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ECIV 101 Case Study Research and Development

Effective solutions to modern challenges in civil engineering, ranging from environmental change to gentrification, require engineers who engage with the political, societal and technological aspects of problems. As a first step in educating the holistic engineers that today's world requires, the Department of Civil Engineering is developing interdisciplinary case studies for use in a newly revamped Introduction to Civil Engineering course. The case studies developed use historical examples to explore the interactions between society, engineering and the material world, while introducing engineering methodologies in an applied example. The development of these studies requires extensive research and mentorship from both the Department of Civil Engineering and the Department of History. Background research was conducted into existing and pertinent civil engineering case studies as well as issues of note in the Bozeman community. Simultaneously, faculty mentors from both involved departments assisted in identifying six key topics that would be best communicated through a case study. Once the topics were identified, extensive background research was conducted to identify and highlight important points embodied by the case study. The case studies were then fully developed to include additional reading materials, discussion points, pedagogical frameworks and associated activities. A final portfolio will be developed containing the key ideas to be communicated, materials, exercises and discussions for use in the Introduction to Civil Engineering Class.