Computer Education & Training Center in West County & Live Online

UNIVERSITY OF MISSOURI - ST. LOUIS

FALL
AUGUST - DECEMBER 2022

UMSL

Chancellor’s Certificate Computer Classes
This fall marks the 40th anniversary of the beginnings of the Computer Education & Training Center. The first classes on personal computers were scheduled in September 1982. At that time, most people understood that personal computers would have a key role in our lives. No one quite knew what that role would be and how it would shape our lives.

Our first computer lab featured Apple II computers. The IBM personal computer had not yet arrived. The Macintosh and Windows operating systems were still a few years away. It was hard work learning to effectively use a personal computer and overcome some of the limitations of the hardware and software in those days.

Thankfully, great strides have been made in hardware and software and our struggles to find an effective role for personal computers is behind us. Yet it still takes a commitment to learning to stay abreast of the newest technologies and be productive. Our core mission to help students learn is the same 40 years later.

As we mark 40 years, our enrollments have totaled more than 430,000. Thank you to all our students who have attended classes. Without the honor of serving you, we would not have reached this milestone.

Learning is a life-long commitment. Continue on your path and check out our current course offerings to learn a new skill this fall.

Sincerely,

Allan Crean
Director, Computer Education & Training Center
University of Missouri–St. Louis
Whether you want to hone your skills or advance your professional career, UMSL’s Computer Education & Training Center can help you achieve your goals.

We offer high quality classes and specialized certificates taught by skilled instructors who understand the tools they teach. If you are an artist or an engineer, a novice or an expert, we are constantly developing new courses to help you keep up with the latest trends in your field.

For In-Person classes, the Computer Education and Training Center (CETC) is conveniently located in West County, near Interstate 270 and Manchester Road. All classes in this catalog are also available Virtually (Live Online) and you can receive hands-on training no matter where you happen to be.

Custom and Group Training

Do you have a group that needs training? Our team will work with you to identify your training needs and recommend effective and affordable solutions, customized to your requirements. You will receive:

- Hands-on classes designed to meet business-specific goals
- Flexible delivery options at CETC, Virtual, or your location
- Group rates and discounted training

With CETC training, you will have the essential tools to grow your workforce, increase your productivity, and expand your business. Whether you are upgrading to a new software version, or need training in a new application, let us help you design the right class.

Questions? Contact Kate Moore at 314.984.9000 or email info@cetc.umsl.edu

Virtual (Live Online) or In-Person Classes Available

All of our classes are now available online with an instructor present for the entire course. You will see the instructor’s screen throughout the class and you can share your screen if you need individual help from the instructor. You will have time to practice, ask questions, and receive hands-on training. All Classes are also available In-Person at our West County facility if you prefer that format.
August 2022–December 2022

Computer Education & Training Center
(314) 984-9000
www.cetc.umsl.edu

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Live Online and In-Person
All courses are available Virtually (Live Online). Classes are interactive, streamed to your location, and include an instructor who is online throughout the class. You will have time to ask questions and receive hands-on training without traveling to our location.

If you prefer to attend in-person, courses are held at the West County Computer Education Center. Masks are currently optional. This mask policy may be adjusted at a later date based on University guidelines and changing conditions. See p. 24 for map and facility information.

When you register for a class, you will choose the appropriate course section to indicate whether you prefer to take the class virtually (online) or in-person.

Register Online Today
https://register.cetc.umsl.edu/
Office 365 and Windows

Office 365

Introduction to Office 365
(Prerequisite: Experience with Windows.) Learn the basics of navigation in Office 365, how to customize the app launcher, and how to search for apps, documents, people, etc. Discover how to use Forms to create surveys and quizzes and share those with colleagues or those outside your organization. Understand how to use Planner to track your tasks and work with others. Learn the role of the Office start page in finding relevant documents and working with those documents. Discover the purpose of Microsoft 365 groups and how they tie apps in Office 365 together. Understand the Office 365 environment and gain an overview of the many apps that make up the suite.

Fee: $129
Half-Day Class Meets 8:30am-12:00pm (3.5 hours)
E3013 Fri., Sept. 16 Dawn Robinson

OneDrive

OneDrive lets you store files in the cloud, share files with other users, and sync files on all your devices so that you can access your documents whenever and wherever you need them.

Introduction to OneDrive
(Prerequisite: Experience with Windows.) Learn the basics of managing files and organizing your documents in the Office 365/OneDrive cloud environment. Understand how to navigate the interface and explore the content within OneDrive. Learn to upload, delete, rename, copy, and move files as well as how to create and arrange folders in order to manage documents. Understand best practices in organizing OneDrive. Learn to download PDF files from the web and store them on OneDrive, and practice saving files from other applications to OneDrive. Discover how to share files with others, collaborate on documents, and learn to establish permissions on documents and folders. Understand how to sync OneDrive to access files locally.

Fee: $129
Half-Day Class Meets 8:30am-12:00pm (3.5 hours)
E3014 Fri., Sept. 23 Dawn Robinson
E3299 Thurs., Dec. 1 Dawn Robinson

Teams

Teams is your central communication hub letting you have group chats, hold online meetings, collaborate on documents, and organize content. With Teams, everything is in one place.

Introduction to Teams
(Prerequisite: Experience with Windows.) Understand how to use Microsoft Teams to manage and organize your work, and collaborate with others. Learn the basics of navigation in Teams, and methods for organizing teams by workgroups and projects. Understand how to create channels, how to effectively use channels to organize your teams, and how to modify channel settings. Learn to add tabs to incorporate other Office 365 apps, third party software, and URLs to customize your navigation by channel. Discover how to add and remove members and owners, and how teams relate to Microsoft 365 Groups. Topics include team communications, naming conventions, creating links, working with posts, call outs, and understanding chats. Additional topics include how Teams works with SharePoint and other Office 365 apps.

Fee: $129
Half-Day Class Meets 8:30am-12:00pm (3.5 hours)
E3015 Fri., Sept. 30 Dawn Robinson
Half-Day Class Meets 1:00pm-4:30pm (3.5 hours)
E3300 Thurs., Dec. 1 Dawn Robinson

Outlook 365

Time Management Using Outlook
(Prerequisite: Experience with Windows and Outlook.) Burdened by too many emails and too little time? Learn the OHIO method - only handle it once - to reduce your email load and clutter. Learn how to use email to make an appointment or create a new contact for the email sender using Outlook’s built-in command options. Learn how to create rules with alerts that will prompt you when an immediate response is needed. Discover effective ways to search folders and how to use rules to move emails to folders so that you have an organized system to find important emails when you need them. Use Outlook Tasks to keep track of your tasks and those of others on your team. Learn how to apply due dates to tasks and how to assign task to others. Discover how Outlook can give you the flexibility to write an email today have it sent on a scheduled date and time. Other topics include tips and tricks to save time and help you be more productive.

Fee: $129
Half-Day Class Meets 8:30am-12:00pm (3.5 hours)
E3415 Fri., Jan. 20 Dawn Robinson

OneNote for Office 365

Introduction to OneNote
(Prerequisite: Experience with Windows.) With this planning and note-taking software, you can easily collect, organize, search, and share information from a single digital notebook. In this course, learn how to add notes, insert screen clippings, create new notebook sections and pages, and move and format notes. Tag your notes and use the search tools to quickly find information. Save time by using templates and learn how OneNote and Outlook work together. Additionally you will learn to share notebooks through a network, and link notes across sections and pages.

Fee: $129
Half-Day Class Meets 1:00pm-4:30pm (3.5 hours)
E3416 Fri., Jan. 20 Dawn Robinson

Learn the Latest Computer Skills
All Classes are Available
Virtual (Live Online) or In-Person
Register Today
https://register.cetc.umsl.edu

Need to Make Better Sense of Your Data?
Check out our Data Analysis Certificate
https://www.cetc.umsl.edu/dafacts.html

Classes are available in other Office 365 apps including SharePoint, Power Apps, & Power Automate. See pages 4 & 5.
SharePoint Online

SharePoint Online has extensive document management, list-making, and workflow capabilities. It also includes dynamic features to share news and other highlighted content. With SharePoint, you can create modern web pages to build out a complete intranet.

Introduction to SharePoint
(Prerequisite: Experience with Windows.) Discover how SharePoint can be used for document and information management to enhance the productivity of work groups and teams. Learn to navigate through the SharePoint environment, understand the overall organization of SharePoint, and discover how the SharePoint way and tools give you more flexibility in managing information. Understand how sites organize content for specific work teams or projects. Discover how to add and use document libraries to store, organize, retrieve, and share files with others. Use alerts to monitor changes in your lists and libraries. Find out how to use, modify, and create SharePoint built-in list templates (such as issue tracking, travel requests, and employee onboarding) to stay connected to other group members and effectively share information. Learn to create a SharePoint list from Excel. Additional topics include creating custom (blank) lists, versioning, managing alerts, understanding the title property role, restoring deleted content, managing settings, and best practices in SharePoint.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3291 Tues., Sept. 13 Allan Crean

Intermediate Applications of SharePoint
(Prerequisite: Introduction to SharePoint or equivalent experience.) Explore features of SharePoint to enhance productivity. Understand how to customize and add to the built-in metadata for a document library to help organize your files. Use the power of metadata to sort, filter, and group content in your lists/libraries as well as organize document libraries. Discover how to create views to examine and present your documents and lists in different ways, and easily find the document or information you need. Learn to use list formatting and conditional formatting to highlight key information. Understand how to enhance site navigation by modifying the Quick Launch. Use Choice and Lookup columns to improve the quality of data entry for both lists and document libraries. Additional topics include calculated columns, column validation, list validation, and generating totals.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3292 Tues., Sept. 20 Allan Crean

Advanced Applications of SharePoint: Level 1
(Prerequisite: Advanced Applications of SharePoint: Level 1 or equivalent experience.) Discover the advanced features of SharePoint that can help you with content creation on your sites. Explore using site columns for both document libraries and lists. Learn to use calculated fields for defaults to enhance data entry. Create Communication sites to effectively share information throughout your organization. Learn the modern SharePoint flat architecture and how to use a hub site to link sites together. Use site templates to enhance the appearance and organization of your SharePoint intranet. Learn to set up news to share information with specific groups or your entire organization. Discover the difference between SharePoint groups and Microsoft 365 groups. Understand sharing, managing access, and guidelines for assigning permissions. Learn best practices on setting up groups to provide appropriate access to your site. Additional topics include creating basic flows for approvals and to monitor changes.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3293 Tues., Sept. 27 Allan Crean

Advanced Applications of SharePoint: Level 2
(Prerequisite: Intermediate Applications of SharePoint or equivalent experience.) Discover how to create site pages using the modern page experience to enhance the presentation of your content and build out a complete intranet. Learn to set up zones, add web parts, and enable/disable comments on site pages as you work with the modern page canvas. Understand how to add images, photo galleries, countdown timers, and slide shows to your site pages. Learn to play videos and place world clocks, the weather, and charts on a page. Discover how to include interactive maps and an events calendar on your site. Learn to add dynamic content using the highlighted content, news, and site activity web parts. Understand how to configure web parts to sort, filter, and pull content from multiple sites. Additional topics include editing the home page, setting up quick links to promote content, adding accordion-style collapsible sections, and publishing your pages at a future date.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3294 Tues., Oct. 4 Allan Crean

Microsoft Teams is an Office 365 app that serves as a central communication hub for your workgroup.

