



2022 Summer Visualization in Engineering Online Program

Program dates:

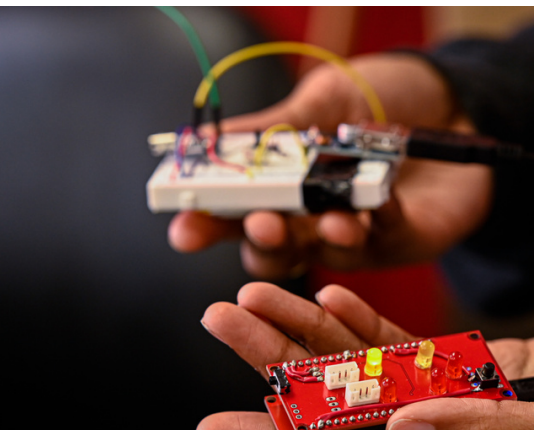
July 11 to July 29, 2022

8:00-10:00 AM every Tuesday to
Thursday U.S Eastern Time

Program fee:

USD1200 per person, includes:

- Online courses
- Final project coaching
- Learning Management System Moodle Registration and usage
- NC State Global Training Initiative Certificate
- Transcript



Overview

Visualization in Engineering is an interdisciplinary course that sharpens the students' skills in computer programming and the physical sciences along with their communication skills – all of which are important skills in the field of engineering. During the course, the students will need to have access to MATLAB. Weekly take-home assignments are used to gain proficiency and for project development.

Apply by June 20: go.ncsu.edu/gti-visualization

Program Details

No. Topics

1-3 **Introduction to Physical Concepts**

The objective is to familiarize the student with the evolution of the basic concepts in the physical sciences, from ancient, medieval, classical, to modern times.

4-6 **Development of Visualization Tools**

The objective is to begin to provide the student with a foundation in the programming as it pertains to the visualization of light.

8-9 **Communication of a Subject**

The objective is to begin to instill in the student an appreciation for the importance of how one best presents results in the field of engineering – that the process is essentially one of communication.

10-12 **Project Exploration**

The objective is to work with each of the students to begin the process that will lead each student to setting up his or her individual video project. The project is different for each student.

13-15 **Project Development**

At this stage of the course, each student has selected a project and each project faces its own technical challenges. The technical challenges arise from the project's subject, which is unique to it. Therefore, during this stage, the topics covered in class vary based on the needs of the projects.

16 **Student presentations**

Each student first discusses his video and then presents it to the class.



Admissions Requirements

- This program is only open to students from NC State partners' universities
- Undergraduate students, major in Engineering or Physics
- The entire course will be taught in English, the students need to have sufficient English level
- Students taking this class should have already had at least one calculus course and some introductory experience with computer programming in MATLAB.

