SWEETWATER UNION HIGH SCHOOL DISTRICT

DIVISION OF ADULT EDUCATION

Career Technical Education

## Computer Applications – Spreadsheet Software

### COURSE APPROVAL

##### Course submitted by:

##### \_\_Mary Alvarado\_\_\_\_\_\_\_\_ \_Teacher\_\_\_\_\_\_ \_\_Imperial Beach Adult School\_\_\_\_

Name Position Site

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Signature Date

##### Course reviewed by CTE Coordinator

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Signature Date

##### Course approved by the Sweetwater Board of Trustees

May 21, 2001

##### Course Revision:

May 20, 2002

May 17, 2004

May 9, 2006

May 20, 2008

July 26, 2010

July 23, 2012

Title Change:

Nee: “Computer Operator/Software Applications – Spreadsheet Software”

August 18, 2008

May 12, 2014

June 27, 2016

## Computer Applications – Spreadsheet Software

##### Course reviewed by Members of the Industry Advisory Board (EAB)

1. **\_**Didi Arceo**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_**March 9, 2011**\_\_\_\_\_\_**

Name of Advisory Committee Member Date

**\_\_**Didi’s 1040 & More**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_**Owner/Proprietor**\_\_\_**

Place of Business Occupation

2. **\_**Lisa Kershner**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_**March 7, 2011 **\_\_\_\_**

Name of Advisory Committee Member Date

**\_**Mainstay Staffing**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_**Manager**\_\_\_\_\_\_\_\_\_\_\_**

Place of Business Occupation

3. **\_\_**Carol A. Morales**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_**March 3, 2011**\_\_\_\_\_\_**

Name of Advisory Committee Member Date

**\_\_**Vetworks – Able-Disabled Advocacy **\_\_\_\_\_ \_\_**Program Coordinator

Place of Business Occupation

4. **\_**Maria A Mendoza**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_**March 2, 2011**\_\_\_\_\_\_**

Name of Advisory Committee Member Date

**\_\_**Home Start – Inc.**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_**Healthcare Coverage Specialist

Place of Business Occupation

5. **\_**Christina Zacevich**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_**February 28, 2011**\_\_\_\_**

Name of Advisory Committee Member Date

**\_\_**Koenig Jacobsen LLP**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_**Legal Secretary**\_\_\_\_\_\_\_**

Place of Business Occupation

## Computer Applications – Spreadsheet Software

# Basic Course Information

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| **Course Title:** | **Computer Applications – Spreadsheet Software** |
| **CTE Industry Sector:** | **Information Technology Industry** |
| **Career Pathway:** | **Information Support & Services** |

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| --- | --- | --- | --- | --- | --- | --- |
| **Course Level:** |  | Introductory | x | Concentration | x | Capstone |

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| **Course Number:** | **0664** |
| **CBEDS Title:** | **Office Systems and Technologies** |
| **CBEDS Number:** | **4615** |

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| Course Hours: | A maximum of 130 hours or until competencies are achieved. |
| Prerequisites: | Minimum typing speed of 30 words per minute (recommended) |
| Evaluation: | 1. Instructor observation and assessment of student proficiency in spreadsheet operational procedures. 2. Satisfactory attendance and participation in class activities as evaluated by the instructor. 3. Students demonstrating proficiency in the operation of one spreadsheet program may receive one semester credit of high school credit; students who complete intermediate spreadsheet may receive another credit for a total of two high school credits. |
| Conditions for Repetition: | Students who have failed to meet the objectives because of insufficient attendance or inability to master content may repeat the course with updated equipment, software, or content. |
| **Articulation Information:** | Southwest College  Spreadsheet Software – Excel CIS 122B |
| **Articulation Credit:** | 1 Credit |
| **High School elective Credit:** | The class is offered on a CREDIT / NONCREDIT basis. Upon successful completion of course objectives, up to two semester credits of high school elective credit may be earned. A variety of different software applications are available to use over the course of a semester. Students may elect to attend additional hours of learn advanced competencies or other presentation software programs. |
| **Advisory Committee Meetings:** |  |

**Course Description**

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| Spreadsheet is a comprehensive, competency-based course, which combines concepts, skills, and applications to prepare the student for entry-level employment. An intermediate level course is also available. |

**Instructional Strategies**

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| Teacher lecture and demonstration 10%  Teacher supervision of lab work 80%  Instructor/student consultations 10% |

