

# Energy Industry Fundamentals

EGY 101 | Syllabus | Fall 2016 | Eddie Burkhead | [BurkheaEdwardL@jccmi.edu](mailto:BurkheaEdwardL@jccmi.edu)

**Time and Place:** Tuesday 2pm to 4:54pm, JW 202

**Description:** Energy Industry Fundamentals provides a broad understanding of the electric and natural gas utility industry and the generation, transmission, and distribution infrastructure, commonly called the "largest machine in the world," which forms the backbone for the industry. The course includes business models, regulations, types of energy and their conversion to useable energy such as electric power, emergent technologies, and the connection to careers in the energy industry. An ANSI accredited EIF Certificate will be awarded upon successful completion of final certification exam.

**Outcomes:** After completing this course, students will be able to:

- Gain an understanding of the energy industry as a whole and demonstrate functional knowledge of its systems, parts, functions, and purpose
- Demonstrate knowledge of the fundamental principles and concepts that impact the energy industry
- Apply procedures and equipment necessary to ensure a safe and healthy work environment
- Think critically and communicate clearly about the role of energy in society in the present and future
- Perform basic calculations relating to the physics of electricity and other forms of energy
- Explore and describe career options in the utility industry

**Text:** *Energy Industry Fundamentals, CEWD.* (available online)

**Grading:** Your grade will be determined out of a total of 450 possible points earned throughout the duration of the course. The point break down is as follows:

Quizzes: 475 points

Reading Notes: 140 points

Projects: 60 points

TOTAL: 675 points (25 points of extra credit may be earned by scoring 80% or better on the EIF exam)

Final Grades will be assigned for the following scores:

4.0 92 - 100%

3.5 85 - 91%

3.0	80 – 84%
2.5	75 – 79%
2.0	70 – 74%
1.5	65 – 69%
1.0	60 – 64%
0.5	50 – 59%
0.0	0 – 54%

Attendance and participation are mandatory. Failure to attend each class and participate with enthusiasm could result in a lower grade. If you are unable to attend due to sickness, death in the family, or other Acts of God, please e-mail the instructor as soon as you are able.

Late-work is accepted if a reasonable excuse can be given. Points will be deducted accordingly. Exceptional work delivered on time may be given extra credit.

To pass this course, you need a 2.0 grade.

Only courses with passing grades count toward graduation or a certificate. Other colleges transfer in only courses with passing grades. Many financial aid sources, including most employers, require passing grades.

### **Incompletes**

No incomplete grades will be given in this class except under extraordinary circumstances and if the student has completed at least 75% of the work and has at least 2.0 in the course. The grade of "I" is not awarded to students who did not attend, or seldom attended, or to those who simply are not pleased with their final grades. Students receiving an "I" may submit the remaining work during the next class offering by attending the remainder of the class. Or, talk to me about specific arrangements to complete the remaining work in a manner that is acceptable to me. Students do not redo work that had already been graded. Students may drop the class up to the drop deadline as specified on the website calendar. See

[http://www.jccmi.edu/student-services/registration/grading\\_system.htm](http://www.jccmi.edu/student-services/registration/grading_system.htm) for more info

### **Attendance, Participation grades (HQV), and Final Grades:**

Attendance is perhaps the most important predictor of success in this course. If you are unable to attend a class, inform the instructor as soon as possible. Based upon circumstances, any missed due dates or late work may be penalized or rejected at the discretion of the instructor. Typically a 10% reduction per day late will be assessed.

Participation is not the same as showing up. It is important that you contribute to and benefit from the learning of others by sharing your observations, insights, and questions.

You will receive 3 HQV grades during the semester [see Participation Reporting, p16 of the JCC catalog]. You can view your HQV grades and final grades in e-services on the JCC website, by clicking the students menu, then clicking the grades by term hotlink.

\* V means verify. It verifies that you are participating

\* H means you need help. You will be contacted by the Center for Student Success.

\* Q means you have been withdrawn from the course due to lack of attendance. Contact student services

### **Please Note:**

Students with disabilities who believe that they may need accommodations in this class are encouraged to inform the instructor and/or contact the office of Learning Support Services at 787-0800, extension 8270/8553 as soon as possible to ensure that such accommodations are implemented in a timely fashion.

**College Closing:**

Any cancellation of classes will be announced on the local radio stations. You can also call the switchboard (800) 787-0800. Also see <http://www.iccm.edu/info/closings.htm>

In the case of a school closing I will email you with further instructions regarding our next class.

**Academic Honesty Policy**

The JCC Academic Honesty policy states that **academic honesty is expected of all students**. It is the ethical behavior that includes producing their own work and not representing others' work as their own, either by plagiarism, by cheating, or by helping others to do so. **Cheating is obtaining answers/materials from an outside source without authorization**. Cheating includes, but is not limited to: Plagiarizing in all forms, using notes/books without authorization, copying, submitting others' work as your own or submitting your work for others, altering graded work, falsifying data or exhibiting other behaviors generally considered unethical.

**Plagiarism is the failure to give credit for the use of material from outside sources**. Plagiarism includes but is not limited to: Using data, quotations, or paraphrases from other sources without adequate documentation, submitting others' work as your own, or exhibiting other behaviors generally considered unethical. **Faculty members who suspect a student of academic dishonesty may penalize the student by taking appropriate action up to and including assignment a failing grade for the paper, exam, or the course itself.**

<http://www.iccm.edu/administration/deans/Policies/Academic%20Honesty%20Policy.doc>

**Conduct:**

Students are expected to behave in a mature, respectful manner in the classroom and laboratory. Use of computers, tablets, and phones during class is distracting to students and instructors. Do not be this person! If you need your phone on to monitor for emergencies, discuss options with the instructor prior to class. All cell phones and other devices will be turned off during exams or tests (calculators excluded).

**Calendar**

<b>Date</b>	<b>Class</b>	<b>Modules</b>	<b>Topic</b>
9/6/2016	1	Introduction and Module 1C	Energy Flow: Generation, Transmission, and Distribution
9/13/2016	2	1A	History of the US Energy Infrastructure
9/20/2016	3	1B	The Energy Industry: Structure and Organization
9/27/2016	4	3A	How Power Plants Work
10/4/2016	5	3B	Fossil Fuels
10/11/2016	6	3C	Alternative Energies
10/18/2016	7	4A	Transmission Part 1
10/25/2016	8	4B	Transmission Part 2
11/1/2016	9	5A	Electricity Distribution Part 1
11/8/2016	10	5B	Electricity Distribution Part 2
11/15/2016	11	5C	Natural Gas Distribution
11/22/2016	12	2A	Safety 1
11/29/2016	13	2B	Safety 2
12/6/2016	14	2C	Safety 3
12/13/2016	15	Course Review	
12/20/2016	16	EIF Online Exam	