HLTH5800- AI Across the Health Sciences

Instructor Information

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Course Description

Presents foundational information about artificial intelligence and its applications in healthcare, public health, pharmacology, and pharmaceutical sciences. Develops AI literacies for entry-level clinical practice, public health, and health-related careers. Provides an overview of the history of AI, most common types of AI approaches, and state-of-the-art of AI in health-related applications. Distinguishes realities from hype around AI's capabilities and limitations and reviews ethical and regulatory considerations. Offers students experiential opportunities to build a conceptual AI solution to a real-world problem in the health space. Technical background in AI/computer science not required.

Course Outcomes

This course provides you the opportunity to:

- Describe the history and fundamentals of artificial intelligence (AI)
- Explore how AI is already used in everyday life
- Explain the current role of AI in healthcare and drug discovery
- Identify the challenges and limitations of AI in healthcare and drug discovery
- Recognize the potential future of AI in healthcare and drug discovery
- Demonstrate core concepts about how to use AI to guide clinical and care delivery decisions
- Describe the ethical and regulatory landscape of AI in healthcare and drug discovery
- Discuss the developing legal landscape of using AI from licensure perspective

Required Course Materials

There is no required textbook or other reading materials that need to be purchased. All reading and viewing materials are linked within the specific modules they will be needed for.

Course Structure and Activities

There are seven modules in a course and each module represents one week of learning. Assignments are generally due at the end of the week (Sundays) unless otherwise noted. Be sure to check the syllabus, your announcements, and/or assignment pages for exact due dates. Learners are encouraged to look ahead at the assignments in order to best prepare their time.

This course includes the following required activities:

- **Course Project(s):** There will be a summative project that you complete during the course; specific instructions will be found in weekly modules.
- Non-graded Learning Activities: Throughout the course there will be opportunities for you to self-assess your learning to help you gauge your comprehension of core concepts and uncover any gaps.
- **Discussion**: These weekly submissions aim to provide you with an opportunity to reflect on your learning and to share your thoughts and experiences with the class in a professional community discussion space. This is a great venue to present your ideas or reflections for feedback and to elicit ideas from your peers.

Late Assignment Policy

Students are responsible for submitting assignments by posted deadlines. Deductions will be automatically applied to late submissions based on the time elapsed after the deadline:

- 10% deduction within 24 hours
- 25% deduction within 24-48 hours
- 50% deduction within 48-72 hours
- Zero credit if submitted more than 72 hours after the deadline

Exceptions to the late policy will be considered only in the event of an approved extension request.

Important: There are no exceptions or extensions for the final **week** project/assignment deadlines in a course. They must be turned in by the deadline to receive a grade, due to the nature of the final grade entry deadlines enforced by Northeastern University. Extension

Extension Request Policy:

Students should only request an extension in the event of an emergency or other extenuating circumstance that impacts academic progress. To make an extension request, students should submit the extension request form and include a detailed explanation of the emergency or extenuating circumstance and how much additional time is being requested. When foreseeable, requests should occur before the assignment deadline. Requests received more than 24 hours after the deadline will not be considered. Extension requests will be considered by the faculty member on a case-by-case basis. If approved by the faculty member, it is at the discretion of the faculty member to determine the extended deadline and any associated penalties.

Extension Request Monitoring and Accountability:

The program team tracks and monitors all extension requests. Repeated requests for extensions across multiple courses may raise concerns regarding a student's overall academic progress and time management skills. Such patterns will be reviewed, and interventions may be implemented to provide support and address underlying issues. Students are encouraged to manage their time effectively and seek help proactively to avoid frequent extension requests.

Discussion Board Guidelines

This course incorporates discussion board assignments which provide opportunities to engage with your peers in discussions around weekly themes and topics.

When you post, think of a thesis and how best to support it. If you are the first to post, be sure to provide a careful analysis, strong (bold) argument (thesis), and open-ended questions that invite dialogue. Be sure to check back to see if anybody has responded to you. Does someone's comment make you think twice about your view? Help keep the conversation going and move the dialogue along. Introduce new ideas, but also build on what others have said.

When responding to others, look for posts that contradict or support your own thoughts, or posts that seem to fall short on an aspect that is important to you. In your response, you can also turn your own thoughts into questions, offer your position, or play the devil's advocate.

Class Schedule and Grade Distribution

Please note: For more information about specific assignments, see assignment pages in Canvas, and refer to the Course Summary below for exact due dates.

Activity	% of	Week Due
	Grade	
Academic Integrity Attestation	0%	Week 1
End of Module Papers	60%	Weeks 1 - 6
Al Model Card	25%	Week 7
Discussion Boards	15%	Weeks 1 - 7
Non-graded Learning Activities (Check Your Knowledge Questions)	0%	Open Practice

Grading Scale

At the discretion of the instructor, a weighted average across graded components may be calculated at the end of the course to determine the final grade earned. The standard Northeastern University grading system, with numeric GPA and the final letter grade correspondence, is as follows:

Grade	Range	GPA
А	100-93.0%	4.000
A-	92.9-90%	3.667
B+	89.9-87%	3.333
В	86.9-83%	3.000
B-	82.9-80%	2.667
C+	79.9-77%	2.333
С	76.9-73%	2.000
C-	72.9-70%	1.667
F	Below 69.9%	0.000

Please note that the calculated percentage that you see in Canvas may not correspond to the final letter grade you have earned. The final grade earned will be located in the official Northeastern Student Hub.