**Instructional Materials**

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| Textbooks: Textbooks: Microsoft Excel 2010 Complete - Shelly Cashman Series |

**Career Plan: How this Course fits into the Course Sequence**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sequence of Courses** | **Course Level** | | | **Primary Funding Source** | | **Perkins**  **Funded** | **Total Duration** |
| Name of Course | Intro. | Concentration | Capstone | District/COE | ROCP | Yes or No | (In hours) |
| Intro to Computer Technology – Part B |  |  |  |  |  | Yes | 120 |
| Keyboarding |  |  |  |  |  | Yes | 60 |
| Computer Applications – MS Word 2010 |  |  |  |  |  | Yes | 300 |
| Computer Applications – MS Excel 2010 |  |  |  |  |  | Yes | 180 |
| Computer Applications – MS Access 2010 |  |  |  |  |  | Yes | 180 |
| Computer Applications – MS PowerPoint 2010 |  |  |  |  |  | Yes | 180 |
| * Student can choose from the following groups: | | | | | | | |
|  |  |  |  |  |  | Yes |  |
|  |  |  |  |  |  | Yes |  |

**Occupations for Identified Pathway**

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| --- | --- |
| Pathway occupations organized by level of education and training required for workplace entry.(Asterisked occupations require certification or licensure.) | |
| Postsecondary Training (certification and/or AA degree) | College University (bachelor’s degree or higher) |
| Computer Operators  * Data Entry Keyers * Office Support Supervisor | • Computer Support Specialist  * Database Administrators * Executive Secretaries |

# Course Goals

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| 1. Gain an introduction to the background of the Information Technology industry as well as the qualifications of successful tile installers. |
| 1. Learn the fundamental concepts of spreadsheet software. |
| 1. Learn to use an electronic spreadsheet to perform numeric calculations and to analyze and present numeric data. |
| 1. Learn to operate computer peripheral equipment, including printers and scanners. |
| 1. Be able to meet requirements for entry-level employment as spreadsheet software operator. |
| 1. Learn how to develop a career plan and complete documentation such as a job application resume, and cover letter. |
| 1. Learn work based expectations and the day-to-day aspects of running a business. |

# Instructional Module/Unit – Introductory Level

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Unit 1** | **Introduction** | Class Hrs. | 10 | Lab Hrs. |  |

Description:

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| Students gain an introduction to the course and learn class expectations. They are introduced to the common traits exhibited by people successfully working in this field, personal qualifications, interests, aptitiudes, and knowledge of skills necessary to succeed this career pathway. Students examine the historical and economic background of this field as well as current opportunities available. In addition students will examine the personal, professional, and educational requirements needed to meet their goals. |
| **Unit 1 Competency:** Upon Completion of this unit, the student is able to: |
| **1.**Identify the personal qualifications, interests, aptitudes, knowledge and skills of successful **computer operators.** |
| **2.** Demonstrate an understanding of personal, professional, and educational requirements of this career field. |

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| **Unit 2** | **Fundamental Concepts** | Class Hrs. | 16 | Lab Hrs. | **26** |

Description:

