

# Heavy Equipment Operation Topics Course as part of Construction Management Curriculum

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Heavy civil equipment is composed of many types of machines, brands, and model sizes that serve different purposes all with the end goal of completing a job. The focus for this course is the introduction and effective use of the primary pieces of heavy equipment used on job sites all over the country through the use of class discussion, presentations, and virtual simulators to give a closer look at what is being done on each heavy civil project. Being able to select between brands that offer similar pieces of equipment with different weight, fuel consumption, maintenance, and capacity is critical to successful completion of projects. This class will introduce simulator technology to give students a visual representation of each machine and a hands-on experience with how each piece of equipment works. This senior project delivers a syllabus and schedule for a 15 week tech elective course meeting 4 hours per week.



**Backhoe Loader**

Learn many applications used on construction sites from lifting and moving objects to trenching and backfilling, plus the importance of using stabilizers during operations.



**SimLite Compact Track Loader**

Using a compact and portable hardware design, the learner builds on techniques throughout the training to get a solid understanding of Compact Track Loader applications.



**Hydraulic Excavator**

Includes all the foundational applications the learner needs to get started, plus more challenging techniques like trenching and truck loading.



**Advanced Construction Excavator**

Teaches the learner more difficult operations like using a thumb and bench loading, while refining skills.



## Simulator Technology Virtual Operation

- excavators, dozers, loaders, rollers, trucks, cranes, skidsteers
- offered by CMLABS, Klein, SimLog, CAT
- can link to desktop computer
- real time experience

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