Integration - Teams integrates with your other Office 365 apps including SharePoint, Power Automate, OneDrive, OneNote, Planner, and Outlook.

Communication - Teams facilitates communication providing a variety of channels to other team members and you can include people outside your organization.

Meetings - It’s easy to see all of the team meetings scheduled for a particular day or week and you can sync your Outlook calendar with your Team calendar.

See page 3 for more information on our class in Teams.
**Power Automate (Flows)**

*Power Automate allows you to create workflows to automate processes and approvals in SharePoint, Office 365 apps, and other data sources.*

**Introduction to Power Automate**
(Prerequisite: If you have no experience with SharePoint, it is recommended that you take Introduction to SharePoint). Learn to use Power Automate and understand the benefits of automation and workflows for your business processes. Understand how to navigate Power Automate, use templates, and work with the Flow management page. Learn to build your workflow by adding, editing, and removing actions. Discover how to send emails with input options and update lists based on the response. Understand how to define your logic and core paths, and add conditions. Learn to set up a help desk or other types of routing workflows to send requests to the appropriate staff. Learn to automatically copy files, update lists, and archive information. Topics include using triggers, connectors, and managing flows.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3295  Tues., Oct. 11  Allan Crean

**Intermediate Applications of Power Automate**
(Prerequisite: Introduction to Power Automate.) Take your skills to the next level and develop more sophisticated workflows. Understand how to use forms to gather information for surveys and processing time off or other approval requests. Learn how to set up approvals for one person or for multiple approvers. Understand how to implement serial and parallel approvals and include custom responses. Discover how to effectively bring in data from a list using filters. Learn to automate document approvals, process requests, and extract information from other sources. Discover the power of using loops in your workflows to consolidate information. Learn how to store your settings in a list to give your automated routines more flexibility and avoid hardcoded text. Other topics include effective flow design, the Approval Center, and checking for incomplete items in a list.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3296  Tues., Oct. 18  Allan Crean

**Advanced Applications of Power Automate**
(Prerequisite: Intermediate Applications of Power Automate.) Learn more advanced features in Power Automate that you can use to build flows. Discover the power of filter queries to select which items and which files you will use in your flow. Understand how to use the Compose action to handle static information and also to troubleshoot your flow. Learn to set up instant cloud flows that are triggered manually and how to incorporate inputs into a flow. Work with dates, format dates, and understand how to incorporate today’s date into your flows. Learn to do bulk updates and delete or archive obsolete information. Understand how to use available functions and the expression builder. Learn to configure the settings on each action. Additional topics include error-trapping and properly documenting your flows.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3297  Tues., Oct. 25  Allan Crean

**Power Apps**

*Power Apps allows you to customize forms, enhance the user experience, and build data-driven apps using the vast array of connectors, galleries, data cards, and tools available to you.*

**Introduction to Power Apps**
(Prerequisite: Experience with Office 365 apps.) Learn to use Power Apps to customize your business processes and enhance the user experience using the rich set of tools available to you. Understand how to set up a canvas app and add screen and control properties to customize how you work with data. Work with connectors to access and select business data from SharePoint, Excel, and other applications. Learn to use galleries, screens, and cards to organize and navigate your data. Discover how to customize the interface of new, edit, and view forms in SharePoint. Topics include building data-driven apps using connectors, galleries, layouts, forms, and data cards. Additional topics include embedding apps for use in Teams, SharePoint, or Power BI.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3048  Wed., Aug. 10  Allan Crean

**Automation**

Explore no-code and low-code solutions with our series of classes in Power Automate and Power Apps.

- Use Power Automate to design workflows for obtaining approvals, managing work orders, monitoring deadlines, gathering data, archiving documents, and handling many other tasks.
- Work with Power Apps to set up mobile apps, customize forms, enhance the user experience, and build data-driven apps using the vast array of connectors, galleries, data cards, and tools available.

**Coming for Fall**
Check our website in late summer for a new course in Power Automate & Power BI.

Classes are available in other Office 365 apps including Teams, OneDrive, & Outlook. There is also an introductory class in Office 365. See page 3.

Classes are available in Power BI to create interactive reports, visualizations, and dashboards to share with others. For a complete course listing, see page 16.
**SPREADSHEET**

**Microsoft Excel**

### Introduction to Excel

(Prerequisite: Experience with Windows.) Use Excel to create spreadsheets for accounting, budgeting, expense tracking, and other applications. Learn to set up and format worksheets and enter labels, values, and formulas. Discover how to select data, restrict data entry, adjust column widths, and move around the worksheet. Other topics include using simple statistical functions, editing and deleting data, moving and copying cell contents, understanding absolute and relative references, setting up worksheet pages, and printing.

**Fee:** $199

**One-Day Class Meets 8:30am-4:00pm (6.5 hours)**

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### Intermediate Applications of Excel

(Prerequisite: Introduction to Excel or equivalent experience. You should know how to create formulas using the formula bar and understand absolute and relative references.) Learn to design effective spreadsheets that others can use and interpret easily. Practice applying effective design techniques, including naming cells, protecting cells, and making your spreadsheets easy to read. Additional topics include working with multiple worksheets, creating templates, rounding data, using conditional functions, and applying conditional formatting.

**Fee:** $199

**One-Day Class Meets 8:30am-4:00pm (6.5 hours)**

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### Advanced Applications of Excel

(Prerequisite: Intermediate Applications of Excel or equivalent experience.) Learn advanced functions and database management techniques, including sorting and filtering data, using database statistical functions. Get the most out of your Excel applications by linking data between worksheets and workbooks. Other topics include using lookup tables and performing what-if analysis using Goal Seek and scenarios.

**Fee:** $199

**One-Day Class Meets 8:30am-4:00pm (6.5 hours)**

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### Excel Data Manipulation

(Prerequisite: Intermediate Applications of Excel or equivalent experience.) Discover ways to save time and increase your efficiency, whether you are working with one large spreadsheet or multiple tables. Find out how you can combine portions of several lists or tables into one consolidated table. Learn how to navigate with hyperlinks through multiple sheets of a workbook, multiple workbooks, or even to other programs. Save valuable time by accessing customized views of your spreadsheet. Topics include how to eliminate repetitive typing by creating, modifying, and printing comments for compressed notations on spreadsheets; and use Group and Outline to quickly show and print totals in sections of your spreadsheet.

**Fee:** $199

**One-Day Class Meets 8:30am-4:00pm (6.5 hours)**

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### Creating Charts with Excel

(Prerequisite: Intermediate Applications of Excel or equivalent experience.) Learn to use Excel to create powerful graphic presentations, including bar graphs, pie charts, exploded pies, line graphs, scatter plots, and three-dimensional graphs. Discover how to scale and format graphs, properly select data ranges, add titles and labels, set up legends, use grids and color, and make other graphic enhancements. Learn to select the appropriate graph type for your data and to alter that graph for your specific needs. Topics include principles of graphing, printing, and effective spreadsheet design to aid in graphing.

**Fee:** $199

**One-Day Class Meets 8:30am-4:00pm (6.5 hours)**

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<td>E3390</td>
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**Data Visualization: Charts**

**Creating Charts with Excel**

(Prerequisite: Intermediate Applications of Excel or equivalent experience.) Learn to use Excel to create powerful graphic presentations, including bar graphs, pie charts, exploded pies, line graphs, scatter plots, and three-dimensional graphs. Discover how to scale and format graphs, properly select data ranges, add titles and labels, set up legends, use grids and color, and make other graphic enhancements. Learn to select the appropriate graph type for your data and to alter that graph for your specific needs. Topics include principles of graphing, printing, and effective spreadsheet design to aid in graphing.

**Fee:** $199

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**Our Excel classes are taught with Version 2019. Students who use Office 365 or Versions 2021, 2019, or 2016 could take these classes, since the versions are similar.**

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**Did you know we offer a Chancellor's Certificate in Business Applications?**

For more information, go to our website at [http://www.cetc.umsl.edu/bafacts.html](http://www.cetc.umsl.edu/bafacts.html)

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**Chancellor’s Certificate in Excel**

Most successful people in the workforce utilize Excel to some degree. However, many use less than 10% of the program’s capabilities. CETC’s Excel certificate will give you the skills and techniques you need to increase your effectiveness and save time. For more information, go to [http://www.cetc.umsl.edu/exfacts.html](http://www.cetc.umsl.edu/exfacts.html)
DATA ANALYSIS: PIVOTTABLES/POWERPIVOT

Introduction to Excel PivotTables
(Prerequisite: Intermediate Applications of Excel or equivalent experience.) Learn how to save time extracting, organizing, and summarizing meaningful data from Excel spreadsheets or other sources by creating interactive PivotTables and PivotCharts. Explore how to create and customize a PivotTable, view subsets of data, and show or hide details. Discover how to create and design a PivotChart to view the summarized data in graphical format. Set up a PivotTable from a large database to view specific data and work with calculation/date fields. Discover the tips and shortcuts that will make you more efficient and your PivotTables more effective in summarizing your data.

Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3096 Thurs., Aug. 25 Dawn Robinson
E3355 Fri., Nov. 11 Dawn Robinson

Intermediate Excel PivotTables
(Prerequisites: Introduction to PivotTables or equivalent experience) Build on your knowledge of PivotTable capabilities to understand and visualize your data more effectively. Organize your data through customized grouping, and quickly view date ranges using Timeline slicers. Include calculated fields to give you new insights about your data. Understand how conditional formatting interacts with PivotTables, giving you more options on how to present your data. Additional topics include creating more useful PivotTables by adding KPI indicators, working with standard deviation, and IF statements.

Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3097 Thurs., Sept. 1 Dawn Robinson
E3356 Fri., Nov. 18 Dawn Robinson

Introduction to PowerPivot
(Prerequisite: Introduction to PivotTables or equivalent experience.) Create PivotTables and PivotCharts from large, multi-source data sets. Import data directly from the source, or build queries to extract specific parts of data from very large sources. Learn how to relate multiple data tables through key fields, allowing fact tables to lookup information from other parts of the data model. Add calculated columns and measures directly in the data model within DAX (data analysis expressions). Break the data down with user-defined hierarchies. Generate dynamic key performance indicators (KPI) for display. Utilize date intelligence functions to pinpoint trends within the data, allowing end users to make informed data-driven decisions.

Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3357 Tues., Nov. 22 Mark Ratliff

Excel VBA

Excel Macros Using VBA
(Prerequisites: Significant Excel experience and Intermediate Applications of Excel or equivalent experience. Students should have a solid knowledge of Excel, a strong background using conditional statements, and substantial experience working with spreadsheets before taking this class.) Discover the power of macros by using Visual Basic for Applications to automate your Excel applications. Visual Basic terminology, such as procedures, methods, properties, and objects will be introduced and used to create and edit Excel macros. Understand how to modify recorded macros and write original macros using Visual Basic to customize your interface and create dialog boxes for input and messages. Additional topics include using control structures, such as conditionals and loops.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)

Intermediate Excel VBA
(Prerequisite: Excel Macros Using VBA or equivalent experience.) Explore Excel VBA in more depth and learn how macros can interact with a wide variety of Excel objects. Understand how macros can be used and learn different trouble-shooting strategies to avoid problems. Master using arrays to manage multiple elements, learn to create and use pivot charts, and understand how to interact with Excel charts. Learn to incorporate other Office software such as Word and PowerPoint into your Excel VBA workflow. Discover how to make external connections to data and pull information into an Excel spreadsheet using VBA. Topics include creating a custom user form, handling controls, working with arrays, interacting with pivot tables/charts, using SQL commands in macros, and cleaning up data with VBA.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)
E3232 Tues., Sept. 27 & Wed., Sept. 28 Bill Barry

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Office 365 Apps
Office365 ........... p. 3
OneDrive .......... p. 3
Power Apps ......... p. 4
PowerAutomate ... p. 5
SharePoint ........ p. 4
Teams .............. p. 3

Spreadheets, VBA & Data Analysis
MICROSOFT WORD

Introduction to Word
(Prerequisite: Experience with Windows.) Learn to use Microsoft Word to create and save documents. Learn to enter and edit text, control line spacing, format a document, and use non-printing characters. Discover the ease of making changes by moving, copying, and pasting text. Understand the difference between Save and Save As, and how to set up documents for printing. Learn how to apply paragraph formatting in your documents, including properly setting paragraph indents and tabs and centering text. Other topics include changing the type style, inserting the date, and using the Find and Replace commands to make global changes.
Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3281  Fri., Dec. 9  Dawn Robinson

Intermediate Applications of Word
(Prerequisite: Introduction to Word or equivalent experience.) Further your Word skills as you learn about formatting, tables, and mail merge. Discover how to create tables to format data and text on your page. Table topics include inserting and deleting rows and columns, editing tables, creating borders, and other formatting techniques. Understand how to insert section breaks in a document to format specific areas or customize page numbering. Learn to create personalized form letters and perform queries using Mail Merge. Other topics include headers and footers; text flow options, such as widow/orphan control; and the Paste Special feature.
Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3282  Fri., Dec. 16  Dawn Robinson

Advanced Applications of Word
(Prerequisite: Intermediate Applications of Word or equivalent experience.) Learn to create sophisticated documents that feature multi-column, newspaper-style formats. Discover how to import graphics and artwork, and integrate graphics and columns into your document. Learn how to define styles and templates for document formats that you frequently use. Create and run simple macros for automating repetitive tasks. Use the features that make it easier to share documents with others, including adding comments and tracking changes.
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3283  Fri., Jan. 6  Dawn Robinson

Our Word courses are taught with Version 2019. Students who use Office 365 or Versions 2021, 2019, or 2016 could take these classes, since the versions are similar.

PRESENTATION GRAPHICS

Microsoft PowerPoint

Introduction to PowerPoint
(Prerequisite: Experience with Windows.) Learn to use PowerPoint to create effective presentations, from start to finish. Master the skills necessary to plan and develop presentations, including starting a presentation, editing text, reorganizing slides, adding multiple-level bulleted entries, and setting up a slide show. Learn how to use slide masters to make slide templates that are consistent in appearance. Additional topics include using drawing tools, clip art, and photos to add impact to your presentation.
Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3194  Wed., Nov. 16  Dawn Robinson

Intermediate Applications of PowerPoint
(Prerequisite: Introduction to PowerPoint or equivalent experience.) Learn more advanced features of PowerPoint, including charts, templates, and presentation techniques. Learn to create effective charts and graphs by keying in your data or by importing charts from other programs using PowerPoint’s built-in datasheet capability. Learn to create hierarchical structures, like organizational charts. Discover how to alter the design templates’ color schemes and create custom templates. Other topics include creating tables and linking between different Microsoft Office programs.
Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3195  Tues., Nov. 22  Dawn Robinson

Our PowerPoint courses are taught with Version 2019. Students who use Office 365 or Versions 2021, 2019, or 2016 could take these classes, since the versions are similar.

Classes are Available
Virtual (Live Online) and In-Person
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Wish there was a better way to create documents? Word has the tools! Use tables to make your data and text look polished while learning about borders, formatting, and themes. Create professional-looking documents using text flow options so paragraphs stay together with little effort. Insert section breaks to emphasize major topics. Learn this and more in our Intermediate Word course.
DIGITAL IMAGING

Photoshop is an industry standard image editing program for photography and graphics today. It is popular with professional and amateur photographers as well as graphic, print, and web designers. Photoshop offers a multitude of features that allow you to create, enhance, and modify images.

Adobe Photoshop

Introduction to Image Editing Using Photoshop
(Prerequisite: Experience with Windows or Mac.) Alter and enhance images using various tools from the Photoshop toolbox, while becoming familiar with the tool options bar. Create special effects using the Filter and Image menus. Isolate areas of your image using the various selection tools. Use the eraser tool to delete pixels and the history brush tool to "undo" changes to an image. Crop and resize images, create custom brushes, and learn the basics of layers.

Fee: $249
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3315 Tues., Nov. 8 Tina Wolk Hefner

Intermediate Applications of Photoshop
(Prerequisite: Introduction to Image Editing Using Photoshop or equivalent experience.) Add to your Photoshop skills by learning to clean up and fine-tune digital images. Create quick masks and permanent channels to isolate areas of your image for editing or manipulation. Use the selection tools to create and save paths, the vector drawing tools to add a variety of shapes to an image, and the type tool to add text to your image. Repair images with the clone stamp, healing brush, and patch tools. Change selection borders, choose painting colors, and look at scanning issues. Additional topics include the spot healing brush and the red-eye removal tool.

Fee: $249
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3316 Tues., Nov. 15 Tina Wolk Hefner

Advanced Applications of Photoshop
(Prerequisite: Intermediate Applications of Photoshop or equivalent experience.) Learn to use channels, calculations, layer styles, and different image modes for special effects. Work more extensively with layers, learning adjustment layers, fill layers, layer comps, and how to apply a layer blending mode. Find out how to apply pixel masks and add background effects in images. Additional topics include the vanishing point filter, image warping, and smart objects.

Fee: $249
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3317 Tues., Nov. 29 Tina Wolk Hefner

DIGITAL VIDEO

Adobe Premiere Pro

Introduction to Digital Editing Using Premiere Pro
(Prerequisite: Experience with Windows or Mac.) Discover the power of video editing with Premiere Pro. Experience the tools used in integrating audio, video, and still pictures into a quality video production. Learn how to import clips (stills, movies, and audio), add them to a timeline, apply special effects, insert titles, and use visual transitions. Witness the ease of editing clips, deleting video frames, cutting one clip into two, and changing clip speed. Understand video production concepts and post-production terminology while creating videos.

Fee: $249
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3311 Thurs., Dec. 1 Mark Ratliff

Intermediate Applications of Premiere Pro
(Prerequisite: Introduction to Digital Editing Using Premiere Pro or equivalent experience.) Refine your skills in video editing by using the power of visual special effects and transitions. Take your ordinary video production and make it extraordinary with tricks like editing out the background color of your "green screen" videos using the Ultra Key tool. Use the basic audio mixer to enhance audio tracks and audio special effects. Apply special effects to your video by including color, adding page peel, motion and lighting, Track Matte, and Mosaic. Compress and prepare files for output for the desired presentation format by using the Adobe Media Encoder.

Fee: $249
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3312 Thurs., Dec. 8 Mark Ratliff

Want to do layout and design?
Advance your career by learning InDesign, the industry standard, and work towards a specialized certificate in Electronic Art and Publishing

Need to Make Better Sense of Your Data?
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https://www.cetc.umsl.edu/dafacts.html
**DESKTOP PUBLISHING**

**Adobe InDesign**

**Introduction to Desktop Publishing Using InDesign**  
(Prerequisite: Experience with Windows or Mac.) Learn the basics of InDesign and develop the skills you need to design and produce camera-ready copy for simple publications. This course will guide you through creating basic text frames; typing and importing text into the frames; and selecting, editing, formatting, and checking spelling. Learn to thread overset text from frame to frame, and set tabs and hanging indents. Use the Pages panel to move around in a document. You will create shapes and apply strokes and fills to add color to your pages; layer, align, and group objects; and create documents with multiple columns. Additional topics include basic printing options, and how to use master pages to number pages automatically. 

*Fee: $249*  
*One-Day Class Meets 8:30am-4:00pm (6.5 hours)*  
E3041 Wed., Aug. 10  
E3111 Thurs., Oct. 13  
Mark Ratliff

**Design Principles for Desktop Publishing**  
(Prerequisite: Intermediate Applications of InDesign or equivalent experience.) This course teaches you how to combine the electronic capabilities of InDesign with established principles of design and layout. Topics include using a grid, callouts, and optical center. Other topics include page flow, typography, white space, paper and ink selection, planning for multi-page documents, and using spot color. Learn to prepare your documents for a commercial printer or service bureau. 

*Fee: $249*  
*One-Day Class Meets 8:30am-4:00pm (6.5 hours)*  
E3114 Thurs., Nov. 3  
Mark Ratliff

**Intermediate Applications of InDesign**  
(Prerequisite: Introduction to Desktop Publishing Using InDesign or equivalent experience.) Learn to import graphics and then crop, manipulate, and automatically resize graphics to fit inside their frames. Discover how to add elements to your page, such as text wrap around graphics, type on a path, gradients, and tables. Work with text graphically by converting it to paths. Additional topics include find and change format settings, working with master pages, dividing a document into sections, saving a file as a template, and printing options such as thumbnails and tiling. 

