

Purdue University Calumet
English Language Program
English for Engineers 035 – Spring 2013

Class Days: Tuesdays & Thursdays
Class Times: 2:00 – 3:20
Classroom: Gyte 007A

Instructor: Heather Torrie
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Office hours: M-R 12:20-1:45 or by appointment

COURSE DESCRIPTION

Designed for ELP students who are planning to study Mechanical, Electrical or Civil Engineering. The course focuses on reading, writing, listening, and speaking skill development for future engineering students. Examples of topics of study include: design, measurement, materials technology, manufacturing, and static and dynamic principles.

OBJECTIVES

- Students will practice reading, writing, listening, and speaking skills using technical topics
- Students will develop their technical English vocabulary

REQUIRED MATERIALS

1. A **vocabulary notebook** – this should be a SEPARATE notebook, where we will write down all new engineering terms and their meanings. This will be checked and graded for completion and accuracy twice a semester. You must record at least 2 new words each class period.

<i>Date</i>	<i>Word</i>	<i>POS</i>	<i>Meaning</i>
<i>Apr 10</i>	<i>Convection</i>	<i>N</i>	<i>Hot gas molecules expand, become less dense, and take up more space</i>

2. A **folder** to keep all class handouts – students are responsible for keeping track of all papers handed out in class – no duplicates will be given out!

COURSE REQUIREMENTS: Grading

Scoring a minimum of 70% on quizzes, attending class regularly, completing homework assignments, active participation in class projects, group and class discussions are all required to pass this class and exit ELP.

Vocabulary Log	20%
In-class work	20%
Teaching Presentation	50%
<u>Presentation Quizzes</u>	<u>10% points</u>
Total	100%

ELP Attendance Policy

After three absences, you will be required to meet with an ELP advisor. A sixth absence will result in failure of the course and possible expulsion from the program. If you miss more than 15 minutes of a class, you will be marked absent. If you are late three times, you will receive one absence.

MAJOR PROJECTS & ACTIVITIES

Teaching Presentation

- 1) **Choose your topic** to teach the class
- 2) **Reading and Vocabulary Skills**
 - Find 2 articles → Print them out; highlight important sentences
 - Find 5 key vocabulary words – write the meaning
- 3) **Listening Skills**
 - Find 2 videos that illustrate this topic → Take notes on the paper
- 4) **Speaking** (15-20 minute presentation)
 - a. Give an introduction to the topic
 - b. Teach 5 key vocabulary words
 - c. Explain the concept or how something works
 - d. Prepare a set of 5 quiz questions for students to answer during your presentation

On your presentation day, please hand in:

- 2 articles (with highlights)
- 2 video note sheet
- Set of 8 quiz questions

Topics to choose from:

Compressed Air Engine (CAE) (Mechanical)
 Pneumatics Control Systems (Mechanical)
 Variable Transmissions (Mechanical)
 Hovercrafts (Mechanical)
 Submarines (Mechanical)
 Steam Engines (of the past) (Mechanical)
 Automatic Solar Tracking (Electrical)
 Energy Harvesting (Electrical)
 How a Servo Motor Mechanism Works (rotary or linear) (Mechanical)
 Fiber Reinforced Concrete (Mechanical/Chemical)

Bullet-Proof Material, such as Kevlar (Mechanical/Chemical)
 Building Earthquake-Resistant Structures (Structural)
 Hurricane-Resistant Structures (Structural)
 Building Skyscrapers (Structural)
 Roofing Material (Structural)
 Traffic Interchanges (Civil)
 Nuclear Power Plants (Civil/Mechanical)
 City Waste Water and Drinking Water Treatment (Civil/Chemical)
 Making Energy-efficient Homes & Buildings (Civil)
 Your choice _____

Teaching Presentation Rubric:

PREPARATION	Points Available	Points Earned
3 Articles Printed Out and highlighted (2 points each)	4	
Video Worksheet with notes (2 points each)	4	
PRESENTATION		
Presentation – 5 quiz questions for during the lecture <ul style="list-style-type: none"> Thoughtful (and answered in the presentation) Grammatically correct 	5	
Presentation – Content and Organization <ul style="list-style-type: none"> Introduction to the topic (2 points) Explain clearly the ideas, including examples (5 points) 5 vocabulary words effectively explained (5 points) 	12	
Presentation – Delivery <ul style="list-style-type: none"> Pronunciation and fluency 	5	
Powerpoint <ul style="list-style-type: none"> Free of grammar mistakes and typos Clean format Appropriate amount of text and graphics 	5	
TOTAL	35	

Engineering Project for Boys and Girls Club

Specifics:

- 10 minute activity for 8-10 year old kids (groups of about 5 kids)
- Explain a fun engineering principle OR explain how something works → Related to a specific field of engineering (CE, EE, ME, etc)
- Include lots of visuals – pictures, objects, models, etc

Step #1: Decide your topic

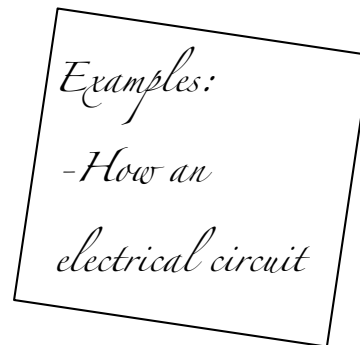
Type of Engineering

- Electrical
- Mechanical
- Computer
- Civil
- Petroleum

Our Topic: _____

Resources

- <http://science.howstuffworks.com/engineering-channel.htm>
- <http://www.discoverengineering.org/>
- <http://www.thinkmech.ca/kids/>



Step #2: Decide HOW to explain

- Are you going to have a poster set up?
- Are you going to have a model?
- Are you going to have pictures?

**You can show a video clip (but max of 2 minutes). It should be simple enough and short enough for kids to understand. Most of it should be you explaining to the kids and asking them questions.*

Step #3: Decide what you are going to say, what questions you'll ask the kids to get them involved, etc.

- What vocabulary will you teach them?
- What process are you going to teach them?
- What will you show them?

Calendar

	<i>Topics</i>	<i>English Focus</i>
Week 1 Jan 15, 17	No Electives	
Week 2 Jan 22, 24	Measurements	Integrated skills: Reading, Writing, Listening, Speaking, Vocabulary
Week 3 Jan 29, 31	Material Science	
Week 4 Feb 5, 7	Material Science	
Week 5 Feb 12, 14	Physical Forces/Machines	
Week 6 Feb 19, 21	Electricity (Batteries, Power Generation)	
Week 7 Feb 26, 28	Electricity (Flashlights)	
Week 8 Mar 5	MIDTERMS	
Week 9 Mar 19, 21	Preparation for <i>Boys' and Girls' Club Activities</i>	
Week 10 Mar 26, 28	<i>BAGC Activities</i> - Tuesday Bridges	
Week 11 Apr 2, 4	Bridges <i>Teaching Presentations</i>	
Week 12 Apr 9, 11	Engines <i>Teaching Presentations</i>	
Week 13 Apr 16, 18	Heating and Air Conditioning <i>Teaching Presentations</i>	
Week 14 Apr 23, 25	Heating and Air Conditioning <i>Teaching Presentations</i>	
Week 15 Apr 29, 30	FINAL EXAMS	

