AIMS UG Certificate for CEE Students

Artificial Intelligence, Modeling and Simulation (AIMS) certificate undergraduate program is hosted by the Department of Mechanical Engineering at the University of Iowa. The official website is here. The AIMS undergraduate certificate program requires 18 semester hours (s.h.) of credits, including two required courses (ME:4111 Scientific Computing and Machine learning and ME:4150 Artificial Intelligence in Engineering), three elective courses selected from the list on the website, and a capstone design project.

Civil and Environmental Engineering (CEE) students can earn the AIMS undergraduate certificate without taking extra credits by course substitutions as below.

1. Required courses:
   The following courses can be substituted for ME:4111:
   MATH:3800 Elementary Numerical Analysis

   The following courses can be substituted for ME:4150:
   ENGR:2995 Intro to AI and Machine Learning

2. Some CEE courses can be substituted for AIMS electives
   CEE:4104 Groundwater Modeling
   CEE:4118 Statistical Methods in Water and the Environment
   CEE:4135 Structural Modeling & Health Monitoring
   CEE:4512 Engineering Design Optimization
   CEE:4515 Computer-Aided Engineering
   CEE:4533 Finite Element I
   CEE:5236 Optimization of Structural Systems
   CEE:5678 Application Simulation to Transportation

   Note: Please get in touch with Prof. Xiao (shaoping-xiao@uiowa.edu) if students (especially in the “Structures, mechanics, & materials” focus area) want to use other CEE electives for substitution.

3. The following courses can be substituted for the capstone course.
   CEE:4850 Project Design & Management in CEE

   Note: Please consult with Prof. Xiao before conducting the project. The final report with a paragraph emphasizing the AIMS component is required.

The students need to declare the AIMS UG certificate through their MyUI account. Then, the students need to contact Prof. Xiao (shaoping-xiao@uiowa.edu), the director of the AIMS UG certificate program, to discuss the plan of study before submitting the course substitution forms. Here is the guideline for submitting an online course substitution form through the College of Engineering website. Note: Multiple forms must be submitted if there is more than one substitution.
1. Find “Course substitution request form” in academic forms, and click it.

   ![Course Substitution Request Form]

   This form is to be completed by the student to request a substitution of a degree requirement (gen ed, core curriculum, major/program of study, or seminar) course for another course.

2. Login with your hawkid and password.

3. “Select your major or certificate” with “AIMS Certificate”

   ![Select Major/Certificate]

4. Click “Required Course” to substitute for a required course. For example,

   ![Required Course Substitution]

5. Click “Elective Course” or “Capstone Course” for other substitutions. For example,