*Fee: $249*  
*One-Day Class Meets 8:30am-4:00pm (6.5 hours)*  
E3042 Wed., Aug. 17  
E3112 Thurs., Oct. 20  
Mark Ratliff

**Advanced Applications of InDesign**  
(Prerequisite: Intermediate Applications of InDesign or equivalent experience.) Learn to apply sophisticated text effects, such as hanging punctuation and decorative initial capital letters. Use the commands that give you precise control over hyphenation, justification, and paragraph composition. Increase your efficiency and ensure consistency by setting up styles and libraries. In class, you will create a book with a table of contents, as well as discuss preparing a document for output using the Preflight and Package plug-ins. 

*Fee: $249*  
*One-Day Class Meets 8:30am-4:00pm (6.5 hours)*  
E3043 Wed., Aug. 24  
E3113 Thurs., Oct. 27  
Mark Ratliff

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**Macintosh Users Welcome!**  
Our Adobe courses, including Illustrator, Photoshop, InDesign, Acrobat, and Premiere are taught using Windows. If you use a Macintosh, you can apply what you’ve learned in class. The programs are identical, with only slight keyboard differences.
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DOCUMENT MANAGEMENT

Adobe Acrobat Professional

Use Acrobat to convert documents to PDFs, which can be sent to print shops, shared across platforms, and viewed on the web.

Introduction to Acrobat
(Prerequisite: Experience with Windows or Mac.) Acrobat can change the way your organization creates and distributes documents through email, print, tablets, or the web. PDF (Portable Document Format) files are sharable across platforms and devices, eliminating such problems as computer system differences or font availability. In this course, learn how to convert existing files or websites into PDF format according to your desired settings. Discover how to navigate PDFs and use the Acrobat editing tools. Send your PDFs for review and learn how to add comments and use the markup and stamp tools. Set basic security options to control how your PDF is handled, and find out how to attach supporting documents. Topics include working with images, using the snapshot tool, and initiating a review through email. Additional topics include working with bookmarks and exporting information from existing PDFs into other formats.

Fee: $249

Version: Acrobat Pro DC
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3308 Thurs., Nov 17 Mark Ratliff

Intermediate Applications of Acrobat
(Prerequisite: Introduction to Acrobat or equivalent experience.)
Learn the features of Acrobat that will enhance your documents and increase your efficiency. Use OCR (Optical Character Recognition) to make PDFs searchable, and find out how to compare document versions. Examine documents for sensitive information and use the redaction tools to permanently remove unwanted information. Learn how your Acrobat documents can be more accessible when used with assistive technologies and mobile devices. Find out how actions can save you time and how simple JavaScript can add interactivity to your documents. Learn to combine multiple files into a PDF Portfolio. Other topics include multimedia, backgrounds, and watermarks.

Fee: $249

Version: Acrobat Pro DC
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3307 Thurs., Nov 10 Mark Ratliff

Advanced Topics in Acrobat: Forms
(Prerequisite: Introduction to Acrobat or equivalent experience.)
Online forms have become important tools in gathering information from employees and clients. Acrobat Pro allows you to easily create forms from scratch or convert existing forms to PDF format. This course will show you how to design an efficient form, use different field types, validate user input, and perform calculations. You will also work with simple scripts and learn to process returned form data.

Fee: $249

Version: Acrobat Pro DC
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3309 Wed., Nov 30 Mark Ratliff

GRAPHIC DESIGN & ARTWORK

Adobe Illustrator

Adobe Illustrator is the industry standard for creating artwork for print, multimedia, and the web.

Introduction to Computer Graphics Using Illustrator
(Prerequisite: Experience with Windows or Mac.) Learn the capabilities of Illustrator as you create your own artwork. Topics include using tools and menus, and creating special typographical effects. Learn how to scale, stretch, and rotate type and objects. Other topics include grouping, locking, layering, creating Bezier paths, using the transformation tools, and working with Live Paint and Live Trace.

Fee: $249

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3154 Wed., Oct 12 Tina Wolk Hefner

Intermediate Applications of Illustrator
(Prerequisite: Introduction to Computer Graphics Using Illustrator or equivalent experience.) This course concentrates on more advanced drawing techniques, such as developing a precise way to draw by identifying and altering path points and working with Bezier curves. Learn to blend shapes and paths, create and apply patterns, and make object masks. Topics include importing images and using the image filters to enhance bitmap images. Additional topics include creating and importing custom colors, making compound paths, and applying special type effects.

Fee: $249

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3155 Wed., Oct 19 Tina Wolk Hefner

Advanced Applications of Illustrator
(Prerequisite: Intermediate Applications of Illustrator or equivalent experience. You should be familiar with all the drawing and transformation tools, as well as layering, masking, and compound paths.) This course presents advanced techniques using Illustrator, as you plan, design, and execute one project throughout the day. Topics include making curved gradations of color, masking type with a Photoshop file, creating interlocked stroked objects, and creating faded lines. Other topics include constructing grids, 3-D objects, and transparent shadows. Learn to use filters and brushes on paths and shapes, import Photoshop layer comps, and optimize graphics for the web.

Fee: $249

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3156 Wed., Oct 26 Tina Wolk Hefner

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PDF Accessibility Using Adobe Acrobat

Do you have PDF’s on your website? Learn to use the accessibility features of Acrobat Professional so that persons with visual impairments and physical disabilities can get the benefits of PDF technology.

In the Intermediate Applications of Acrobat course, students will explore creating Accessible Adobe Acrobat PDF documents.
SQL

Our SQL courses use Microsoft SQL Server and cover generic syntax compatible with other SQL versions.

Introduction to SQL
(Prerequisite: Introduction to Access or equivalent experience with another database.) This course introduces SQL using Microsoft SQL Server to demonstrate generic SQL commands that can be used with a variety of client/server database systems. Learn how to do ad-hoc queries on a database to select the information you need. Understand how to write select statements and use wildcards, logical operators, and calculated columns. Learn to eliminate duplicates and work with date data. Understand how to aggregate data as well as group data, order data, and generate totals. Topics include SQL syntax, data definition language, and data manipulation language.

Fee: $279

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3137 Wed., Aug. 17 Bill Barry
E3188 Thurs., Sept. 8 Bill Barry
E3200 Tues., Sept. 20 Bill Barry
E3285 Wed., Oct. 5 Bill Barry
E3309 Thurs., Oct. 20 Bill Barry
E3331 Tues., Nov. 1 Bill Barry
E3385 Wed., Nov. 30 Bill Barry

Intermediate Applications of SQL
(Prerequisite: Introduction to SQL or equivalent experience.) Learn how to do more complicated queries joining two tables in a database. Understand the different types of joins, such as inner joins, outer joins, and Cartesian products. Learn how to specify multiple criteria, work with the various clauses, and use the aggregate functions with joins. Understand how to create, modify, and delete views. Topics include using the UNION operation to combine the results of two queries into a single result set. Additional topics include comparing the results of multiple queries using EXCEPT and INTERCEPT, and using ROLLUP and CUBE to summarize data.

Fee: $279

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3138 Thurs., Aug. 18 Bill Barry
E3189 Thurs., Sept. 15 Bill Barry
E3201 Wed., Sept. 21 Bill Barry
E3286 Thurs., Oct. 6 Bill Barry
E3332 Wed., Nov. 2 Bill Barry
E3386 Wed., Dec. 7 Bill Barry

Advanced Applications of SQL
(Prerequisite: Intermediate Applications of SQL or equivalent experience.) Learn how to properly design a relational database and structure tables within the database. Learn the purpose of and how to specify primary and foreign keys. Understand the advantages of referential integrity and how it can affect data maintenance and prevent errors. Learn to plan and create tables and view table information. Understand how to create tables with column constraints and the value of column constraints. Topics include using ALTER TABLE to modify table structure, and creating and understanding the different types of indexes. Additional topics include saving updates to the database using COMMIT and ROLLBACK, copying data between tables, and using PIVOT to transform query results.

Fee: $279

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3202 Thurs., Sept. 22 Bill Barry
E3333 Thurs., Nov. 3 Bill Barry
E3387 Thurs., Dec. 8 Bill Barry

Advanced SQL Queries: Level 1
(Prerequisite: Intermediate Applications of SQL or equivalent experience.) Continue your path to mastery of SQL Commands with more complex queries to access information from a relational database. Work with complex joins from multiple tables, three or more table queries, and learn to reference the same data set multiple times. Understand how to do sub-queries to handle multi-table tasks and when to use sub-queries versus using joins. Review Date Queries and understand how to use the Datename and Datepart functions. Topics include working with aggregate data using the Over(), Group By, and Having clauses. Additional topics include Top Record/Top Percent queries, and the Rank() and Dense_Rank() functions.

Fee: $279

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3160 Tues., Aug. 30 Bill Barry
E3287 Tues., Oct. 11 Bill Barry
E3388 Wed., Dec. 14 Bill Barry

Advanced SQL Queries: Level 2
(Prerequisite: Advanced SQL Queries: Level 1 or equivalent experience.) Take your SQL skills to the next level and learn to write more advanced select queries. Building on the skills learned in the prior SQL classes, enhance your queries with date and string functions. Learn special purpose, irregular pattern, and top value queries. Use correlated subqueries to create running totals and subtotals. Explore metadata queries, schemabinding, and pivoting query results.

Fee: $279

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3161 Wed., Aug. 31 Bill Barry
E3288 Tues., Oct. 18 Bill Barry
E3389 Thurs., Dec. 15 Bill Barry

Advanced SQL Queries: Level 3 Data Analysis
(Prerequisite: Advanced SQL Queries: Level 2 or equivalent experience.) Learn to design effective SQL queries to extract business information from your databases in order to do effective data analysis. Discover how to pull data for survival analysis of customers to better understand your active customer base in order to predict future revenue. Understand the factors that affect customer tenure and how to use SQL to calculate the probabilities of customers staying or leaving. Learn to investigate purchasing patterns and methods for identifying customers. Use SQL to help analyze the frequency of purchases and understand where sales are increasing or decreasing. Additional topics include market basket analysis to better understand customers and what they might purchase.

