1. **COURSE TITLE\*:** Introduction to Engineering
2. **CATALOG – PREFIX/COURSE NUMBER/COURSE SECTION\*:**

ENDS 1100

1. **PREREQUISITE(S)\*: None COREQUISITE(S)\*: None**
2. **COURSE TIME/LOCATION/MODALITY: (*Course Syllabus – Individual Instructor Specific*)**
3. **CREDIT HOURS\*: 2 LECTURE HOURS\*: 2**

 **LABORATORY HOURS\*: (contact hours) 0 OBSERVATION HOURS\*:0**

1. **FACULTY CONTACT INFORMATION: *(Course Syllabus – Individual Instructor Specific)***
2. **COURSE DESCRIPTION\*:** This course introduces the student to the engineering profession and the variety of related jobs and careers. This course also includes the use of electronic calculators, personal computers, conversion of units, (English to metric, metric to English), problem solving techniques in groups and individual, scientific notation, and decision-making models.
3. **LEARNING OUTCOMES\*:**

1. Be able to understand and solve open-ended problems related to engineering.

2. Develop hands-on skills related to applications of engineering.

3. Be able to function on a team in an academic environment.

4. Have knowledge of various disciplinary and career areas within engineering.

5. Ethics in engineering practice.

6. Introduction to computer tools for engineering analysis and design.

1. **ADOPTED TEXT(S)\*:**

Introduction to Engineering Technology

8th Edition

Robert J. Pond, Jeffery L. Rankinen.

Pearson/Prentice Hall. 2014

ISBN-13: 978-0-13-284011-8

**9a: SUPPLEMENTAL TEXTS APPROVED BY FULL TIME DEPARTMENTAL FACULTY (INSTRUCTOR MUST NOTIFY THE BOOKSTORE BEFORE THE TEXTBOOK ORDERING DEADLINE DATE PRIOR TO ADOPTION) \*\*\*.**

1. **OTHER REQUIRED MATERIALS: (SEE APPENDIX C FOR TECHNOLOGY REQUEST FORM.)\*\***

Scientific calculator

Scale and Protractor

Graphing paper (1/4” squares)

Student will need an auxiliary storage device, flash drive or network home-drive.

Microsoft Office Suite

1. **GRADING SCALE\*\*\*:**

Grading will follow the policy in the catalog. The scale is as follows:

|  |  |  |
| --- | --- | --- |
| Grade | Points | % |
| A | 1000-900 | 100-90 |
| B | 899-800 | 89.999-80 |
| C | 799-700 | 79.999-70 |
| D | 699-600 | 69.999-60 |
| F | 599-0 | 59.999-0 |

1. **GRADING PROCEDURES OR ASSESSMENTS: (*Course Syllabus – Individual Instructor Specific)***

|  |  |  |
| --- | --- | --- |
| *Category* | ***EXAMPLE ONLY****Total Points* | *% of Grade* |
| Assignments  | 500 | 50% |
| Tests- 3 | 300 | 30% |
| Final Exam | 200 | 20% |
| Total | 1000 | 100% |

1. **COURSE METHODOLOGY: *(Course Syllabus – Individual Instructor Specific)***

May include but not limited to lecture, independent and group projects, in-class and home assignments, papers on reading assignments, and tests. Attendance is recommended.

**14. COURSE OUTLINE: *(Course Syllabus – Individual Instructor Specific)***

***(Insert sample course outline with learning outcomes tied to assignments / topics.)***

|  |  |  |
| --- | --- | --- |
| Week | Topics | Learning Outcomes |
| 1 | College Success Keys; Calculator; Chapter 1 – History of Engineering, Engineering Technology and Teamwork. Technology as a Career. SSCC Programs. | 3,4,5 |
| 2 | Chapter 2 and 7 – Survival Skills in College, Spelling and Vocabulary, Library, G.P.A., Defining a Problem, Problem Solving, Attitude, Career Choices. | 3,4,5 |
| 3 | Chapter 3 – Technology Opportunities, Problem Solving.Test 1. | 3,4,5 |
| 4 | Engineering Math, Scientific Notation, Orders of Operation. | 1,2,6 |
| 5 | Use of Parentheses, Exponents (positive and negative). | 1,2,6 |
| 6 | Chapter 4 – Calculator: Logic Systems, Scientific Notation, Orders of Operation, Use of Parentheses, Basic Mathematical Operations. | 1,2,6 |
| 7 | Special Operations on a Scientific Calculator, Combined Operation on a Calculator. | 1,2,6 |
| 8 | Significant Digits, Logarithms, Program Advising, Tour or Video. Test 2. | 1,2,6 |
| 9 | Chapter 5 – Measurement. The Technical Laboratory, Teams, Performing and Experiment, The Laboratory Report, Errors, Significant Figures, Graphing. | 1,2,3,5,6 |
| 10 | Systems of Measurement, Fundamental Dimensions, Derived Dimensions, Dimensionless Quantities, Working with Units, Math Operations with Units. | 1,2,6 |
| 11 | Converting Units, Unit Ratios, Conversions, Simplifying the Answer. | 1,2,6 |
| 12 | Estimation, Test 3. | 1,2,3,5,6 |
| 13 | Chapter 6 – Right Triangle Trigonometry. | 1,2,6 |
| 14 | Geometry for Technologists. | 1,2,6 |
| 15 | Chapter 8 and 9 – Personal Computer, Engineering Software, Networking, Internet, Industrial Automation, Chapter 10 – Your Future in Technology, SSCC Programs, Life Long Learning. Review. | 1,2,3,4,5,6 |
| 16 | **Final Exam** | 1,2,3,4,5,6 |
|  |  |  |

**15. SPECIFIC MANAGEMENT REQUIREMENTS\*\*\*:**

It is important to complete all reading assigned for the week prior to coming to class. Lecture portions of the class do not cover the readings. The lectures are designed to supplement and build on the reading.

For credit, all assignments will be completed as scheduled.

 No test may be taken late without prior approval of instructor.

 No make-up tests. Read your student handbook.

**16. FERPA: \***

Students need to understand that their work may be seen by others. Others may see students’ work when being distributed, during group project work, or if it is chosen for demonstration purposes. Students also need to know that there is a strong possibility that their work may be submitted to other entities for the purpose of plagiarism checks.

**17. ACCOMMODATIONS: \***

Students requesting accommodations may contact Ryan Hall, Accessibility Coordinator at rhall21@sscc.edu or 937-393-3431, X 2604.

Students seeking a religious accommodation for absences permitted under Ohio’s Testing Your Faith Act must provide the instructor and the Academic Affairs office with written notice of the specific dates for which the student requires an accommodation and must do so no later than fourteen (14) days after the first day of instruction or fourteen (14) days before the dates of absence, whichever comes first. For more information about Religious Accommodations, contact Ryan Hall, Accessibility Coordinator at rhall21@sscc.edu or 937-393-3431 X 2604.

**18. OTHER INFORMATION\*\*\*:**

Class participation – it is your class, and your participation improves it.

 Class attendance – text covers 50% of material, in-class the other 50%.

 The use of AI to complete reports and writing assignments is strictly prohibited –

* Will result in a zero for an assignment in which it is suspected, based on faculty and/or third party reviews.

**SYLLABUS TEMPLATE KEY**

**\*** Item cannot be altered from that which is included in the master syllabus approved by the Curriculum Committee.

**\*\*** Any alteration or addition must be approved by the Curriculum Committee

**\*\*\*** Item should begin with language as approved in the master syllabus but may be added to at the discretion of the faculty member.