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| Students will be instructed on the foundational concepts in using presentational software. These concepts will be reinforced through discussion; teacher lecture and working with simple excel projects. |
| **Unit 2 Competency:** Upon Completion of this unit, the student is able to: |
| **1.** Understand Spreadsheet Software |
| **1.1** Introduction to Excel 2010 |
| **1.2** Explore the Parts of the Worksheet |
| **1.3** Opening an Existing Workbook |
| **1.4** Saving a Workbook |
| **1.5** Entering data quickly and accurately |
| **1.6** Changing Data in a Cell |
| **1.7** Recalculate data easily |
| **1.8** Entering labels and values and use Autosum |
| **1.9** Edit cell entries |
| **1.10** Enter and edit simple formulas |
| **1.11** Perform What –if analysis |
| **1.12** Create charts |
| **1.13** Build on Previous Work |
| **1.14** Searching for Data |
| **1.15** Zooming Worksheets |
| **1.16** Previewing and Printing a worksheet |
| **1.17** Closing a Workbook |
| **2.** Change the Appearance of a Worksheet |
| **2.1** Changing the size of a Cell |
| **2.2** Aligning Data within a Cell |
| **2.3** Changing the appearance of Cells |
| **2.4** Using Styles |
| **3.** Organize the Worksheet |
| **3.1** Copying and moving cells |
| **3.2** Inserting and Deleting Rows, columns, and cells |
| **3.3** Freezing Panes in a Worksheet |
| **3.4** Splitting a Worksheet window |
| **3.5** Checking spelling in a Worksheet |
| **3.6** Inserting Headers and Footers |
| **3.7** Preparing a worksheet for printing |
| **4.** Enter Worksheet Formulas |
| **4.1** Define formula |
| **4.2** Entering a Formula |
| **4.3** Editing Formulas |
| **4.4** Comparing Relative, Absolute, and mixed cell references |
| **4.5** Copying Cell Formulas with Relative Cell References |
| **4.6** Copying Formulas with Absolute Cell References |
| **4.7** Copying Formulas with Mixed Cell References |
| **4.8** Creating Formulas quickly |
| **4.9** Previewing Calculations |
| **4.10** Showing Formulas in the Worksheet |
| **4.11** Calculating Formulas manually |
| **5.** Use Functions |
| **5.1** What are Functions |
| **5.2** Entering Formulas with Functions |
| **5.3** Types of Functions |
| **5.4** Rounding Values with a Function |
| **6.** Enhance a Worksheet |
| **6.1** Formatting Values |
| **6.2** Changing Font and Size |
| **6.3** Sorting Data |
| **6.4** Filtering Data |
| **6.5** Changing Attributes and Alignment |
| **6.6** Adjusting Column Width |
| **6.7** Inserting and Deleting Rows and Columns |
| **6.8** Applying Colors, Patterns, and Borders |
| **6.9** Applying conditional Formatting |
| **6.10** Check spelling |
| **6.11** Hiding Columns and Rows |
| **6.12** Adding shapes to a Worksheet |
| **6.13** Adding SmartArt Graphics to a Worksheet |
| **6.14** Using Templates |
| **6.15** Inserting Hyperlinks |
| **6.16** Saving a Workbook with a different format |
| **6.17** Working with Comments |
| **6.18** Using the Research Task Pane |
| **7.** Work with Multiple Worksheets and Workbooks |
| **7.1** Moving between Worksheets |
| **7.2** Identifying or naming a WorkSheet |
| **7.3** Insert and Delete worksheets |
| **7.4** Move and Copy worksheets |
| **7.5** Managing worksheets within a Workbook |
| **7.6** Consolidating Workbook Data |
| **7.7** Printing a Workbook |
| **7.8** Working with Multiple Workbooks |
| **8.** Work with Charts |
| **1.** What is a Worksheet Chart? |
| **2.** Comparing Chart types |
| **3.** Creating Charts |
| **4.** Updating the Data Source |
| **5.** Designing a Chart |
| **6.** Creating a 3-D Chart |
| **7.** Creating a Pie Chart |
| **8.** Moving and Resizing a Chart |
| **9.** Changing the Chart Design |
| **10.** Changing the Chart Layout |
| **11.** Formatting and Modifying a chart |
| **12.** Annotating and Drawing on a Chart |
| **13.** Preview and Print Charts |

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| **Unit 3** | **Calculations & Data** | Class Hrs. | 10 | Lab Hrs. | **26** |

