BIOFUELS controversy

Food Issues

“We’ve gathered to give thanks for our bountiful harvest. But it seems all our corn crop went to ethanol production.”
BIOFUELS

We will cover

Biofuel types

Ethical issues

Biochemistry

International GHG Treaty

Kyoto Protocol
The Biochemistry and Ethics Behind Current Biofuels

Friday, 3:00PM – 4:00PM, 106A Bio/Bio

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Course description: Biofuels have become a hot topic in science and society due to recent concerns over global climate change caused by a buildup of green house gasses, high crude oil prices, and reduced crude oil deposits. Biofuels are predominantly produced from plant-based materials. Thus, the use of biofuels can reduce green house gasses such as CO$_2$ from the atmosphere since plants use atmospheric CO$_2$ as a building block for the materials from which biofuels are produced. While plant based biofuels are currently being used and have great potential, there are many issues to be taken seriously, both scientifically and socially. This class will cover the biochemistry, environmental, and social issues behind current and future biofuels.
Grading: Your grade will be determined based on 4 components: presentation, class participation, a short quiz at the end of every class, and attendance.

<table>
<thead>
<tr>
<th>Event</th>
<th>Points</th>
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<tbody>
<tr>
<td>- 50% presentation</td>
<td>100</td>
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<tr>
<td>- 30% participation</td>
<td>60</td>
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<tr>
<td>- 12.5% quizzes</td>
<td>25</td>
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<tr>
<td>- 7.5% attendance</td>
<td>15</td>
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<tr>
<td>100%</td>
<td>200</td>
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Grade distribution:

A = 90 – 100% \((\geq 179 \text{ pts})\)
B = 80 – 89% \((159 – 178 \text{ pts})\)
C = 70 – 79 \((139 – 158 \text{ pts})\)
D = 60 – 69 % \((119 – 138 \text{ pts})\)
F = 59% or less \((\leq 137 \text{ pts})\)
**Presentations:** Each student will give a presentation for one class period covering an assigned paper that relates to the biofuel topic at hand. Presentations should include an introduction to the specific biofuels topic covered by that paper. Students are expected to use other sources of information (web pages, other papers, etc.) for developing their background section. These sources should be cited in the presentation. Each figure of the paper should be presented and discussed in detail as well as the interpretation of the results. (a few papers contain too many figures to present them all. Thus, the major figures should be presented). Presentations should be delivered in a format that will promote discussion with the class as a whole. Presentations should be more of a discussion rather than a “lecture”. Presentations should be in PowerPoint format. Each presentation should be 30 to 40 minutes in length.

**Web page use:** Use of web pages to obtain information for presentations is fine and encouraged. However, there are many opinions and views about biofuels and all of them are represented on the web. Thus, when information is obtained from a web page, students are expected to inform the class of the organization that produces the web page and their opinions on biofuels.
Participation: Students are expected to participate in the discussion during presentations and ask questions. The class period should be interactive instead of simply a lecture.

Quizzes: At the end of each class period there will be a short, open note, quiz. The quizzes will cover the material from the papers assigned for presentations.

Attendance: Students are required to attend each class as part of their grade.
Presentations

Obtaining original figures from papers:

- find journal name
- google journal name to find home page
- look up paper by volume and page #
Picture is worth 1,000 words

Try to add pictures to your presentations

Many pictures on web for biofuels

Google: biofuels = 3,600,000 pictures
Figure Citation

- always give credit to where your figure or picture is from


Green Dreams

www.myninjaplease.com

ngm.nationalgeographic.com
Many web pages use pictures with improper citation

Solix Biofuels  www.solixbiofuels.com/

www.energypowershift.com/solix_bioreactor.jpg
robbibaba.blogspot.com/2008/03/first-algae-biodiesel-plant-goes-online.html
cr4.globalspec.com/blogentry/5383/Algae-Biofuels-Better-Than-Ethanol
gliving.tv/technology-science/algae-might-just-save-the-planet/
thoughtsonglobalwarming.blogspot.com/2008/02/algae-energy-that-other-biofuel.html
www.thetruthaboutcars.com/biodiesel-from-pond-scum/
newenergynews.blogspot.com/2007_12_01_archive.html

Be aware of the view of the web page where you are getting picture
http://tamuweb.tamu.edu/faculty/tpd8/BICH407/index.htm

Contains:
- syllabus
- main paper and supplemental papers for each topic
- a guide for each topic that points out topics that should be covered
- grades will be posted on eCAMPUS
- students are encouraged to meet with me **ONE WEEK** before their presentation