

1. Apply mathematics and technology to a variety of vocational fields of study.
Applied Math II Course Competencies

1. Add, subtract, multiply, and divide fractions.
2. Add, subtract, multiply, and divide decimals.
3. Apply percentages to real life situations.
4. Prepare and analyze a budget.
5. Calculate costs of recruiting, hiring, and paying employees in a business.
6. Calculate costs of production and packaging in a manufacturing business.
7. Compute the amount of a trade discount, the net price of an item, and a trade discount rate.
8. Determine the markup, selling price, and profit on an item.
9. Calculate marketing costs.
10. Determine the costs of storing and inventorying merchandise.
11. Calculate the costs for utilities and maintenance in the upkeep of a business.
12. Calculate and complete a payroll register.
13. Compute the depreciation of a business using a variety of methods.
14. Complete a balance sheet and compare two income statements using horizontal analysis along with computing the percentage of change.
15. Calculate interest on investments including US Treasury Bills, stocks, and bonds.
16. Develop an understanding of the gross national product (GNP) and be able to compute the real GNP and the per capita GNP.
17. Apply mathematics and technology to a variety of vocational fields of study.
 - a. Advanced Three-Dimensional Drawing
 - (1) Create a rendering of a house based on a floor plan.
 - (2) Merge graphics into a project.
 - (3) Create a 3D architectural model, using 3D studio.
 - (4) Combine three-dimensional images into a complex model.
 - (5) Create an animated 3D sequence.
 - (6) Print out rendering of three dimensional images.
 - b. Advanced Multi-media
 - (1) Demonstrate an understanding of computer interaction and functions.
 - (2) Demonstrate an understanding of basic animation techniques.
 - (3) Edit computer animation.
 - (4) Describe careers in animation.
 - (5) Plan animations.
 - (6) Create animation presentations.
 - (7) Apply math to animation procedures.
 - (8) Use cooperative skills.
 - (9) Describe basic animation.
18. Recognize the roles of a computer service professional.
19. Become familiar with the history and the development of the computer.
20. State the three stages of computing and identify associated devices.
21. Recognize the difference between serial and parallel communication.

22. Convert between binary, decimal and hexadecimal.
23. Identify the ASCII value for a given character.
24. State the function of and the different between the computer bus and address book.
25. Identify cables and connectors.
26. Define common electricity terms.
27. State Ohm's Law and its associated formula.
28. Describe the difference between direct and alternating current.
29. Demonstrate the proper use of a multimeter to test a computer power supply.
30. Identify basic electronic components and their function.
31. List several ways to avoid electro-static discharge.
32. Recognize the importance of following proper safety procedures and list several safety precautions.
33. Identify the components and their functions of the motherboard.
34. Change CMOS settings.
35. State the purposes of the POST test.
36. Identify the different types of processor mounts and socket types.
37. State the procedure for installing a CPU.
38. Determine the upgrade value for various CPUs.
39. Define ROM and RAM.
40. Identify the memory configuration of a computer and demonstrate the proper technique for installing memory.
41. State the basic procedure for installing storage devices.
42. Check CMOS settings for floppy drive configuration.
43. Recognize the structure and value of SCSI drives.
44. List the common types of buses and describe their width and speed.
45. Identify system settings.
46. Describe the importance of configuring expansion cards and addressing.
47. Demonstrate the proper and safe procedure to disassemble and re-assemble a computer.
48. Compare and contrast a dot matrix, ink jet, and laser printers.
49. Calculate the minimum memory requirement given resolution and color depth.
50. Describe the pros and cons of interlacing.
51. Calculate dots per inch given pitch measurement.
52. Calculate a monitor's viewable size given the horizontal and vertical resolution.
53. Describe how modems work and how to install them.
54. Identify and list the attributes of laptops, notebooks, sub-notebooks, and personal digital assistants (PDA).
55. Define basic Internet terminology and protocols.
56. Diagram network topology.