Description

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| Students will be instructed how to use an electronic spreadsheet through teacher lecture, reading assignments, and hands on practice. They will be shown how to perform numeric calculations and to analyze and present numeric data. Students will independently create and edit data in Excel worksheets. |
| **Unit 3 Competency:** Upon Completion of this unit, the student is able to: |
| **1.** Use Financial Functions, Data Tables, and Amortization Scheduler |
| **1.1** Analyze Data Using Formulas and functions |
| **1.2** Manage Workbook data |
| **1.3** Control the Color and thickness of outlines and borders |
| **2.** Assign a name to a cell and refer to the cell in a formula using the assigned name |
| **3.** Determine the monthly payment of a loan using Financial functions PV(present value)and FV(future values) |
| **3.1** Create a data Table to analyze data in a worksheet |
| **3.2** Add a pointer to a data table |
| **3.3** Create an amortization schedule |
| **3.4** Analyze worksheet data by changing values |
| **3.5** Use names and set Print Area command to print sections of a worksheet |
| **3.6** Protect and Unprotect cells in a worksheet |
| **3.7** Use formula checking features of excel |
| **3.8** Hide and unhide cell gridlines, rows, columns, sheets, and workbooks |
| **4.** Create, Sort, and Query a table |
| **1.** Create and manipulate a table |
| **2.** Add and delete records and change field values in a table |
| **3.** Sort a table on one field or multiple fields |
| **4.** Delete Sheets in a workbook |
| **5.** Add Calculated columns to a table |
| **6.** Display automatic subtotals |
| **7.** Query a table |
| **8.** Validate Data |
| **9.** Use icon sets with conditional formatting |
| **10.** Use the VLOOKUP function to look up a value |
| **11.** Uses Group and Outline features to hide and unhide data |
| **12.** Apply database function, the SUMIF function, and the COUNTIF function |
| **13.** Save a workbook in different file formats |
| **5.** Create Templates, and work with Multiple Workbooks |
| **1.** Create and use a template |
| **2.** Use the ROUND function |
| **3.** Utilize custom format codes |
| **4.** Define, apply and remove a style |
| **5.** Add a worksheet to a workbook |
| **6.** Create formulas that use 3-D cell references |
| **7.** Draw a Clustered chart |
| **8.** Use WordArt to create a Title and create and modify shapes |
| **9.** Add a header and footer, change margins, and insert and move page breaks |
| **10.** Use the Find and Replace commands |
| **11.** Create a workspace |
| **12.** Consolidate data by Linking workbooks |
| **6.** Use SmartArt and Images |
| **6.1** Insert a SmartArt graphic on a worksheet |
| **6.2** Modify a SmartArt graphic |
| **6.3** Add effects to a SmartArt graphic |
| **6.4** Insert an image on a worksheet |
| **6.5** Modify an image on a worksheet |
| **7.** Print workbooks |
| **7.1** Print and preview multiple worksheets |
| **7.2** Use the Report Manager |

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| **Unit 4** | **Computer Peripheral Equipment** | Class Hrs. | 10 | Lab Hrs. | **26** |

Description

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| Students will be instructed on some of the basic computer peripheral equipment. They will practice using equipment in the classroom. |
| **Unit 4 Competency:** Upon Completion of this unit, the student is able to: |
| **1.** Demonstrate basic printer functions, including printer commands, screen print and print to/from disk, font selection, and printer enhancements. |
| **2.** Operate printer and/or scanner |
| **3.** Operate equipment in a safe manner. |

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| **Unit 5** | **Entry Level Employment** | Class Hrs. | 16 | Lab Hrs. |  |

Description

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| Students will be instructed on the requirements for holding an entry-level position as a spreadsheet software operator. These skills will be practiced in the classroom until student is able to meet the requirements for the job. |
| **Unit 5 Competency:** Upon Completion of this unit, the student is able to: |
| **1.** Exhibit proficiency in the use of word processing software and peripherals. |
| **2.** Incorporate fundamental principles in the production of professional documents in an organized and efficient manner. |
| **3.** Discuss and demonstrate an awareness of advanced career and educational opportunities. |

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| **Unit 6** | **Job Career Planning** | Class Hrs. | 10 | Lab Hrs. | **10** |

Description:

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| Students create a sample cover letter, personal resume, completed job application, thank you letter, and list of personal references. They develop their personal career portfolio that contains documents for getting a job as well as a career plan and selected work samples. Students practice appropriate interviewing techniques. |
| **Unit 6 Competency:** Upon Completion of this unit, the student is able to: |
| **1.** Demonstrate the ability to write a cover letter. |
| **2.** Demonstrate the ability to complete a job application. |
| **3.** Demonstrate the ability to write a resume. |
| **4.** Demonstrate successful job interview skills. |
| **5.** Successfully assemble a personal career portfolio. |

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| **Unit 7** | **Work-Based Learning Experiences** | Class Hrs. | 10 | Lab Hrs. | **10** |

Description

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| Students will be taught the work based expectations of punctuality, professionalism, dress, demeanor, and telephone etiquette. Students will engage in discussions with the instructor regarding workplace experiences and the day-to-day aspects of running a small business. |
| **Unit 7 Competency:** Upon Completion of this unit, the student is able to: |
| **1.** .Demonstrate the ability to work successfully in the Information Technology Industry**.** |
| **2.** Demonstrate the ability to “go to work” with a proper attitude towards the work place expectations of punctuality, professionalism, dress, demeanor, and telephone etiquette. |

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| **Totals** | **Theory Hrs.** | **82** | **Lab Hrs.** | **98** | **Total Hrs.** | **180** |

**APPENDIX A:**

**MATRIX FOR ALL ASPECTS OF THE INDUSTRY**

All Aspects of the Industry is a key element of the Carl D. Perkins Vocational and Applied Technology Education Act and the School-to Work Opportunities Act. Both acts emphasize giving students a comprehensive perspective and range of skills across an industry. The Perkins Act requires programs to “provide students with strong experience in and understanding of all aspects of the industry students are preparing to enter”. The Act identifies eight aspects in particular, which are common to any business or industry. Programs receiving Perkins funds are required to include the teaching of these concepts to provide students with the skills necessary to be successful in their employment.

