SOCIETAL-IMPACT & ETHICS COURSE CONTENT DESCRIPTION & OUTCOMES TEMPLATE

Course Number: **CH ENGR 104B**

Course Name: **Chemical and Biomolecular Engineering Laboratory II**

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COURSE DESCRIPTION

- **Description of specific societal impact topics or ethics issues that are addressed in the course:**

  The specific societal impact topics addressed in this course deal with the technical benefits delivered by the technologies associated with laboratory experiments. This topic relates to the questions of what problem has the technology solved, how has human life improved from this solution, and what scope of the human population benefited (i.e., how many individuals). The specific ethics issues addressed in this course deal with financial gain and/or disproportionate benefits delivered by the technology. Specific questions addressed for this issue are: Who stands to gain from the solution? What are the alternative technologies and why aren't we pursuing those? Are there any individuals or groups that are exploited by using this technology? What are the environmental impacts of this technology?

- **Time dedicated to cover this content through lecture and other in-class learning activities:**

  Students in this course perform 4 experimental investigations during the course (920 minutes total for each investigation). Each investigation requires a written report and/or oral presentation (expected time of 150 minutes of work). One fifth of the report or presentation is devoted to discussing the societal impact topics/issues related to the investigation. Thus, it is expected that students will devote 214 minutes per investigation for research and writing activities related to the societal impact components of the course.

OUTCOMES

- **Aligned with ABET Student Outcome Criteria #4**: *The ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.*

Outcome 1: Demonstrates an ability to infer consequences of engineering solutions to global, economic, environmental, and societal problems.

Outcome 2: Demonstrates knowledge of current technological issues and their relation to general society.