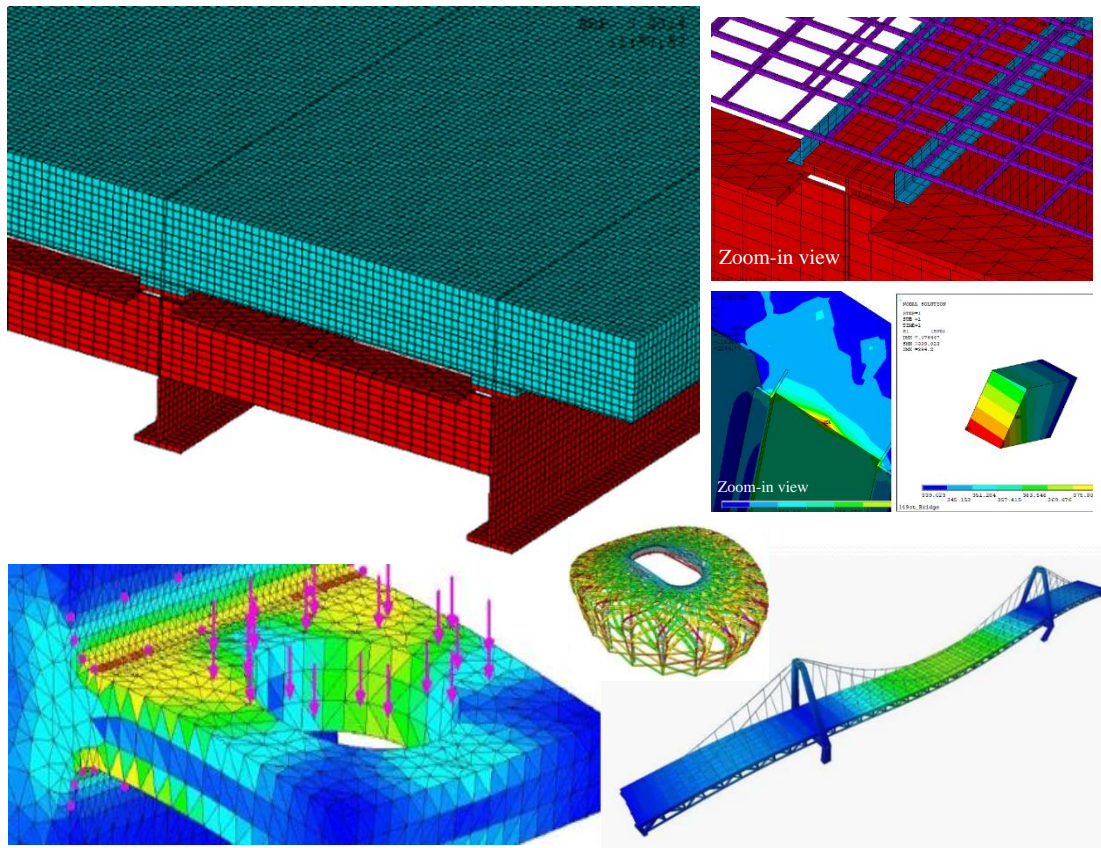# CE I1700 Finite Element Methods in Engineering
Spring 2022

Instructor: Feng-Bao Lin, Ph.D., P.E.
Wednesday 6:30 - 9:00 PM

The primary goal of this course is to learn equilibrium and variational formulations of finite element methods for solving two-dimensional elasticity boundary value problems as well as its computer implementations and applications. After taking the course, students would be able to

- Form member stiffness and global stiffness matrices for analyzing frame structures,

- Understand the fundamental governing equations, such as equilibrium, compatibility, and stress-strain laws, for solving linear elasticity boundary-value problems,

- Use the principle of virtual work and Galerkin methods to form isoparametric element stiffness matrices of triangular elements, quadrilateral elements, and plate elements,

- Use the direct assembly method to form global stiffness matrices, and

- Understand the relevant finite element computer implementations and applications.

The course is open to the students who have taken CE H3000 Advanced Strength of Materials or equivalent.

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