



Online Ethics Center  
FOR ENGINEERING AND SCIENCE

# Problem Based Learning (PBL) Syllabus

## Author(s)

Roberta M. Berry

## Description

This syllabus was part of a course on problem based learning (PBL) using fractious problems in science and technology.

## Body

## NSF EESE Course

Emory IBS 500R: Current Topics in Bioscience

GSU LAW 7246: Health Law: Selected Topics

GT PUBP 8803: Biopolicy, Ethics, and Law

MSM: GEBS 752: Special Topics in Bioethics

## Facilitators/Contact Information

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Roberta Berry, JD, PhD

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## **Class Meetings**

Wednesdays, 5:15-8pm

Emory Ethics Center

1531 Dickey Drive

Atlanta, Georgia 30322

## **Course Objectives**

1. Develop and apply [Fractious Problem-Solving Skills \(FPSS\)](#) (see [Attachement 1](#))
2. Develop and apply [Problem-Based Learning Skills \(PBLs\)](#) (see [Attachment 2](#))

## **Course Problems**

Students will work in teams (Team A and Team B), using FPSS and PBLs to analyze the fractious problems under study and to devise, present, and justify proposed policy resolutions for these fractious problems. The problems will be handed out on:

- Wed, August 25 (Practice Problem)
- Wed, September 8 (Problem 1)
- Wed, October 20 (Problem 2)

## **Course Materials**

There are no required textbooks or assigned readings. Students will identify sources and conduct research independently and in collaboration with team members.

## **Course Requirements**

(1) Please submit all course requirements by email to your team facilitator and cc Roberta Berry.

(2) FPSS Progress Reports (individual submissions)

Prepare and submit 2 FPSS Progress Reports (maximum 500 words each).

Your FPSS Progress Reports should describe and assess your efforts and your team's efforts to apply the FPSS to the problem under study.

Due dates:

Wed, September 22, by 2pm (Problem 1)

Wed, November 10, by 2pm (Problem 2)

(3) PBLs Progress Reports (individual submissions)

Prepare and submit 2 PBLs Progress Reports (maximum 500 words each).

Your PBLs Progress Reports should describe and assess your efforts and your team's efforts to apply the PBLs to the problem under study.

Due dates:

Wed, September 22, by 2pm (Problem 1)

Wed, November 10, by 2pm (Problem 2)

(4) Slides and Presentations (team submissions/presentations)

Prepare team slides, including references, using the FPSS to analyze the problems and to devise, present, and justify proposed policy resolutions.

Slide submission due dates:

Wed, September 8, by 2pm (Practice Problem)

Wed, October 20, by 2pm (Problem 1)

\*Wed, December 8, by 2pm (Problem 2)

\*tentative

Presentations (approx. 30 minutes slides, 20 minutes discussion) on:

Wed, September 8, 5:15-7pm (Practice Problem)

Wed, October 13, 5:15-7pm (Problem 1, Practice Session)

Wed, October 20, 5:15-7pm (Problem 1, Formal Presentation)

Wed, December 1, 5:15-7pm (Problem 2, Practice Session)

\*Wed, December 8, 5:15-7pm (Problem 2, Formal Presentation)

\*tentative

Public presentations (1 per student: radio, classroom, public forum)  
to be determined.

\*tentative

(5) Reports (team submissions, 30-50 pages of text)

Prepare team reports, including bibliography in proper form, using the FPSS to analyze the problems and to devise, present, and justify proposed policy resolutions.

Due dates:

Friday, October 22, by 5pm (Problem 1)

Friday, December 10, by 5pm (Problem 2)

(6) Complete three online ethics questionnaires or prepare and submit an alternative ethics essay homework assignment at the beginning and again at the end of the course.

### **Course Grade**

#### **(1) FPSS (individual) - 25%**

FPSS Progress Reports and Facilitator Observations

#### **(2) PBLs (individual) - 25%**

PBLs Progress Reports and Facilitator Observations

#### **(3) Team Slides and Presentations - 25%**

Graded according to demonstrated FPSS used to analyze the problems and to devise, present, and justify proposed policy resolutions; clarity, comprehensiveness, accuracy

#### **(4) Team Reports (including bibliography in proper form) - 25%**

Graded according to demonstrated FPSS used to analyze the problems and to devise, present, and justify proposed policy resolutions; clarity, comprehensiveness, accuracy.

#### **(5) Ethics Questionnaires or Alternative Homework Assignments - 0%**

The contents of the questionnaires or alternative homework assignments will not affect your course grade.

#### **(6) Attendance - Potential Impact**

Attendance and participation is expected at class meetings and Team presentations. More than one unexcused absence may negatively affect your grade due to diminished skill development and diminished contributions to team presentations and reports.

## Honor Codes

The honor codes of the four institutions apply to students from those institutions with respect to all aspects of this course.

## Summary Schedule with Due Dates

Wed Aug 25	Joint Meeting Team Meetings Begin Practice Problem
Wed Sept 1	Team Meetings
<b>Wed Sept 8</b>	<b>Submit Practice Problem Slides</b> <b>Practice Problem Presentation</b> Debrief Practice Problem Presentation Begin Problem 1
Wed Sept 15	Team Meetings
<b>Wed Sept 22</b>	<b>Submit FPSS Progress Report</b> <b>Submit PBLs Progress Report</b> Team Meetings
Wed Sept 29	Team Meetings
*Wed Oct 8	*Team Meetings on your own at a time, date, and place TBD
<b>Wed Oct 13</b>	<b>Problem 1 Practice Session</b> Debrief Problem 1 Practice Session
<b>Wed Oct 20</b>	<b>Submit Problem 1 Slides</b> <b>Problem 1 Formal Presentation</b> Debrief Problem 1 Formal Presentation Begin Problem 2
<b>Fri, Oct 22</b>	<b>Submit Problem 1 Team Report</b>
Wed Oct 27	Team Meetings
Wed Nov 3	Team Meetings
<b>Wed Nov 10</b>	<b>Submit FPSS Progress Report</b> <b>Submit PBLs Progress Report</b>

Wed Nov 17	Team Meetings
*Wed Nov 24	Team Meetings
<b>Wed Dec 1</b>	<b>Problem 2 Practice Session</b>
	Debrief Problem 2 Practice Session
<b>*Wed Dec 8</b>	*Tentative—time, place, and date may be changed.
	<b>Submit Problem 2 Slides</b>
	<b>Problem 2 Formal Presentation</b>
	Debrief Problem 2 Formal Presentation
<b>Fri Dec 10</b>	<b>Submit Problem 2 Team Report</b>

**Public presentations (1 per student: radio, classroom, public forum) to be determined.**

## Notes

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## Resource Type

Instructor Materials

## Topics

Pedagogical Approaches

## Discipline(s)

Teaching Ethics in STEM  
Engineering