

## **Overview of AI in Business Ethics Module**

### **Introduction**

This module provides easily integrable course material that exposes students to the ethical and responsible usage of artificial intelligence (AI) in the realm of biomechanics. As AI can be viewed as an academic tool, the aim of this module is to present the current capacities of AI, provide multiple hands-on experiences with AI usage on an individual level, and offer a structured environment for the contemplation of societal level usage of AI through student-led presentations. To accomplish these aims with minimal course adjustments, the module requires two full course meetings, once at the beginning of the semester for content introduction and one near the end of the semester for group discussion on societal level situations. Embedded ancillary assessments into existing course assignments are used throughout the semester to provide ample interactions with AI and reinforce the need to utilize an ethical framework to determine responsible usage.

### **Student Learning Outcomes (SLO)**

- Students will present a basic understanding of the current capacity of AI technology in the field of biomechanics.
- Students will recognize the ethical implications of using AI at an individual level for academic work and in societal applications.
- Students will effectively use open-source generative AI (ChatGPT 3.5) in an ethical and responsible manner to evaluate coursework and provide accurate practice problems for course topics.
- Students will critically evaluate the use of AI in individual and societal level situations to determine ethical and responsible usage via an established ethical framework.

### **Outline**

**Pre-Module Assessment:** The students will complete a Responsible AI literacy quiz to gauge their understanding of AI, ethical frameworks, and situational awareness/ethical implications of the usage of AI. Additionally, the students will complete a survey on their comfort level discussing AI and the ethical implications of its usage in society.

**Course Week 1 or 2:** Introduction to AI Module: This module provides basic information on the status of AI technology and hands-on experience with a large language model (LLM) program (ChatGPT 3.5) that will be used throughout the semester.

**Course Weeks 3-12:** Course Work Integration: These 4 modules provide details on how to integrate hands-on experiences with an LLM through various topics biomechanics increasing linear and angular kinematics and kinetics. Each module outlines an Ancillary AI Assessment (AAA) that will require the students to integrate AI usage into their assignment and reflect on the ethical implications of each task.

**Course Weeks 13-14:** Group Project on Societal Level Situations: Groups of students will critically evaluate current real-world situations where AI technology is being utilized for biomechanical analysis specifically with gait recognition. Each group will have to research their assigned situation, apply an ethical framework to the situation, and present their findings during a class discussion.

**Post-Module Assessment:** The students will complete the same Responsible AI literacy quiz as before the module to provide quantitative evidence of a change in AI literacy. Additionally, the students will complete the same self-efficacy survey on their comfort level discussing AI and the ethical implications of its usage in society to provide evidence of improvement.

## Assessment Rubric

The student learning outcomes will be assessed by two methods. First, the pre/post module assessment will be used to gauge the degree to which students have developed the basic understanding of current AI technology, ethical frameworks, and situational awareness in relation to ethical implications of AI. Secondary, a student's ability to review, analysis, evaluate, and discuss societal situations involving the use of AI will be gauged based on their score for the Group Project on Societal Level Situations Module. If a student can achieve at least a score of 75%, it will be inferred that they have achieved a passing level for the module content. If the student can achieve at least a score of 90%, it will be inferred that they have achieved mastery of the proposed learning outcome of the ethics module.

The student's work will be assessed using the AAC&U Ethical Reasoning VALUE Rubric available at [VALUE Rubrics - Ethical Reasoning | AAC&U \(aacu.org\)](https://www.aacu.org/ethics/ethical-reasoning). For this course, all five evaluation criteria of the ER Value Rubric were utilized. For convenience, the AACU Value Rubric is also provided below:

### ETHICAL REASONING VALUE RUBRIC

for more information, please contact [values@aacu.org](mailto:values@aacu.org)



#### Definition

Ethical Reasoning is reasoning about right and wrong human conduct. It requires students to be able to assess their own ethical values and the social context of problems, recognize ethical issues in a variety of settings, think about how different ethical perspectives might be applied to ethical dilemmas, and consider the ramifications of alternative actions. Students' ethical self-identity evolves as they practice ethical decision-making skills and learn how to describe and analyze positions on ethical issues.

*Evaluators are encouraged to assign a score to any work sample or collection of work that does not meet benchmark (all one) level performance.*

	Capstone 4	Milestones 3 2		Benchmark 1
<b>Ethical Self-Awareness</b>	Student discusses in detail/analyzes both core beliefs and the origins of the core beliefs and discussion has greater depth and clarity.	Student discusses in detail/analyzes both core beliefs and the origins of the core beliefs.	Student states both core beliefs and the origins of the core beliefs.	Student states either their core beliefs or articulates the origins of the core beliefs but not both.
<b>Understanding Different Ethical Perspectives/Concepts</b>	Student names the theory or theories, can present the gist of said theory or theories, and accurately explains the details of the theory or theories used.	Student can name the major theory or theories she/he uses, can present the gist of said theory or theories, and attempts to explain the details of the theory or theories used, but has some inaccuracies.	Student can name the major theory she/he uses, and is only able to present the gist of the named theory.	Student only names the major theory she/he uses.
<b>Ethical Issue Recognition</b>	Student can recognize ethical issues when presented in a complex, multilayered (gray) context AND can recognize cross-relationships among the issues.	Student can recognize ethical issues when issues are presented in a complex, multilayered (gray) context OR can grasp cross-relationships among the issues.	Student can recognize basic and obvious ethical issues and grasp (incompletely) the complexities or interrelationships among the issues.	Student can recognize basic and obvious ethical issues but fails to grasp complexity or interrelationships.
<b>Application of Ethical Perspectives/Concepts</b>	Student can independently apply ethical perspectives/ concepts to an ethical question, accurately; and is able to consider full implications of the application.	Student can independently (to a new example) apply ethical perspectives/ concepts to an ethical question, accurately, but does not consider the specific implications of the application.	Student can apply ethical perspectives/ concepts to an ethical question, independently (to a new example) and the application is inaccurate.	Student can apply ethical perspectives/ concepts to an ethical question with support (using examples, in a class, in a group, or a fixed-choice setting) but is unable to apply ethical perspectives/ concepts independently (to a new example.).
<b>Evaluation of Different Ethical Perspectives/Concepts</b>	Student states a position and can state the objections to, assumptions and implications of and can reasonably defend against the objections to, assumptions and implications of different ethical perspectives/ concepts, and the student's defense is adequate and effective.	Student states a position and can state the objections to, assumptions and implications of, and respond to the objections to, assumptions and implications of different ethical perspectives/ concepts, but the student's response is inadequate.	Student states a position and can state the objections to, assumptions and implications of different ethical perspectives/ concepts but does not respond to them (and ultimately objections, assumptions, and implications are compartmentalized by student and do not affect student's position.)	Student states a position but cannot state the objections to and assumptions and limitations of the different perspectives/ concepts.