

**Bergen Community College**  
**Division of Mathematics, Science and Technology**  
**Department of Industrial Design Technology**

**Course Syllabus**  
**TEC 180 Problem Solving Using Technology**

Semester and year:  
Course Number:  
Meeting Times and Locations:

Instructor:  
Office Location:  
Phone:  
Office Hours:  
Email Address:

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**Course Title:** TEC 180 Problem Solving Using Technology

**Course Credit:** 4 Credits

**Prerequisite:** None

**General Education:** No

**Course Description:** TEC-180 Problem Solving Using Technology is a "hands-on" course, using computers and graphing calculators to solve problems related to various industrial and engineering technologies.

**Text:** Applications - Software Manuals

**Specific Objectives:**

- 1. To develop a direct approach to technical problem solving using computers and graphing calculators.**
- 2. To provide students with an understanding of the hardware and software tools that can be applied to problems that arise in the various technological curricula.**
- 3. To provide experience with the team approach to problem solving which is becoming widespread as our technical environment grows in complexity.**
- 4. The laboratory will include direct data collection using sensors, manipulation of the data using information management software, and real problem solving using applications software appropriate to the students' technological areas of study.**

**5. To foster a learning community in the technologies whereby this course environment becomes a resource for faculty and students needing support on assigned projects.**

**6. To develop supporting technical skills through a contextual problem solving approach.**

**Means of Assessment/Student Evaluation will be provided by your instructor.**

**Sample:**

**4 written tests (lowest grade of the 4 tests dropped) 20 points for each of the three highest tests.**

**2 note book evaluations (10 points each),**

**1 written project including paper and presentation (10 points),**

**Instructor's evaluation (10 points)**

**UNIT 1      Basic concepts of problem solving  
Using technology to solve problems  
Increased productivity using technology**

**UNIT 2      Case studies in industry and engineering technologies  
Selecting a problem or set of problems  
Data input**

**UNIT 3      Human Interface:  
Command driven graphing calculator  
Graphical user interface of the computer**

**UNIT 4      Current software and hardware tools**

**UNIT 5      Applications/Group Projects**

**Problems in:**

**Surveying**

**Land Use**

**Manufacturing**

**Fluid Dynamics**

**Electronics**

**Areas of Group Interest**

**TEC180SC0sp06**

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You'll find directions how to do this at <http://go.bergen.edu/email>.