Courses

Course	Title	Credits
<b>Technical Core Courses (18 credits)</b>		
HCAI100	(AI and the Human Experience)	3
HCAI120	(Programming for AI 1)	3
HCAI121	(Programming for AI 2)	3
HCAI200	(Formal Methods in AI)	3
HCAI300	(Artificial Intelligence)	3
HCAI301	(Machine Learning)	3
<b>Ethical and Social Core Courses (9 credits)</b>		
WGSS115	Gender, Race and Computing	3
INST204	Designing Fair Systems	3
PHIL211	AI & ETHICS	3
<b>Specializations (students will choose 6 courses from one of the following specialization areas)</b>		<b>18-21</b>
Ethics Specialization		
INST366	Privacy, Security and Ethics for Big Data	
PHIL341	Ethical Theory	
PHIL344	Philosophy of Race	
PHIL347	Philosophy of Law	
PHIL438	Topics in Value Theory	
PHIL440	Contemporary Ethical Theory	
PHPE308	Special Topics in Philosophy, Politics, and Economics <sup>1</sup>	
HCAI410	(Fairness)	
Language and Cognition Specialization (at least 2 courses must be from LING and 2 courses must be from PHIL)		
PHIL202	Know Thyself: Wisdom Through Cognitive Science	
PHIL360	Philosophy of Language	
PHIL366	Philosophy of Mind	
PHIL408	Topics in Contemporary Philosophy <sup>1</sup>	
PHIL488	Topics in Philosophy of Cognitive Studies <sup>1</sup>	
LING311	Syntax I	
LING312	Syntax II	
LING440	Grammars and Cognition	
LING449	Topics in Psycholinguistics <sup>1</sup>	
Logic, Epistemology, and Machine Learning Specialization		
PHIL362	Theory of Knowledge	
PHIL366	Philosophy of Mind	
PHIL370	Logical Theory I: Metatheory	
PHIL470	Logical Theory II: Incompleteness and Undecidability	
PHIL478	Topics in Philosophical Logic <sup>1</sup>	
HCAI410	(Fairness)	
Society, Culture, and Technology Specialization		
AMST260	American Culture in the Information Age	
ENGL318	Special Topics in Digital and New Media Studies	
ENGL467	Creative Approaches to Digital Textuality	
HIST206	Introduction to the History of Technology	
HIST407	Technology and Inequality	
IMDM150	Digital Media Theory and Culture	
JOUR389W	(News Alchemy: Journalism and Artificial Intelligence)	

JOUR458A	(Machine Editors: Search Engines, Social Media, AI and The News)
PHIL344	Philosophy of Race
WGSS280	Gender and Science in Film and Media
<b>Design and User Experience Specialization</b>	
INST430	(User Experience Research)
INST431	(AI and UX)
INST432	(AI and Human Creativity)
INST433	(Trust, Design, and AI)
INST436	(User Modeling and Personalization)
INST480	Technology Design Ethics (Technology Design Ethics)
Law, Policy, and Governance Specialization (GVPT170 is required for this specialization along with 6 other courses for a total of 21 credits)	
GVPT170	American Government
COMM330	Argumentation and Public Policy
GVPT331	Courts, Law and Justice
GVPT431	Introduction to Constitutional Law
GVPT432	Civil Rights and the Constitution
HIST338F	(What Does Government Do?: Rethinking American Political History)
HIST454	Constitutional History of the United States: From Colonial Origins to 1865
HIST455	Constitutional History of the United States: Since 1865
PHIL347	Philosophy of Law
PHIL438	Topics in Value Theory (PHIL438L Philosophy and Law) <sup>1</sup>
PHIL445	Contemporary Political Philosophy
PLCY100	Foundations of Public Policy
PLCY313	Advocacy in the American Political System
WGSS200	Gender, Power, and Society
<b>Arts Specialization</b>	
AMST260	American Culture in the Information Age
ARCH418J	(Artificial Intelligence and Architecture: Background, Applications, and the Design Process)
ARTT255	Introduction to Digital Art and Design Processes
ARTT370	Elements of Digital Media
COMM371	Communication and Digital Media
COMM373	Communication and Digital Visual Narrative
COMM449A	(Artificial Intelligence in the Information Age)
THET116	Fundamentals of Theatrical Design
THET385	Media Design
THET475	History of Art, Architecture, and Decor for the Theatre
<b>Capstone Course</b>	<b>3</b>
HCAI490	(Human-Centered Artificial Intelligence Capstone)
<b>Total Credits</b>	<b>48-51</b>

## GRADUATION PLANS

Click here (<https://www.arhu.umd.edu/academics/advising/academic-plans/>) for roadmaps for graduation plans in the College of Arts and Humanities.

Additional information on developing a graduation plan can be found on the following pages:

- <http://4yearplans.umd.edu>
- the Student Academic Success-Degree Completion Policy (<https://academiccatalog.umd.edu/undergraduate/registration-academic-requirements-regulations/academic-advising/#success>) section of this catalog

<sup>1</sup> With approved content.