Ohio Articulation Number (OAN)  
Course Submission Form  
2005-2006

College/University  Lakeland Community College

Course(s) Submitted (Title & Course #)  ENGS 1000 Introduction to Engineering

Ohio Articulation Number OES001

Date  October 24, 2006  Course  1 of a  1 Course OAN mapping.

Name and title of individual submitting on behalf of the college/university

Name  Marilyn S. Jones  Title  Associate Provost

Address  Kirtland, Ohio 44094

E-mail  mjones@lakelandcc.edu

Phone  (440) 525-7828

Fax  (440) 525-7657

Credit Hours  2  qtr  X
Lecture Hours  1
Laboratory Hours  2 (if applicable)
Pre-Requisites(s)  Course work (if applicable)

Placement Score (if applicable)
( Name of test) 
(Domain)  (Score)

Catalog/Course Description (Includes Course Title and Course #)

ENGS 1000 Introduction to Engineering: This course introduces students to the various career options that are available in the engineering and engineering technology fields. It also instructs students in various methods that can be used for solving complex engineering problems, including the interpretation and presentation of data. It introduces students to many basic pieces of equipment.
that they will use in future laboratory experiments. Finally, it discusses many of the ethical dilemmas that engineers face during their careers in the workplace.

Texts/Outside Readings/Ancillary Materials

Course Objectives and/or Plan of Work

GENERAL COURSE GOALS:
1. Instruct students in the study skills that are needed to be a successful engineering student. This includes successful techniques for overcoming test anxiety.
2. Provide numerous problem solving methodologies to think critically and be able to solve complex open-ended problems that are encountered in engineering.
3. Explain the various disciplines and functions of engineering and engineering technology professionals in the workforce.
4. Provide students with the opportunity to use pieces of equipment that will be utilized in their future courses in a team environment.
5. Examine ethical issues that are encountered in technical fields.
6. Instruct students in the use of a spreadsheet program

COURSE OBJECTIVES:
Upon completion of the course, the student should be able to:
1. State the study skills that are necessary to be a successful engineering students.
2. Describe and apply the methodologies that are used to solve complex open-ended engineering problems.
3. Describe the various disciplines and functions of engineering and engineering technology professionals in the workforce.
4. Use the basic operations of a standard spreadsheet program, including how to present and interpret data in graphical form.
5. Demonstrate the use of routine equipment that will be used in engineering labs.
6. Explain the advantages and disadvantages of working in teams.
7. Analyze engineering situations to determine if they are ethical.
Description of Assessment and/or Evaluation of Student Learning

SUGGESTED GRADING PROCEDURES:
Tests and homework assignments
Laboratory reports
Computer projects

SUGGESTED COURSE EVALUATION PROCEDURE:
A: 90% or greater
B: 80-90%
C: 70-80%
D: 60-70%
F: below 60%

Master Syllabi and Working Syllabi (if both are used)

******************************
*                        *
*  THIS IS A VERSION OF THE COURSE OUTLINE THAT HAS BEEN  *
*  APPROVED, AND WILL BE EFFECTIVE AS OF FALL 06          *
*                        *
******************************

LAKELAND COMMUNITY COLLEGE - COURSE OUTLINE FORM

ORIGINATION DATE: 03/21/06
03/21/06
LAST MODIFICATION DATE: 03/30/06
EFFECTIVE TERM/YEAR: FALL 2006

10/12/06
COURSE NUMBER: ENGS1000
COURSE TITLE: Introduction to Engineering

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**PREREQUISITES:**

**PROGRAMS & CERTIFICATES FOR WHICH THIS COURSE IS REQUIRED:**
NONE

**PROGRAMS & CERTIFICATES FOR WHICH THIS COURSE IS AN ELECTIVE:**
NONE

**COURSE ACCEPTED AS TRANSFER CREDIT BY:**

**RECOMMENDED CLASS SIZE:** 20  
RATIONALE: LAB CONSTRAINTS

**FREQUENCY OF OFFERING:** 2 X YEAR

**TERMS NORMALLY OFFERED:** FALL  SPRING

**LAB FEE:** NONE

**RATIONALE FOR COURSE:**
The course is designed to meet the requirements of the Ohio Board of Regents Transfer Applicability Guide for Introduction to Engineering, OES-001.

Also, many engineering students lack the proper methodology for critical thinking and problem solving and this course is designed to address this problem.

**COURSE DESCRIPTION:**
This course introduces students to the various career options that are available in the engineering and engineering technology fields. It also instructs students in various methods that can be used for solving complex engineering problems, including the interpretation and presentation of data. It introduces students to many basic pieces of equipment that they will use in future laboratory experiments. Finally, it discusses many of the ethical dilemmas that engineers face during their careers in the workplace.

**GENERAL COURSE GOALS:**
1. Instruct students in the study skills that are needed to be a successful engineering student. This includes successful techniques for overcoming test anxiety.

2. Provide numerous problem solving methodologies to think critically and be able to solve complex open-ended problems that are
encountered in engineering.

3. Explain the various disciplines and functions of engineering and engineering technology professionals in the workforce.

4. Provide students with the opportunity to use pieces of equipment that will be utilized in their future courses in a team environment.

5. Examine ethical issues that are encountered in technical fields.

6. Instruct students in the use of a spreadsheet program

COURSE OBJECTIVES:
Upon completion of the course, the student should be able to:

1. State the study skills that are necessary to be a successful engineering student.

2. Describe and apply the methodologies that are used to solve complex open-ended engineering problems.

3. Describe the various disciplines and functions of engineering and engineering technology professionals in the workforce.

4. Use the basic operations of a standard spreadsheet program, including how to present and interpret data in graphical form.

5. Demonstrate the use of routine equipment that will be used in engineering labs.

6. Explain the advantages and disadvantages of working in teams.

7. Analyze engineering situations to determine if they are ethical.

COURSE OUTLINE:
I. Study Skill Habit
II. Problem Solving Methods
III. Overview of Engineering and Engineering Technology Disciplines
IV. Working in a Team Environment
V. Use of Common Laboratory Equipment
VI. Ethical Issues in Engineering
VII. Use of Spreadsheets to Graph and Interpret Data
INSTRUCTIONAL PROCEDURES THAT MAY BE UTILIZED:
Lectures
Laboratory experiments
Working in the computer laboratory

SUGGESTED GRADING PROCEDURES:
Tests and homework assignments
Laboratory reports
Computer projects

SUGGESTED COURSE EVALUATION PROCEDURE:
A: 90% or greater
B: 80–90%
C: 70–80%
D: 60–70%
F: below 60%

[ End of Course Outline for 'ENGS1000' ]

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COURSE ID: ENGS1000
10/12/06
TITLE: Introduction to Engineering
4. Math and Science

5. Past and Present Cultures

6. Technology

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*** CRITICAL THINKING ***

7. Identify Personal Assumptions

8. Identify Ethical Dimensions


10. Evaluate Issues from Various Perspectives

11. Collect, Analyze, Interpret Information

12. Support Hypotheses

13. Synthesize Information

14. Draw Conclusions

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*** COMMUNICATION SKILLS ***

15. Speak Clearly and Effectively
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<td>17. Write Clearly &amp; Effectively in Standard English</td>
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<td>18. Work Effectively in Groups</td>
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<td>19. Listen Actively and with Understanding</td>
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<td>20. Practice Effective Interpersonal Skills</td>
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<td>21. Interpret/Use Graphic Communication</td>
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<td>22. Use Technology-Based Communication</td>
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Methods of Assessment codes:

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(specify)

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Additional Documentation

*** THIS COURSE OUTLINE WILL BE EFFECTIVE FALL 06***
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