Fee: $279

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3163 Thurs., Sept. 8 Beth Arrowsmith
E3410 Fri., Jan. 6 Beth Arrowsmith

SQL Query Optimization
(Prerequisite: Advanced SQL or equivalent experience.) Understand how the order of query processing may vary in the database from the syntax order in the query because of the SQL Order of Operations. Learn to make your SQL Queries easy to read and modify using formatting, comments, and aliases. Discover how to filter data and the best methods for using the Where and Having clauses. Understand how to analyze and tune your query performance. Learn to manage duplicates and when to use Distinct. Understand how to use union to get the same format of results from two different queries. Topics include using sub-query versus inner join and working with an execution plan. Additional topics include the importance of indexes, the impact of sorting, overriding the Query Optimizer, and using SQL Server statistics to improve query optimization.

Fee: $279

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3162 Thurs., Sept. 1 Bill Barry
E3289 Wed., Oct. 19 Bill Barry

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SQL Server Security

Introduction to SQL Security
(Prerequisite: Advanced SQL or equivalent experience.) Understand how data is your most valuable asset and the importance of keeping the data secure. Learn how to manage your SQL Server's database permissions. Discover how to create roles and assign roles to users, making it easier if a user leaves the company or changes positions. Use and create schemas to provide natural data groupings so securing an application or group of applications becomes easier. Discover stored procedures to control and limit what roles can do. Learn about securables, the items that can be secured in a SQL Server, and manage permissions using grant, revoke and deny to protect the data.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3340 Tues., Nov. 9 Beth Arrowsmith

SQL Stored Procedures Using Transact-SQL

Transact-SQL is Microsoft’s extension to the SQL language and can help increase the flexibility of your database applications.

Introduction to SQL Stored Procedures
(Prerequisite: Intermediate Applications of SQL or equivalent experience.) This course introduces SQL Server programming stored procedures. Understand how stored procedures, also known as stored pros or pros, are queries and commands (select/update/delete/insert) permanently stored in the database, making them always available. Learn how to use pre-compiled stored procedures to speed up slower queries. Discover how to use If, existence checks, and returns to handle business logic, so queries return what is needed, when it is needed. Additional topics include using Variables and parameters to make commands more universal for ease with runs on different dates or accounts.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3319 Fri., Sept. 9 Beth Arrowsmith

Intermediate SQL Stored Procedures
(Prerequisite: Introduction to SQL Stored Procedures or equivalent experience.) Discover how to extend and apply your knowledge of SQL by incorporating common programming constructs with various SQL commands and functions. Increase the functionality by using Case logic in your procedures which allows you to classify based on business logic. Learn to use transactions, so that if a multi-table or multi-step data change cannot occur, no changes are made. Use loops and cursors to handle SQL logic that needs to repeat in a specific order. Use Try-Catch for alternatives or to give appropriate warnings when SQL cannot complete a command. Learn to put Dynamic SQL into your stored procedures, allowing you to modify sort order, where clauses, or even the table used.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3342 Fri., Sept. 16 Beth Arrowsmith

SQL Server Reporting Services (SSRS)

Introduction to SQL Server Reporting Services
(Prerequisite: Introduction to SQL or equivalent experience.) Learn to create professional-quality reports from SQL Server and other ODBC-compliant databases. Discover how to create both standard and ad-hoc reports and deliver them via print, web, email, and PDF files. Create an environment where users can design their own reports with limited database knowledge. Learn to build and format reports with headers, footers, titles, totals, and calculations. The reports you create can contain tables, charts (or both), and can drill-down to other reports for greater detail.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3451 Thurs., Nov. 10 Bill Barry

Advanced SQL Server Reporting Services
(Prerequisite: Intermediate SQL Server Reporting Services and Intermediate Applications of SQL or knowledge of joins, or equivalent experience.) Create sophisticated reports that are customized for your specific needs. Learn to display multiple data sets on one report and combine graphics with and without data for visual impact. Other topics include using multi-value parameters and preparing matrix (cross-tab) reports with drill-down capabilities. Learn about general security settings in the web-based Report Manager. Generate practical reports that display the information needed for decision-making.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3452 Thurs., Nov. 17 Bill Barry

Intermediate SQL Server Reporting Services
(Prerequisite: Introduction to SQL Server Reporting Services and Intermediate Applications of SQL or knowledge of joins, or equivalent experience.) This course provides an overview of SSRS. Discover how to create reports for greater detail.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3453 Thurs., Dec. 1 Bill Barry

Corporate Training

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Did you know we offer a Chancellor’s Certificate in Data Analysis?

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For more information, visit our website at http://www.cetc.umsl.edu/dafacts.html
**PROJECT MANAGEMENT**

Whether you run a small business or you are a project director in a large corporation, Microsoft Project can help you manage your organization’s resources and schedules.

**Microsoft Project**

**Introduction to Project**
(Prerequisite: Experience with Windows.) Learn to use Microsoft Project to organize your project’s tasks, resources, and schedule. Create a Gantt planning chart from scratch by identifying and entering tasks, creating task dependencies and constraints, assigning resources, and printing out the finished chart. Establish the project calendar, determine and change task durations, view and check your project schedule, and use the schedule to track project status. You will also learn about the Critical Path and its importance in project management.

**Fee:** $279

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
- E3088 Tues., Aug. 16
- E3313 Tues., Dec. 13

**Intermediate Applications of Project**
(Prerequisite: Introduction to Project or equivalent experience.) Learn to handle multiple projects. Practice entering fixed costs, such as material and subcontract costs, and creating and assigning resources across several projects. Learn how to combine multiple projects into one consolidated master schedule. Topics include splitting tasks, as well as assigning priorities to tasks and subtasks. Additional topics include the various resource options, such as resource leveling, resource contouring, work assignment delays or overtime, resource loading, and assigning more than one resource value to a single resource.

**Fee:** $279

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
- E3089 Tues., Aug. 23
- E3314 Tues., Dec. 20

**FLOW CHART & DIAGRAM TOOLS**

Communicate ideas visually through Microsoft Visio drawings, including flowcharts, maps, and network diagrams.

**Microsoft Visio**

**Introduction to Visio**
(Prerequisite: Experience with Windows.) Communicate complex business information and ideas with clarity using Visio diagrams. This course covers what you need to know to create effective diagrams, including flowcharts and block diagrams. Learn to use the tools and diagram types designed for specific disciplines and businesses, the predefined SmartShapes that save you time and effort, connection points, gridlines, and alignment options. Personalize your diagrams with backgrounds, color coding, borders, formatted text, as well as your own custom shapes and designs.

**Fee:** $279

One-Day Class Meets 8:30am-4:00pm (6.5 hours)
- E3040 Tues., Aug. 2

Our Project and Visio courses are taught with version 2019. Students who use Project 2016, 2019, or 2021 could take these classes, since the versions are similar.

**DATABASE**

**Microsoft Access**

**Introduction to Access**
(Prerequisite: Experience with Windows.) Learn to use the Microsoft Access database system to keep track of inventory, update mailing lists, and manage information files. Master the skills necessary to plan and design a table, as well as add, change, and delete data. Learn how to perform queries on single and multiple tables to find and display data. Discover how to generate simple forms and reports to access or print out the information that you need. Additional topics include global changes, sorting data, date arithmetic, modifying the table structure, and database management.

**Fee:** $399

Two-Day Class Meets 8:30am-4:00pm (13 hours)
- E3093 Wed., Aug. 10 & Thurs., Aug. 11

**Intermediate Applications of Access**
(Prerequisite: Introduction to Access or equivalent experience.) This course covers creating effective tables, forms, and reports. Discover how to design forms so you can easily enter, edit, and delete information. Understand the principles of data validation and how to err and trap your inputs. Learn special techniques for creating sophisticated reports, grouping data for subtotals, and generating mailing labels. Additional topics include understanding field properties, working with indexes and primary keys, using functions in queries and reports, and creating summary reports.

**Fee:** $399

Two-Day Class Meets 8:30am-4:00pm (13 hours)

**Advanced Applications of Access**
(Prerequisite: Intermediate Applications of Access or equivalent experience.) This course covers a variety of advanced tips and techniques for designing and using Access databases. Learn to write special purpose queries, including crosstab and union queries, and design reports that include running sums and conditional formatting. Practice using text, date, and conditional functions to manipulate data. Create complex parameter queries and custom forms to supply parameter values. Additional topics include inserting subreports and using PivotTables and PivotCharts to summarize your data.

**Fee:** $399

Two-Day Class Meets 8:30am-4:00pm (13 hours)
- E3095 Tues., Sept. 6 & Wed., Sept. 7
- E3303 Mon., Nov. 7 & Tues., Nov. 8

**Advanced Topics in Access: Database Design**
(Prerequisite: Intermediate Applications of Access or equivalent experience.) Learn to effectively manage a relational database system and work with multiple tables simultaneously. Discover how to identify items to be stored in a database, establish relationships between the items, and group the items in the appropriate tables. Topics include linking database tables, generating reports from multiple tables, querying multiple tables, and updating tables. Strong emphasis will be placed on effective database design and database table structure.

**Fee:** $399

Two-Day Class Meets 8:30am-4:00pm (13 hours)
- E3304 Tues., Nov. 15 & Wed., Nov. 16

Classes are Available Virtual (Live Online) and In-Person
R Studio

*R is a programmable environment to analyze data and create visualizations. It supports command-line scripting that allows you to more easily reuse your work for repeat analysis.*

Introduction to R

(Prerequisite: Intermediate Applications of SQL or equivalent experience.) Discover how to glean insights and meaning from your data using the R data analysis tool. Understand R terminology, the R approach, RStudio, and how to navigate the interface. Work with R syntax and learn to manipulate R objects. Discover how to import working data into R. Develop the skills to work with variable assignments, vectors, and data frames and how to perform operations on all three. Learn to access information in a data frame and how to index, filter, and order your data to generate output. Understand how to represent data with different visualization types and do calculations. Topics include terminology, data layout, pulling stats from your data frame, understanding your data objects structure, vectorized functions, recycling, sorting, ranking, conditionals, and summaries.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3241 Fri., Sept. 30 Mark Ratliff

Intermediate Applications of R

(Prerequisite: Introduction to R or equivalent experience.) Build on your R analysis skills as you move into more complex data manipulation and data analysis. Learn how to manipulate, arrange, sort, merge, and summarize your data. Understand how to shape your dataset, combine data tables, and transpose data. Apply the filter function to select the appropriate data for analysis. Learn to aggregate your data and then find totals, averages, minimums, and maximums. Explore manipulating rows and columns with dplyr. Discover group processing to pull out the top three of a category or to rank items within a category. Learn to combine rows and columns, delete columns, and delete dataframe. Understand how to query your data with SQL syntax. Topics include chaining, data aggregation, summarizing data, and using the dplyr library. Additional topics include importing Excel files, ranking data, working with data relationships, merging dataframes, and working with slices or subsets of data.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3242 Fri., Oct. 7 Mark Ratliff

