Catalog Course Description:

The student learns the basic skills, knowledge, and abilities to successfully communicate in the technical environment. They learn to use various applications for word-processing, problem solving, and graphing along with generating presentation aids for required technical presentations. Outcomes are accomplished through project-based, "hands-on" use of computer applications required by the department, including: Outlook Email, Internet, Windows, AutoCAD, MS Excel, MS Power Point, MS Word, and other program-specific software.

Entry Level Standards:

This course is open to all students in the engineering technologies.

Corequisites:

MATH 1730

Textbook(s) and Other Course Materials:

Textbook: TBD
Handouts: Instructor generated

I. Week/Unit/Topic Basis:

<table>
<thead>
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<th>Week</th>
<th>Topic</th>
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| 1    | Course introduction  
Syllabus review and course requirements  
E-mail Basics  
Computer Hardware Basics  
Introduction and tutorial on Windows  
File management techniques  
File sharing on the Network  
Internet lesson  
Practice  
Application exercises  
Evaluations |
| 2-3  | Review file management and file sharing techniques.  
Educational Resource Center usage (guest librarian) |
MET department report requirements
Word processing using MS WORD
Printing from AutoCAD
Practice
Application exercises
Evaluations

4-5 Review Word processing
Resume writing workshop w/Placement Director
Produce spread sheets with Microsoft EXCEL
Practice
Application exercises
Evaluations

6-7 Design a Power Point Presentation
Develop basic speaking skills
Use of graphics
Multimedia usage
Practice
Application exercises
Evaluations

8-9 Review EXCEL and Power Point
Introduction to program-specific software
Practice
Application exercises
Evaluations

10 Lifelong Learning Skills presented by Chair of SME Local Chapter 107
Teaming fundamentals
Team formation
Application exercises

11-12 Team Project/Presentation Work
Practice
Application exercises

13-14 Final Projects/Presentations

15 Final Exam/Projects/Presentations

II. MET Program Objectives & Outcomes:

Objectives:

I. Apply basic engineering theories and concepts.

II. Apply basic engineering theories and concepts.

III. Identify and solve work related problems with minimum assistance.

IV. Operate equipment and instruments with a high degree of skill.

V. Communicate effectively, including verbal, writing, and graphical skills.
VI. Apply the principles of good work ethics.

VII. Obtain gainful employment in the MET discipline or matriculate to a 4-year program in engineering technology.

Outcomes:

A. apply the knowledge of mathematics, science, and engineering technology. (I, II, IV, VI)
B. use the techniques and modern engineering tools needed for engineering technology practices. (I – IV, VI)
C. identify, formulate, and solve engineering technology-based problems. (I, II, VI)
D. design and conduct experiments, as well as analyze and interpret collected data. (I – IV, VI)
E. create or fabricate a system, subsystem, component, or process to meet specified needs. (I – IV, VI)
F. read and extract information from manuals, journals, and other discipline related literature. (I – IV, VI)
G. communicate effectively, including verbal, writing, and graphical skills. (IV, V, VI)
H. function and contribute positively in team situations. (II, IV – VI)
I. comprehend social, professional, and ethical responsibilities, including development of a respect for diversity and other contemporary issues. (II, V, VI)
J. realize the impact of engineering technology solutions in a global and societal context. (V, VI)
K. realize the importance of a commitment to quality, timeliness, and continuous improvement. (V, VI)
L. recognize the importance of life-long learning. (I – VI)

III. Course Objectives*:

A. Demonstrate an understanding of the Windows working environment. (B)
B. Develop skills in problem solving by using the computer effectively for engineering technology applications. (A, B & C)
C. Send and receive internal and external E-Mail messages, navigate the PSTCC web site, and access the PSTCC online library. (B & G)
D. Identify and name the basic components of a personal computer (PC). (A)
E. Produce a "word-processed" document with title page, tables, charts, and imported materials. (B)
F. Print a drawing from AutoCAD in the required format. (B)
G. Build problem-solving spreadsheets using Microsoft EXCEL. (B & C)
H. Design and present a presentation using Microsoft Power Point. (G)
I. Search the Internet for MET-related articles on current and evolving technologies and processes. (F)
J. Explain the various opportunities to foster lifelong learning. (L)
K. Develop and practice teaming skills. (H)

*Letters after course objectives reference MET Program Outcomes (as required by ABET).

