

BIO-FUELS WORKSHEET – BIOL 2420

Purpose: To enhance the students understanding of renewable resources and the production, and use, of bio-fuels.

Introduction: Read the materials on bio-fuels presented to your team and watch the following videos on Youtube:

Energy 101 | Algae-to-Fuels

<https://www.youtube.com/channel/UC7EGgnYFEIOaAa47ZBpninw>

Energy 101 | Biofuels

<https://www.youtube.com/user/USdepartmentofenergy>

How Its Made Biodiesel

<https://www.youtube.com/user/Howitsmade2014>

Course Activity: Based on your readings and the videos you watched. Design a simple system to produce biofuels. Consider the following questions when developing your system:

What organic material will your team use to generate biofuel?

How will the material be processed?

How will your system be environmentally friendly?

How will you make your system cost effective?

Will other byproducts be produced? If so, how can they be used?

Class Presentation: Your team will be required to diagram their system on the board and explain to the class the basic features of the system.

Refer to the grading rubric when working on your project. This will show your team where the grading emphasis is being placed.

Bio-Fuels Grading Rubric

Class:

Team Members:

Criteria	Excellent (5)	Good (4)	Average (3)	Poor (2 -0)	SCORE
<u>Team Participation</u>	High degree of interest and team participation. High degree of interaction.	Good degree of interest and team participation. Good degree of interaction.	Fair degree of interest and team participation. Fair degree of interaction.	Low degree of interest and team participation. Small degree of interaction.	
<u>System Development</u>	Excellent system development. Very original concept. Reveals a deep understanding of the concepts involved.	Good system development. Original concept. Reveals a good understanding of the concepts involved.	Fair system development. Fairly original. Displays a fair knowledge of the concepts involved.	Poor system development. Poor understanding of concepts involved.	
<u>System Design</u>	Excellent system development. Very clean lines, bold colors. Very original concept.	Good system development. Clean lines, good colors. Original concept.	Fair system development. Fairly clean lines, fair color scheme, somewhat original.	Poor system development. Poor presentation. Poor overall quality.	
<u>Presentation</u>	High degree of understanding, very well developed and presented. All team members involved.	Good degree of understanding, well developed and presented, all team members involved	Fair degree of understanding, fair degree of development and presentation, all team members involved	Poor understanding of concepts. Weak presentation. Poor overall team participation.	
				Rubric Score	

* FINAL SCORE: _____

* FINAL SCORE determined as follows: Rubric score multiplied by a factor of 5