

ASEN 6412

Uncertainty Quantification (UQ)

Spring 2024

Class meetings: T/Th 10:00 AM - 11:15 AM in AERO 232

Instructor:

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Office hours: T/Th 12:00 - 1:30 PM at AERO 363, otherwise by appointment.

Zoom link (only office hours): <https://cuboulder.zoom.us/>

Prerequisites:

Prerequisite is a *B* or better in ASEN 5070, APPM 5520, APPM 5570, ECEN 5612, or

Course objectives:

This course will provide an introduction to recent techniques for representation and propagation of uncertainty in PDE/ODE-based systems. Students will be exposed to the state-of-the-art techniques for building probabilistic models (from data) and simulation of random processes, as well as numerical solution of PDEs/ODEs in the presence of uncertainty. A number of case studies from computational solid and fluid mechanics will be discussed.

Course content (tentative):

home and follow the guidance of the Centers for Disease Control and Prevention (CDC) for isolation and testing. If you have been in close contact with someone who has COVID-19 but do not have any symptoms and have not tested positive for COVID-19, you do not need to stay home but should follow the guidance of the CDC for masking and testing.

Accommodation for Disabilities, Temporary Medical Conditions, and Medical Isolation

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition, see Temporary Medical Conditions on the Disability Services website.

Preferred Student Names and Pronouns

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class

the need for a religious accommodation in a timely manner.

Mental Health and Wellness

The University of Colorado Boulder is committed to the well-being of all students. If you are struggling with personal stressors, mental health or substance use concerns that are impacting academic or daily life, please contact Counseling and Psychiatric Services (CAPS) located in C4C or call (303) 492-2277, 24/7.

Free and unlimited telehealth is also available through Academic Live Care. The Academic Live Care site also provides information about additional wellness services on campus that are available to students.