

**CE 415: Selected Topics in Engineering and Construction Management**  
**“Sustainable Buildings and Infrastructure”**

1<sup>st</sup> Semester 1441/1442H (2020/2021)

**Lecture Schedule:** Monday & Wednesday – 1:00 – 2:50 pm



**Course Description:**

This course will present the “why,” “what” and “how” for sustainable construction projects. Students gain a working understanding of how to minimize the negative impacts of buildings and other large construction projects. Students will develop their technical and creative ability to plan and design for a sustainable future. Students perform quantitative analyses of the environmental and economic impacts of engineering alternatives.

**Goal:** Students will begin learning how they can create a future that they want to live in.

**Objectives:** To achieve the course goal, students will:

1. Identify and develop skills for learning about sustainable engineering as the field evolves;
2. Apply basic concepts of sustainable engineering and explain how they relate to the ENVISION and LEED rating systems;
3. Communicate persuasively with others, including non-engineers, about sustainable infrastructure;
4. Practice the collaboration skills that are essential to sustainable construction projects; and
5. Demonstrate thoughtful effort, beyond a typical CE course.

**Course Topics:**

1. Sustainable design and construction.
2. Evolution of sustainability: theory and application.
3. Green rating systems.
4. Project delivery and pre-design sustainability opportunities.
5. Sustainable design opportunities and best practices.
6. Sustainable construction opportunities and best practices.
7. Post-occupancy sustainability opportunities and best practices.
8. The business case for sustainability

**Questions?**

**Instructor:** Dr. Abdulrahman Bin Mahmoud (abinmahmoud@ksu.edu.sa)