CURE defining characteristics:

- Students perform research associated with a course
- Research outcomes are unknown
- Results are interesting to a larger community outside of lab

Learning outcomes based on learning goals

- Research goals
  - Specific to research project
- Pedagogical goals
  - Conceptual
  - Technical
  - Affective

Overall research goal of CUREs: Contribute new scientific knowledge to the scientific community.

Overall pedagogical goal of CUREs: Provide students with the experience of conducting scientific research, allowing them to be engaged in the scientific process.

Examples of pedagogical learning outcomes

**Conceptual**
- Increased understanding of the process of science
- Improved ability to select or design an experiment
- Increased content knowledge
- Improved ability to read and evaluate science literature

**Technical**
- Increased technical skills
- Increased data analysis skills
- Discipline-specific skills

**Affective**
- Enhanced science identity (being a “science person”)
- Increased sense of belonging (to scientific community)
- Increased scientific self-efficacy
- Improved attitudes about science
- Increased feelings of project ownership
- Increased interest in graduate education
- Increased tolerance for obstacles and persistence
- Career clarification
- Persistence in science
- Improved communication skills through presentation within and outside of class
- Improved collaboration skills

References / Resources


http://home.sandiego.edu/~josephprovost/bmb20989-sup-0001-suppinfo01.pdf

https://serc.carleton.edu/sage2yc/musings/science_identity.html