



Olin College
of Engineering

VISION:

Lead the transformation of undergraduate engineering learning experience to educate the next generation of innovators who want to better the world.



Olin College
of Engineering

MISSION:

Olin College prepares students to become exemplary engineering innovators who recognize needs, design solutions and engage in creative enterprises for the good of the world. Olin is dedicated to **continual discovery and development of effective learning approaches and environments, and to co-developing educational transformation** with collaborators around the globe.



Olin College
of Engineering

Transdisciplinary Integration

“Researchers **work jointly using shared conceptual framework** drawing together disciplinary-specific theories, concepts, and approaches **to address common problem.**” (Rosenfield, 1992)

Rosenfield PL. The potential of transdisciplinary research for sustaining and extending linkages between the health and social sciences. Soc Sci Med 1992;35:1343-57.



Quantitative Engineering Analysis

“If you want to engineer effectively, you must be able to **choose and use appropriate quantitative approaches** for a given situation.”

Credit: the QEA teams, including Rebecca Christianson, John Geddes, Siddhantan Govindasamy, Mark Somerville, Chris Lee, Paul Ruvolo, Samantha Michalka



Learning objectives include:

- Ability to **select and appropriately apply** quantitative tools for engineering analysis in context.
- Demonstration of understanding and ability to **implement a variety of quantitative tools** for analysis.
- **Clear communication** of technical process and results.
- **Professionalism** in terms of participation, teamwork, and completion of work on time.

Credit: the QEA teams, including Rebecca Christianson, John Geddes, Siddhantan Govindasamy, Mark Somerville, Chris Lee, Paul Ruvolo, Samantha Michalka



Olin College
of Engineering

Integrated Science

Chemistry, biology, materials science, AHS*

2 semesters, 12 credits (total)

Fulfills all foundational science and AHS requirements

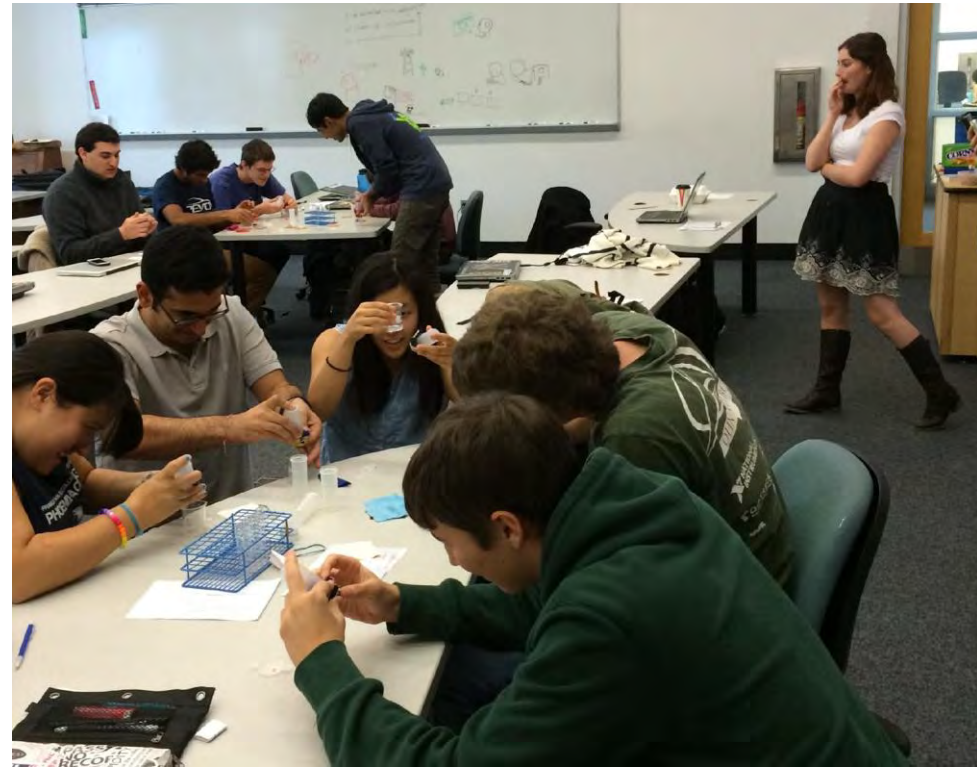
*Arts, humanities, social sciences



Olin College
of Engineering

Integrated Science
Semester 1: lead project
Semester 2: TBD

Science fundamentals
+ context





Olin College
of Engineering

Integrated Learning Outcomes

Examples:



Consider Context



Prioritize Sustainability



Communicate Effectively



Collaborate Successfully



Become Self-Directed Learners



Olin College
of Engineering



Consider Context



Olin College
of Engineering



Prioritize Sustainability



Olin College
of Engineering



Communicate Effectively



Olin College
of Engineering



Collaborate Successfully



Olin College
of Engineering



Become Self-Directed Learners



Assessment

Experimental grading



Olin College
of Engineering

Assessment

Constructive engagement

- Class attendance, promptness, and **professional behavior/engagement/participation**
- Completion of deliverables
- Asking for help when you need it
- Acceptance/addressing of feedback

Credit: the QEA teams, including Rebecca Christianson, John Geddes, Siddhantan Govindasamy, Mark Somerville, Chris Lee, Paul Ruvolo, Samantha Michalka

Diversity of **All Kinds**

Racial and ethnic

LGBTQ

Socio-economic

Cultural

Neurodiversity

Diversity of thought

...





Faculty



Olin College
of Engineering

Faculty

From committees to ... working groups?

External engagement scaffolding?

Professional development?

Teaching load?

One curriculum?



Technology and Pedagogy



Olin College
of Engineering

CORE INSTITUTIONAL VALUES:

Quality and **Continuous Improvement**

Student Learning and Student Development

Institutional Integrity and Community

Institutional Agility and Entrepreneurism

Stewardship and Service