IV. Instructional Processes*:

Students will:

1. Actively listen and participate in class discussions that develop and reinforce an understanding of the theories, concepts, principles, and applications of computer-assisted performance required in an industrial environment. *Communication Outcome, Mathematics Outcome, Technological Literacy Outcome, Active Learning Strategies*

2. Manipulate the Windows operating system to perform practical tasks for personal computing related to engineering technologies. *Communication Outcome, Mathematics Outcome, Technological Literacy Outcome, Active Learning Strategies*

3. Analyze and solve technical problems using spreadsheets, program-specific software, and QBASIC. *Communication Outcome, Mathematics Outcome, Technological Literacy Outcome, Active Learning Strategies*

4. Analyze, tabulate, and present collected data in an orderly format to prepare a college-level technical report or presentation using computer software packages such as AutoCAD, Microsoft Word, Word Perfect, Excel, FeatureCAM Manufacturing Software, Coordinate Measuring Software, MD Solids, Working Model 2D. *Communication Outcome, Mathematics Outcome, Technological Literacy Outcome, Active Learning Strategies*

5. Use research and oral presentation skills to present findings to a subject matter expert, peer group or an evaluation team from industry. *Communication Outcome, Mathematics Outcome, Technological Literacy Outcome, Active Learning Strategies*

*Strategies and outcomes listed after instructional processes reference TBR’s goals for strengthening general education knowledge and skills, connecting course work to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

V. Expectations for Student Performance*:

Upon successful completion of this course, the student should be able to:

1. Send and receive internal and external E-Mail messages. A, C
2. Navigate the PSTCC web site. A, C
3. Access the PSTCC online library. A, C
4. Identify and name the basic components of a personal computer (PC). D
5. Produce a "word-processed" technical documents through individual or collaborative efforts. A, E, K
6. Print a drawing from AutoCAD in the required format. A, F
7. Build problem-solving spreadsheets using Microsoft EXCEL. A, B, G
8. Produce graphs and trend lines for data analysis. A, B, G
10. Deliver presentations using proper speech techniques as an individual or as a member of a team. H, K
11. Search the Internet for MET-related articles on evolving technologies and processes. A, I
12. Identify and use the proper Windows working environment to accomplish assigned tasks. A, C, E, G, I
13. Apply team skills to group efforts. K

*Letters after performance expectations reference the course objectives listed above.

VI. Evaluation:

A. Testing Procedures:

Evaluation of student work is required in this course. The instructor will provide guidelines and requirements for each project. Total evaluation is based on the following point distribution.

B. Projects (95 points)

   Project 1: E-Mail, Windows, Internet Searches (15 Pts)
   Project 2: Word Processing, Individual (10 Pts)
   Project 3: Word Processing, Collaborative (15 Pts)
   Project 4: Word Processing, Resume (10 Pts)
   Project 5: Spreadsheets Exercises (15 Pts)
   Project 6: Individual Presentation (15 Pts)
   Project 7: Team Presentation (15 Pts)

C. Participation (5 Points)

   Based on instructor observation during the course, each student is evaluated on participation activities. Evaluation parameters to include active participation in class discussions, being prepared, efficient use of lab time, striving to achieve more than minimum requirements, and regular attendance.

D. Grading Scale:
Final grade for this course will be based on the following alphabetical/numerical scale:

A 93-100
B+ 88-92
B 83-87
C+ 79-82
C 74-78
D 65-73
F Below 65

VII. Policies:

A. Attendance Policy:

Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course (Pellissippi State Catalog). Individual departments, programs, disciplines, with the approval of the vice president of Academic and Student Affairs, may have requirements that are more stringent.

B. Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices: Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments. In addition to other possible disciplinary sanctions that may be imposed as a result of academic misconduct, the instructor has the authority to assign either (1) an F or zero for the assignment or (2) an F for the course.

C. Accommodations for disabilities:

If you need accommodations because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Please see the instructor privately after class or in his/her office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127 or 131 or by phone: 694-6751 (Voice/TTY) or 539-7153.

D. Other Policies:

Safety and Equipment Abuse: Repeated safety violations will result in a reduction of final grade, at the instructor’s discretion. Flagrant violations that result in equipment damage or personal injury will result in automatic failure of the course.

Your instructor is available during posted office hours or by appointment.