Advanced Applications of R: Level 1

(Prerequisite: Intermediate Applications of R or equivalent experience.) Explore data analysis using the more powerful tools available in R. Learn to reshape tables and go from wide to long format and back again. Understand another way to work with categories using factors to manage data that is described in words rather than numerical values. Discover the power of performing interactive data analysis by creating tabular data using factors or categorical variables. Gain insights as you look at levels when you peek under the hood of a factor. Understand dates, date formats, date arithmetic, times, and time zones pulling out date and time elements. Unlock the keys to managing your data to handle missing values, select the correct format, and ensure that your data is imported properly into R. Work with graphs and visualizations. Learn to handle more dimensions as you explore multidimensional arrays and matrices. Topics include character and string manipulation, text extraction, POSIX, and date conversion. Additional topics include specifying data type during imports, logical expressions, mixing objects, and explicit coercion.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3243 Fri., Oct. 14 Mark Ratliff

Advanced Applications of R: Level 2

(Prerequisite: Advanced Applications of R: Level 1 or equivalent experience.) Understand lists and list structure, and how it adds more power to R. Work with regular expressions for text extraction to manipulate your data. Learn to write your own functions to handle special situations. Discover the apply family of functions and how they provide powerful and efficient looping mechanisms. Set up basic scripts for repeatable analysis and understand how to use control structures within the scripts. Topics include checking quartiles, finding the center of your data, describing distributions, tracking correlations, plotting densities, and creating box plots. Additional topics include working with graphics, creating different types of plots, manipulating files, and producing reports.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3244 Fri., Oct. 21 Mark Ratliff

Crystal Reports

Introduction to Crystal Reports

(Prerequisite: Experience with Windows, and an understanding of basic database concepts.) Learn to use Crystal Reports to create meaningful, dynamic reports from your raw data. Practice connecting to a variety of data sources to retrieve data for your reports. Learn to use Crystal Reports’ filtering capabilities to select specific records, based on criteria you provide. Organize and summarize your data by sorting and grouping records. Set up simple formula fields to manipulate text and string data. Additional topics include inserting text objects and special fields, and applying basic formatting to customize the appearance of your reports.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3141 Tues., Aug. 9 Bill Barry
E3327 Tues., Nov. 29 Bill Barry

Intermediate Applications of Crystal Reports

(Prerequisite: Introduction to Crystal Reports or equivalent experience.) Explore the flexibility and control of Crystal Reports, as you learn to manipulate report data and create sophisticated, customized reports. Discover how to write formulas to insert derived data, customize group names, and isolate the information you need. Additional topics include connecting to multiple data sources and adding running total fields.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3142 Tues., Aug. 16 Bill Barry
E3328 Tues., Dec. 6 Bill Barry

Advanced Applications of Crystal Reports

(Prerequisite: Intermediate Applications of Crystal Reports or equivalent experience.) Learn to use parameters to insert or select data “on the fly,” write advanced formulas, and create subreports to include multiple reports within one report document. Find out how Crystal Reports uses SQL commands to select report data, and learn to write your own simple SQL statements to select data for your reports. You’ll also learn to create cross-tab reports to group and summarize data in two directions.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3143 Tues., Aug. 23 Bill Barry
E3329 Tues., Dec. 13 Bill Barry

Check out our Database Technology Certificate
https://www.cetc.umsl.edu/dbfacts.html
Power BI

Introduction to Power BI
(Prerequisite: Intermediate Excel and Introduction to SQL or experience with any database.) Power BI allows users to bring their business information to life. Visualize data through interactive tools designed to deliver fast, meaningful insights into the needs and goals of an organization. Discover how to connect to a wide variety of data sources. Learn the terminology associated with data analysis and explore the Power BI interface. Manage data in workbooks containing multiple worksheets, each displaying a different visualization. Explore ways to sort and filter a variety of data types. Manipulate data to further enhance data analysis. Turn information into maps based on geographical data. Display data visualizations in interactive dashboards for a quick, easy view of what matters most.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3169 Fri., Aug. 19
E3204 Wed., Sept. 14
E3271 Tues., Oct. 4
E3334 Fri., Nov. 4
E3401 Tues., Dec. 6

Intermediate Power BI
(Prerequisite: Introduction to Power BI or equivalent experience.) Improve your Power BI skills as you work with more complex data. Learn to use Data Modeling in Power BI to create the foundation for your reports and visualizations as well as to manage your data relationships. Understand naming conventions and best practices for importing your data. Use the Query editor to shape, cleanse, and query your data. Learn how to import Data Models from PowerPivot. Incorporate date and time intelligence to filter your data and discover how key metrics change over time. Understand how to work with dates and calculate month-to-date or year-to-date sales or compare similar time periods between two years. Additional topics include grouping data, and working with visualizations including dual axis charts, scatter charts, and gauges.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3170 Fri., Aug. 26
E3205 Thurs., Sept. 15
E3272 Tues., Oct. 11
E3335 Fri., Nov. 11
E3402 Tues., Dec. 13

Advanced Power BI: Level 1
(Prerequisite: Intermediate Power BI or equivalent experience.) Use Power BI to shape and cleanse data, preparing it for output to visualizations and reports. Learn to work with more advanced data models, and to create and use data hierarchies. Understand how to create/apply reference lines using the Analytics panel, and how to create and use measures. Learn to make calculated columns using Data Analysis Expression (DAX) functions and to use DAX to calculate across multiple tables. Discover the CALCULATE function to generate multiple criteria filters, the RANK function to order data, and other functions to manage date arithmetic. Understand how to use logical functions to create alerts and custom groups. Topics include in-depth calculated columns and measures, and creating end-user parameter controls. Additional topics include advanced aggregation and filtering using SUMX, AVERAGEX, MINX, MAXX, & COUNTX.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3171 Fri., Sept. 1
E3206 Wed., Sept. 21
E3273 Tues., Oct. 18
E3336 Fri., Nov. 18
E3403 Tues., Dec. 20

Advanced Power BI: Level 2
(Prerequisite: Advanced Power BI: Level 1 or equivalent experience.) Take your Power BI skills to the next level and work with larger data models. Discover how to generate fiscal quarters and years to target planning and projections. Use a calendar table to store and utilize date and time functions more efficiently. Understand how to create and use functional measures to calculate percentages. Learn basic and advanced techniques for un-pivoting tables. Understand how to import and cleanse data from a web source. Additional topics include custom visualizations and using another application such as the R data language to create visualizations in Power BI.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3172 Fri., Sept. 9
E3207 Thurs., Sept. 22
E3274 Tues., Oct. 25
E3337 Fri., Dec. 2
E3404 Tues., Jan. 10

Advanced Power BI: Level 3
(Prerequisite: Advanced Power BI: Level 2 or equivalent experience.) Delve deeper into Power BI data modeling concepts and discover how to take a large single-source flat file and identify fields to break out and use as dimension/lookup tables. Learn to effectively use time intelligence to manipulate data using time periods and do week-over-week analysis and parallel period analysis. Understand how to create a cumulative total and compare your results against the same period last year. Discover more custom visuals including a word cloud. Learn to combine your results using the Set functions in DAX: Union, Intersect, and Except. Topics include data modeling basics, the star schema data model, and data model properties. Additional topics include handling multiple relationships and dealing with mismatched tables.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3173 Fri., Sept. 16
E3208 Wed., Sept. 28
E3275 Tues., Nov. 1
E3338 Fri., Dec. 2
E3405 Tues., Jan. 17

Advanced Power BI: Level 4
(Prerequisite: Advanced Power BI: Level 3 or equivalent experience.) Continue your journey to mastery of the Power BI tool. Discover additional means of data analysis by creating a moving average, sampling, time series forecasting, and Pareto analysis. Learn to utilize running total and period-to-date measures. Explore techniques for using Power BI Bookmarks and the Page Navigator. Understand how to enhance conditional formatting using Unicode characters. Learn to include a visual showing the last refresh date/time. Additional topics include employing a custom composite KPI visualization.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3174 Fri., Sept. 23
E3207 Thurs., Sept. 29
E3276 Tues., Nov. 8
E3339 Fri., Dec. 16
E3406 Tues., Jan. 24

Power BI is a set of software analytical tools to gather data from a variety of sources and create interactive reports, visualizations, and dashboards to share with others.

See page 5 for Classes in Power Automate
Data Analysis with Tableau

Tableau is a key software tool that allows you to analyze and visualize data in order to effectively tell your story.

Introduction to Tableau
(Prerequisite: Introduction to SQL or equivalent experience.) Discover how to gage insights and meaning from your data using the data visualization tool Tableau. Learn to connect to various data sources and gather data you need. Understand Tableau terminology and how to navigate the interface. Learn to manage Tableau worksheets, workbooks, and dashboards; set filters; and do basic calculations. Understand how to represent data with different visualization types and dashboard actions. Topics include terminology, data layout and formatting, organizing sheets, creating dashboards, analyzing data, working with geographical data, and basic chart types. Additional topics include managing data sources and visualizations, dimensions and measures, and sorting and filtering Tableau data.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3051 Mon., Aug. 8 Mark Ratliff
E3176 Wed., Oct. 26 Mark Ratliff

Intermediate Applications of Tableau
(Prerequisite: Introduction to Tableau or equivalent experience.) Build on your Tableau skills as you move into deeper analysis and more powerful visualization techniques. Discover how to aggregate data together from separate tables and disparate sources. Understand how to handle changes in your data source and join data sets. Learn how to connect various data sources, edit data connections, and blend data. Additional topics include adding reference lines to visualizations, working with shared and dual axis charts, creating combination charts, distributing and publishing data, interacting with the Analysis Menu, and creating data stories.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3052 Mon., Aug. 15 Mark Ratliff
E3177 Wed., Nov. 2 Mark Ratliff

Advanced Applications of Tableau: Level 1
(Prerequisite: Intermediate Applications of Tableau or equivalent experience.) Learn more advanced visualization and analytical methods. Discover how to order and group data with Bins, Sorts, Groups and Sets. Understand how to manipulate data with advanced techniques, Boolean fields, and context filters. Develop more complex calculations using strings, custom aggregations, and logical and conditional calculations. Additional topics include parameters and creating advanced visualizations like KPI charts.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3053 Mon., Aug. 22 Mark Ratliff
E3178 Wed., Nov. 9 Mark Ratliff

Advanced Applications of Tableau: Level 2
(Prerequisite: Intermediate Applications of Tableau or equivalent experience.) Take your Tableau skills to the next level. Understand how to create more advanced visualizations such as Histograms, Control Charts, Pareto Charts, and Market Basket Analysis. Harness the power of Waterfall visualizations to show incremental changes in data over time. Discover how specific data ranks across different measures over time using Bump charts. Additional topics include creating infographics and data journalism.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3054 Mon., Aug. 29 Mark Ratliff
E3179 Wed., Nov. 16 Mark Ratliff

Why Should You Learn SQL?
SQL Skills are Among the Highest in Demand

SQL Language and Advanced Queries
Master the SQL language and advanced queries to find the information and answers you need. (p. 12)

SQL Optimization
Learn the SQL Order of Operations and how to analyze and tune your query performance. (p. 12)

SQL Server Security
Understand how data is your most valuable asset and the importance of keeping the data secure. (p. 13)

SQL Stored Procedures
Extend the power of SQL by learning to program stored procedures in the Transact-SQL language. (p. 13)

SQL Server Reporting Services (SSRS)
Learn to use SSRS (SQL Server Reporting Services) to create, format, and manage reports. (p. 13)
WEB DESIGN & DEVELOPMENT

HTML

Our HTML classes teach you to use HTML to create web pages, or to quickly adjust pages generated with another application.