**STRATEGIES**

Below is a matrix showing the components of “All Aspects of the Industry for the *name of Course*.” A list of strategies is provided for each component.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ASPECTS** | **SEQUENCE OF COURSES** | | | | |
|  | **Course 1: Introduction to Computer Concepts** | **Course 2: Computer Applications Word Processing** | **Course 3: Computer Applications Spreadsheet** | **Course 4: Computer Applications Presentation Software** | **Course 5: Computer Applications Database** |
| **Planning** | Bridge the gap by becoming technologically literate students able to access information, solve problems, create, innovate and express themselves through the skillful use of a variety of technologies. | Set goals and objectives so student can effectively use word processing in their daily lives and areas of employment. | Set goals and objectives so students can effectively use electronic spreadsheets in a variety of business and job environments. | Set goals and objectives showing student how to effectively use Presentation Software for employment and personal use. | Set goals and objectives showing student how to effectively use Database Software for employment and personal use. |
| **Management** | Learn basic concepts of how computer programs work, through a hands-on, show and tell type approach with a focus on increasing foundational skills. | Lead students through management of class goals and objectives for completion of assignments and projects.  . | Lead students through management of class goals and objectives for completion of assignments and projects.  . | Lead students through management of class goals and objectives for completion of assignments and projects.  . | Lead students through management of class goals and objectives for completion of assignments and projects. |
| **Finance** | Access up-to-date and useful information including current technologies; allowing student to become better decision maker when purchasing computing devices. | N/A | Create and maintain electronic spreadsheets. | N/A | N/A |
| **Technical &**  **Production Skills** | Acquire new avenues for learning (such as Internet research) and overcome barriers associated with computing so that student can achieve success and gain practical skills. | Students learn fundamentals of Word processing and basic communication skills through computer software applications. | Students learn how to create worksheets and workbooks; learn how to use formulas; and learn effective uses of charts. | Students learn fundamentals and customization of Presentation Software; and communication skills through integration of other software applications and email/web presentations. | Students learn fundamentals and customization of Database Software; and communication skills through integration of other software applications and email/web presentations. |
| **Underlying Principles**  **Of Technology** | Gain awareness of the underlying principles of technology which are essential for future development. | Students learn concepts of word processing to be able to meet employment requirements; students trained to be able to pass the MOU certification for job employment. | Students use technology to analyze and solve problems; learn and upgrade basic computer skills. | Students learn concepts of Presentation Software to be able to meet employment requirements; students trained to be able to pass the MOUS certification for employment. | Students learn concepts of Database Software to be able to meet employment requirements; students trained to be able to pass the MOU certification for employment. |
| **Labor Issues** | Obtain effective learning strategies and become aware of career options and lifelong learning opportunities. (General workplace knowledge and skills are infused throughout the course). | Certification of level skills for job requirements. | Certification of level skills for job requirements. | Certification of skills for job requirements. | Certification of skills for job requirements. |
| **Community Issues** | Use technology in an ethical and legal manner, and understand how technology affects society. | Students are learning skills to make them productive and proficient members of the community. | Students are learning skills to make them productive and proficient members of the community. | Students are learning skills to make them productive and proficient members of the community. | Students are learning skills to make them productive and proficient members of the community. |
| **Health, Safety, &**  **Environmental Issues** | Increase awareness of health, safety and environmental issues ensuring student is able to make informed and responsible decisions. | Ergonomics as well as safety issues related to use of computer equipment and software. | Ergonomics as well as safety issues related to use of computer equipment and software. | Ergonomics as well as safety issues related to use of computer equipment and software. | Ergonomics as well as safety issues related to use of computer equipment and software. |

Standards-Aligned Course: PLC work in progress

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| **Instruction Unit / Subunits** | **Concepts/Skills** | **Benchmarks** | **Student Learning Outcomes** | **Model Curriculum Standards**  **Mentioned = M Reinforced = R Taught = T** | | | | | |
| K & P Anchor |  | Pathway |  | Other |  |
|  |  |  |  |  |  |  |  |  |  |
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