1. **Course Number and Name:**
   MET 1050 Computers for Engineering Technology (Previously known as ENGT 1050)
2. **Credits and Contact hours:**
   Credits: 3 hours, Contact: 2 lecture hours; 1 lab hour
3. **Instructor's or course coordinator's name:**
   Gary L. Daugherty
4. **Text book, title, author, and year:**
   None
   a. **Other supplemental materials:**
      Microsoft Office 2010 for Windows
5. **Specific Course Information:**
   a. **Brief description of the content of the course (catalog description):**
      Concepts and techniques on the application of computers to the solution of manufacturing and engineering technology problems. Provides an introduction to computer operating systems, programming language and technical software.
   b. **Pre-requisites, or co-requisites:**
      None
6. **Specific goals for the course:**
   a. **Specific outcomes of instruction:**
      1. Successfully identify and implement problem solving skills, particularly those related to research and laboratory methods and presentation
      2. Use, understand and explain the purpose and importance of an operating system
      3. Use Windows to perform appropriate file management
      4. Use a web browser to access information, course information and perform and document research
      5. Use Microsoft Word to create and format technical documents and reports including tables and formulas
      6. Use Microsoft Word to create and format research papers and documentation using the Modern Language Association, (MLA), guidelines
      7. Use Microsoft Excel to create and format spreadsheets and graphs using relative and absolute cell addresses, formulas and functions
      8. Use Microsoft PowerPoint to present information in a technical report
      9. Use Microsoft Publisher to design, format and produce graphic documents.
      10. Use Mathcad to determine constants, define regions and variables, and to perform simple calculations
      11. Be able to flow chart and code structured BASIC/Visual Basic programs to solve engineering problems using decision blocks, loops, single dimensional arrays, and sorting algorithms.
      12. Design and use an e-portfolio to display work, share information and begin to build a professional portfolio.

b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course:

A. An appropriate mastery of the knowledge, techniques, skills and modern tools of their disciplines.

F. An ability to identify, analyze and solve broadly-defined engineering technology problems.

7. Brief list of topics to be covered:

1. Microsoft Word: Basic Text Editing, Outline View, Formatting Documents, Tables and Charts,
2. Microsoft Word: MLA Formatting, Citations and Bibliography, MLA Research Documentation, Technical Laboratory Report Formats
3. Microsoft Excel: Entering Data, Formatting Worksheets, Formulas and Functions.
4. Microsoft Excel: Tables and Charts. Exchanging, inserting and embedding charts into other office based documents.
5. Microsoft Publisher: page layout operations, importing text and images
6. Mathcad: Defining variables, units, manipulating regions, headers. Defining functions and ranges, graphs and subscripted variables.
7. Mathcad: Range of equations, functions, expressions.
8. Introduction to programming: algorithms and flowcharts
9. General Computer Programming using Python