Introduction to HTML
(Prerequisite: Experience with Windows. Students should be familiar with the Windows interface and be able to copy and paste material from one document to another, as well as move, change, resize, and manage multiple windows.) This course introduces the basics of creating web pages using Hypertext Markup Language (HTML). Understand the philosophy of HTML, effective web page design, and how a markup language works. Learn the basic HTML document elements, tags, and structures. Topics include titles, headings, paragraphs, nested lists, horizontal rules, line breaks, basic formatting techniques, and changing text appearance and color. Additional topics include using special characters, placing graphics in web-compatible formats, and setting up hypertext links. Although the focus of this class is on HTML, some CSS is introduced to help in understanding the relationship between structure and presentation in web design.

Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3214 Tues., Oct. 11 Dawn Robinson

Intermediate Applications of HTML
(Prerequisite: Introduction to HTML or equivalent experience.) This course covers techniques for planning and creating attractive web pages that combine text and images. Discover how to create tables to display data and use the table features to align images with text, create newspaper-style columns, and insert side heads. Work with referencing sections of a web page for hyperlinks and using image maps for navigation. Learn techniques for designing web pages effectively and understand different ways to publish your website. Additional topics include adding meta and base tags.

Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3215 Tues., Oct. 18 Dawn Robinson

Advanced Applications of HTML
(Prerequisite: Intermediate Applications of HTML or equivalent experience.) Enhance the design and effectiveness of your web pages using the advanced features of HTML. Learn to use the HTML5 semantic tags and their role in modern web page design. Understand basic design techniques to improve search engine optimization. Learn proper ways to use attributes and global attributes. Learn basic CSS code for formatting text and the DIV tag for page layout. Create forms for accepting input, code for formatting text and the DIV tag for page layout. Create forms that include multiple-choice questions, comment boxes, and buttons so your users can interact with your site and you can gather useful information/feedback. Understand microformats and when you might use them. Discover how to include audio and video in your website.

Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3216 Tues., Oct. 25 Dawn Robinson

CSS (Cascading Style Sheets)

Introduction to CSS
(Prerequisite: Introduction to HTML or equivalent experience.) Learn to use Cascading Style Sheets (CSS) to effectively and efficiently format and position web page elements. Create CSS to add presentation-type effects, visual qualities, and layout options to your Web pages. Learn to create drop caps, insert page breaks for printing, place images and other web elements on your page, incorporate links that change color as the mouse passes over them, and access additional text and font properties. Understand how to create style sheets that are embedded in a particular page and external style sheets that can be used by multiple pages. Topics include the STYLE, LINK, and @import tags and the style attribute of standard HTML tags. Additional topics include font, text, color, background, and positioning properties unavailable with standard HTML attributes and tags. Inline styles, style classes and rules of precedence for overlapping styles will also be covered.

Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3217 Tues., Nov. 8 Dawn Robinson

Responsive Design

HTML and CSS provide the tools you need for responsive design to adapt a web page’s layout to the viewing device.

Responsive Web Design with HTML and CSS
(Prerequisite: Intermediate Applications of HTML and Advanced Applications of CSS or equivalent experience.) Understand the concept of responsive design and how to apply it to design web pages that automatically adjust based on the available screen size (viewport). Discover the power of media queries to determine the viewport of the requesting device (mobile, tablet, or desktop). Create pages using a flexible grid layout that adjusts the number of columns in the layout depending on the size of the viewing screen. Learn strategies for using HTML to handle the structure of the document and using CSS to craft the design and appearance of the page. Topics include fluid grids, re-arranging content, re-sizing elements, media queries, and flexible images. Build your skills to effectively design websites that support both desktops and mobile devices.

Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3220 Tues., Dec. 6 Dawn Robinson

Responsive Application of CSS
(Prerequisite: Introduction to CSS or equivalent experience.) Learn to create page layouts and multiple-column designs using CSS and DIV tags. This class will show you how to use floats to position items and wrap text, nest floats, use negative margins, and create fixed and liquid layouts. Learn to build horizontal and vertical navigation bars with rollover features. Other topics include formatting tables with CSS, working with graphics, and adding styles to links. Learn some of the challenges posed by different browsers and the troubleshooting techniques that fix common browser bugs.

Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3218 Tues., Nov. 15 Dawn Robinson

Responsive Application of CSS
(Prerequisite: Intermediate Applications of CSS or equivalent experience.) With CSS, you can control the appearance and layout of your web pages. The developing standard CSS3 expands the options available for selecting elements and dramatically increases the graphical options available through CSS alone. With CSS3, you can create visually stunning pages that include opacity, shadows, gradients, rounded corners, and specialized fonts, all without requiring image files. With the new selectors, you can easily select subsets of page elements to quickly style your pages. Learn to make your layouts more flexible with media queries, which provide different style sheets optimized for different media, making it easier for you to ensure that users on any kind of device are able to use your page. Additional topics include creating animations and 2-D transformations.

Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3219 Tues., Nov. 29 Dawn Robinson

Responsive Application of CSS
(Prerequisite: Intermediate Applications of CSS or equivalent experience.) Understand the concept of responsive design and how to apply it to design web pages that automatically adjust based on the available screen size (viewport). Discover the power of media queries to determine the viewport of the requesting device (mobile, tablet, or desktop). Create pages using a flexible grid layout that adjusts the number of columns in the layout depending on the size of the viewing screen. Learn strategies for using HTML to handle the structure of the document and using CSS to craft the design and appearance of the page. Topics include fluid grids, re-arranging content, re-sizing elements, media queries, and flexible images. Build your skills to effectively design websites that support both desktops and mobile devices.

Fee: $199
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3220 Tues., Dec. 6 Dawn Robinson

(continued in next column)
JavaScript is a scripting language that can add dynamic features to web pages including special effects and animations.

Introduction to JavaScript
(Prerequisite: Introduction to HTML or equivalent experience.) Create web pages that respond to events and change dynamically using JavaScript to interact with HTML, and CSS to enhance the user experience. You will learn the basic commands and structure of the language, including variables, expressions, and functions. Practice incorporating calculations into your pages, and display the current date on your page using the built-in Date object. Learn how to create scripts that respond to different events such as button clicks or other user interaction. Additional topics include adding alert boxes and understanding the HTML DOM (Document Object Model) that allows you to programmatically change your web pages.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3121 Tues., Sept. 20 Beth Arrowsmith

Intermediate Applications of JavaScript
(Prerequisite: Introduction to JavaScript or equivalent experience). Build on the skills practiced in the introductory class. Discover how JavaScript can help to validate HTML forms, providing immediate feedback when the user omits required information or makes other validation errors. Learn to create web forms for password resets and data entry, validating your web pages using client-side scripts. Create pages that will conditionally change depending on user input. Learn best practices for input validation, by string manipulation and regular expressions or creating appropriate warnings to the user. Use loops and arrays to store and show information that changes with time. Understand how to open a new window for your form or to determine if your page has been resized using BOM (Browser Object Model).

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3122 Tues., Sept. 27 Beth Arrowsmith

Advanced Applications of JavaScript
(Prerequisite: Intermediate Applications of JavaScript or equivalent experience.) This class introduces you to AJAX and jQuery. You will use the BOM (Browser Object Model) to control timing and to change the users web experience, based on past interactions using cookies. Discover how to create an automatically-rotating slide show or a clock by using JavaScript to control timing on your web pages. Understand how to use AJAX (Asynchronous JavaScript and XML) combining client-side JavaScript with the power of XML. Gather and show information from an XML file and a database. Learn how to use AJAX to create drop-down form menus that are automatically populated based on your users input. This course also introduces the popular JavaScript library jQuery, which allows you to quickly and gracefully select portions of the document, dynamically show or hide content, add animations and effects, and easily handle cross-browser compatibility concerns. Additional topics include creating web pages that show mouse over events and dynamically respond to user typing, and reducing server-side interactions to speed up your web pages.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3123 Tues., Oct. 4 Beth Arrowsmith

React, created by Facebook, simplifies creating interactive UIs (User Interfaces) for the web. It uses JSX, allowing you to write HTML directly in your code. With React.js, you can reload only the parts of your web page that have changed data, reducing server load.

Advanced Applications of JavaScript: React.js
(Prerequisite: Advanced Applications of JavaScript and Introduction to HTML or equivalent experience.) Learn how to use React, a JavaScript library, for creating interactive user interfaces (UIs). Understand the significance of using JSX, and how React allows you to write HTML directly to your code. Learn the basics of React components and understand the life-cycle of a React component. Understand how to design simple views for each state in your application, and how React updates and renders components when your data changes. Topics include DOM (Document Object Model), Virtual DOM, and updating non-virtual DOM. Additional topics include life-cycles, updating data, actions, and no state components.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3124 Tues., Oct. 11 Beth Arrowsmith

Content Management Using WordPress
WordPress was designed to make it easy to set up a blog on the web. It has evolved into an effective content management system that can be used to create a complete website.

Introduction to WordPress
(Prerequisites: If you have no previous web experience, it is recommended that you take Introduction to HTML.) Understand the concepts of WordPress, a content management system used for creating and maintaining a web site. Work with the Dashboard to add content and manage settings. Use the WordPress built-in editor to create new pages and posts, add pictures, videos, audio, links, and text to your site. Help your readers find posted information by organizing your site with categories and tags. Learn to add custom menus with title attributes, manage and moderate reader comments, and install and use plugins to add functionality to your site. Explore how to improve the appearance of your site by selecting an appropriate theme. Other topics discussed include configuring WordPress settings, linking to internal and external content, and designating the home page.

