Why invest in Capstone Design?

Insights from Research
Industry-oriented capstone courses give new employees critical skills in five key areas that support their transition to work.

I would say the best three things about capstone would be:

1. It teaches you to manage your time and your resources really well.

2. It teaches you to work with other people in a team to get a goal accomplished.

3. ...the third is learning how to find information that you don’t already have - research, basically - to get what you need done.

Lifelong Learning
Managing one’s own time & knowledge
- time management
- finding work & keeping busy
- finding resources
- developing work ethic

Technical Work
Doing authentic engineering design & technical work
- working with tools & equipment
- handling ambiguity & uncertainty
- defining requirements
- generating, prototyping & testing designs

Teamwork
Engaging in teamwork & project management
- project planning
- coordinating project logistics
- participating in team meetings
- carrying out team functions

Engineering Identity
Seeing oneself as an employee or engineer
- experiencing responsibility & accountability
- learning one’s role
- thinking like an engineer
- feeling competent

Communication
Communicating clearly with team members & clients
- formal & informal presentations
- formal & informal writing
- interpersonal communication
- interfacing with clients

Capstone to Work Data:
More than 100 recent engineering graduates, 4 diverse institutions, 12 weeks of surveys, and quarterly interviews for a year.

cdhub2.org/links/c2w

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What distinguishes Capstone Design?

Industry Collaboration
with practicing engineers, vendors, and other stakeholders

Design Rationale
Decisions that have consequences in terms of time, money, and/or product function, and require students to explain and justify their reasoning

Client Interaction
Expectations from faculty and clients of professional-level engineering work and interactions

Guided Mentorship
in a structured, supported learning environment

“"In Capstone we still had to ... come up with intermediate goals and I guess right now, that part has translated over because I really have to mainly come up with a lot of my own intermediate goals to really try to keep moving forward...”

Student Confidence
in their ability to “do” engineering work rather than just solving textbook problems

Authentic Projects
Open-ended projects that have significant meaning in the world

“"One thing that prepared me well is working in teams ... and getting to work with our liaisons and everything. I feel like that was helpful. The whole working with other engineers on the same project and trying to work out solutions for different problems and get everybody’s input.”

Project Management
of time, tasks, and team members

“"... being able to maintain work relationships and a level of professionalism and realizing what you do impacts others and helps others grow. That was my biggest take away.”

Mentorship

Deliverables that reach Beyond the Classroom and help students communicate with working professionals

Authentic Projects
Open-ended projects that have significant meaning in the world

“"One thing that prepared me well is working in teams ... and getting to work with our liaisons and everything. I feel like that was helpful. The whole working with other engineers on the same project and trying to work out solutions for different problems and get everybody’s input.”

Project Management
of time, tasks, and team members

“"... being able to maintain work relationships and a level of professionalism and realizing what you do impacts others and helps others grow. That was my biggest take away.”

Recognization of their need to Keep Learning

Capstone to Work Data: 100+ recent graduates, 4 institutions, 12 weeks of surveys, quarterly interviews

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