Philadelphia University

Faculty of Engineering - Department of Renewable Energy Engineering

Second Semester 2016/2017

Course Information

Title:	Bioenergy system (611541)
Prerequisite:	Introduction to renewable Energy. (0611341)
Credit Hours:	3 credit hours (16 weeks per semester, approximately 44 contact hours)
Textbook:	Bioenergy Systems, Biological Sources and Environmental Impact, by Michel C. Allard
References:	1- Handbook of Renewable Energy 1st ed. 2017 Edition by Walter Leal Filho (Editor). .
Catalog Description:	Bioenergy systems and biomass energy, use of organic materials (Plants etc..), transfer of solid material to gas. Gas collection technologies , study of burning and digestion of wet wastes. use of biomass as a source of renewable energy.
Website:	http://www.philadelphia.edu.jo/academics/wagahfm/ Dr Wagah Al-Azzawi
Instructor:	**Email**: wagah2000@yahoo.co.uk. **Office**: Engineering building, room 6728, ext: 2180. **Office hours**: Sun, Tues, Thurs: 11:10-13:10 and Mon, Wed: 10:00 -12:00

Course Topics

Week	Topic
1&2	Introduction to biomass energy
3,4, 5	Bioenergy systems
6, 7	Organic materials (Plants etc..)
8,9	Biomass energy, Waste power
10,11	Transfer of solid material to gas,
12, 13	Gas collection technologies
14	Burning and digestion of wet wastes
15	Biomass as a source of renewable energy.
16	Review, and final exam

Course Learning Outcomes and Relation to ABET Student Outcomes:

Upon successful completion of this course, a student should:

1.	Understand biomass energy	[a, h]
2.	Deals with Bioenergy systems	[a, h]
3.	Use organic materials (Plants etc..)	[c, h]
4.	Be able to transfer of solid material to gas,	[c, h]
5.	illustrates how Burning and digestion of wet wastes	[e, h]
6.	Biomass as a source of renewable energy.	[a , c]

Assessment Instruments:

Evaluation of students' performance (final grade) will be based on the following categories:

Exams:	Two written exams will be given. Each will cover about 3-weeks of lectures
Quizzes:	10-minute quizzes will be given to the students during the semester. These quizzes will cover material discussed during the previous lecture(s).
Homework:	Problem sets will be given to students. Homework should be solved individually and submitted before the due date.
	Copying homework is forbidden, any student caught copying the homework or any part of the homework will receive zero mark for that homework
Participation:	Questions will be asked during lecture and the student is assessed based on his/her response
Final Exam:	The final exam will cover all the class material.

Grading policy:

First Exam	20%
Second Exam	20%
Homeworks	5%
Quizzes	15%
Final Exam	40%
Total:	100%

Attendance policy:

Absence from classes and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse, acceptable to and approved by the Dean of the relevant college/faculty, shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

February, 2017