Fee: $239
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3081 Fri., Oct. 21 Tina Wolk Hefner

Intermediate WordPress
(Prerequisites: Introduction to WordPress or equivalent experience.) Extend your knowledge of WordPress and learn seven key settings that will enhance your site and help it stand out with search engines. Develop strategies for working with images and aligning them properly on your pages. Understand the importance of an effective home page and how to set one up to draw customers. Learn to add widgets to WordPress sidebars, footers, posts, and pages depending on your theme to improve the experience of your visitors and help them navigate content. Discover how to create audio and video playlists and add them to your site. Examine the CSS customizer and its role in improving the appearance of your site. Topics include navigation menus, basic security steps, working with widgets, plugins, settings, and customization. Additional topics include adding users, updating user profiles, understanding roles, and other administrative tasks.

Fee: $239
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3082 Fri., Oct. 28 Tina Wolk Hefner
Learning to Code

Introduction to Programming Concepts
This course covers the fundamentals of computer programming. Develop a better understanding of how computer applications work by learning to write your own simple programs. Learn the basic programming structures that are common to many programming languages, including input and output statements, constants, assignment statements, string and numeric variables, conditionals, and branching and looping control structures. Programming techniques covered include counting, averaging, rounding, the use of random numbers, and numerous tips on developing a good programming style.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)
E3101 Wed., Sept. 14 & Thurs., Sept. 15 Beth Arrowsmith
E3320 Thurs., Nov. 10 & Fri., Nov. 11 Beth Arrowsmith

Java

Introduction to Java Programming
(This course is intended for students with very little programming experience. Introduction to Programming Concepts is recommended as a prerequisite for students with no exposure to programming concepts.) This course introduces Java, one of today's most popular programming languages. Learn to design, write, compile, and run basic Java applications that incorporate fundamental programming concepts and accepted programming techniques. Learn to declare and use variables of different data types to store information in your programs. Practice using control structures, such as if statements, switch statements, and loops, to control the flow of your applications. Additional topics include relational and logical operators, String and Math methods, and arrays.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)
E3166 Thurs., Sept. 29 & Fri., Sept. 30 Beth Arrowsmith

Intermediate Java Programming
(Prerequisite: Introduction to Java Programming or equivalent experience with Java, C, or C++) Explore Java’s object-oriented features, to make your programs more reliable, efficient, and reusable. Write classes that include variables, constructors, and methods, and learn to create objects based on your own classes and classes included in Java’s class libraries. Examine the concepts of inheritance and class hierarchy, and learn to design classes that inherit and extend existing functionality. Practice applying effective object-oriented design strategies and writing useful class documentation. Additional topics include formatting numeric and date data, overloading methods and constructors, managing flexible-size collections, working with polymorphic variables, and organizing your classes into packages.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)

Advanced Java Programming
(Prerequisite: Intermediate Java Programming or equivalent experience.) Create graphical user interfaces that incorporate components of Swing and the Abstract Windowing Toolkit. Learn to apply practical exception-handling techniques to deal with errors generated when you run your programs. Other topics include using input and output streams to interact with external data and laying out your GUI applications effectively.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)
E3168 Wed., Oct 26 & Thurs., Oct. 27 Beth Arrowsmith

PowerShell Scripting

Windows PowerShell is a command-line shell and scripting language designed to assist you in managing a Windows environment. Built on the .Net framework, PowerShell allows you to control the Windows operating system and the applications that run on Windows. PowerShell commands are called cmdlets and give you command-line access to Windows. PowerShell is also a complete scripting language.

Basic PowerShell Scripting: Level 1
(Prerequisite: Experience with Windows.) Learn the basics of PowerShell scripting to include working with variables and data types, how to run a PowerShell script or function and the importance of setting the correct execution policy. Understand the use of Cmdlets and the concept of objects, members, and properties. Discover the syntax and how to use PowerShell conditional and comparison operators, conditional list statements, arrays, and lists. Other topics include working with string and numeric literals, associative arrays, and here-strings.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3358 Tues., Oct. 18 Beth Arrowsmith

Basic PowerShell Scripting: Level 2
(Prerequisite: Basic PowerShell Scripting: Level 1 or equivalent experience.) This course builds on the scripting techniques learned in the Basic PowerShell class by expanding the scripts to include adding parameters to scripts and functions, splatting, and using functions in a script. Learn to manage conditionals and use looping constructs including Do While, Do Until, and For Each. Understand how to manage files and directories, and useful Cmdlets such as Test-Path, Remove-Item, Select-Object Where-Object, and Compare-Object. Additional topics include PowerShell drives and variables.

Fee: $279
One-Day Class Meets 8:30am-4:00pm (6.5 hours)
E3359 Tues., Oct. 25 Beth Arrowsmith

Did you know we offer a Certificate in Programming?
Learn fundamental programming concepts and object-oriented methodology.
For more information, visit our web site at http://www.cetc.umsl.edu/pgfacts.html

Office 365 has become a popular productivity tool and central hub.
Office 365 ......................... 3
OneDrive ............................ 3
Power Automate .................. 5
Power Apps ......................... 5
SharePoint ......................... 4
Teams ............................... 3
Python

Python is an object-oriented language used in data analysis, web development, desktop apps, scientific computing, and many other areas.

Introduction to Python Programming
(Prerequisite: Introduction to Programming Concepts or equivalent experience with another programming language.) This course introduces Python, an interpreted, object-oriented programming language. Learn to design and write basic Python applications that incorporate fundamental programming concepts and accepted programming techniques. Understand basic Python syntax, variables and data types, scope, statements, and expressions. Learn control structures including conditionals and loops to control the flow of your application. Topics include functions, strings, and string functions. Additional topics include relational and logical operators, lists, multi-dimensional lists, subscripts, and wildcards. Other topics include an introduction to fundamental classes and methods in Python.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)
E3141 Thurs., Sept. 22 & Fri., Sept. 23 Beth Arrowsmith
E3341 Tues., Nov. 29 & Wed., Nov. 30 Beth Arrowsmith

Intermediate Python Programming
(Prerequisite: Introduction to Python Programming or equivalent experience.) Explore Python’s object-oriented features, with the goal of making your programs more reliable, efficient, and reusable. Learn to write classes that include variables, constructors, and methods. Understand how to use regular expressions for pattern matching, string manipulation, and data validation. Learn to error trap using exceptions to keep your programs from crashing. Use Python to work with a database and read, write, edit, and delete records. Discover Python’s File I/O capabilities and learn to read and write binary and text files. Topics include opening/closing files, checking to see if a file exists, file operations, and reading/writing files. Additional topics include working with critical functions such as lambda, map and filter, iterating conditionals and loops to control the flow of your application. Learn to design and write basic Python applications that incorporate fundamental programming concepts and accepted programming techniques. Understand basic Python syntax, variables and data types, scope, statements, and expressions. Learn control structures including conditionals and loops to control the flow of your application. Topics include functions, strings, and string functions. Additional topics include relational and logical operators, lists, multi-dimensional lists, subscripts, and wildcards. Other topics include an introduction to fundamental classes and methods in Python.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)
E3145 Thurs., Oct. 6 & Fri., Oct. 7 Beth Arrowsmith
E3342 Tues., Dec. 6 & Wed., Dec. 7 Beth Arrowsmith

Advanced Python Programming: Level 1 Data Analysis
(Prerequisite: Intermediate Python Programming or equivalent experience.) Expand your Python coding knowledge and take it to the next level. Explore Python for data analysis and visualization. Learn to use libraries to solve common problems. Understand how to use numpy, matplotlib, and seaborn modules for statistical analysis and visualization. Discover Pandas for data manipulation and work with its data structure and functions to filter, select, group, and aggregate data.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)
E3146 Thurs., Oct. 20 & Fri., Oct. 21 Beth Arrowsmith

Advanced Python Programming: Level 2
(Prerequisite: Advanced Python Programming: Level 1 or equivalent experience.) Expand your Python coding knowledge to learn more about how Python is used as a back-end and front-end language. Understand how JSON is used for serialization, deserialization, and transmitting information. Learn how to parse data, read and write files using XML, and create web pages in HTML. Discover the nuances of scraping web pages and working with crawlers along with using Beautiful Soup. Additional topics include creating GUIs and widgets, and creating and using APIs for data transmission.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)
E3147 Wed., Nov. 3 & Thurs., Nov. 4 Beth Arrowsmith
E3344 Tues., Dec. 20 & Wed., Dec. 21 Beth Arrowsmith

Advanced Python Programming: Level 3
Continue to expand your Python coding knowledge and learn to perform statistical data analysis and visualization to better understand relationships in your data. Work with the scikit-learn package to implement machine learning and predicative data analysis. Discover new patterns in your data using preprocessing, classification, regression, and clustering. Learn how to create learning data sets and testing data sets for machine learning, how to determine if over-learning has occurred and what to do about it, and how to keep your AI up to date with the changing conditions of the real world.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)
E3148 Wed., Nov. 17 & Thurs., Nov. 18 Beth Arrowsmith
E3345 Tues., Jan. 10 & Wed., Jan. 11 Beth Arrowsmith

Did you know we offer a Chancellor’s Certificate in Python Programming?

This Chancellor’s Certificate program is designed to help participants learn fundamental programming concepts and data analysis methodology. For more information, visit our web site at http://www.cetc.umsl.edu/pyfacts.html

Corporate Training
CETC offers more than just our open enrollment classes. We can help train your workforce or develop customized business solutions. Call today for more information.
314-984-9000 or email info@cetc.umsl.edu
Microsoft Visual C# .NET

Introduction to Visual C# .NET Programming
(Prerequisite: Introduction to Programming Concepts or equivalent experience with another programming language.) This course, intended for students with no previous C# experience, introduces the Visual Studio development environment and fundamental C# programming statements. Learn to use Visual Studio to design professional user interfaces that feature a variety of Windows controls, including buttons, text boxes, combo boxes, and radio buttons. Add C# code behind your Windows forms to interact with users and add logic to your applications. Review essential programming concepts, including variable declarations, conditional statements, loops, and arrays, using the C# syntax. Other topics include an introduction to classes and methods using fundamental classes in the .NET Framework.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)
E3325 Tues., Nov. 15 & Wed., Nov. 16 Beth Arrowsmith

Intermediate Visual C# .NET Programming
(Prerequisite: Introduction to Visual C# .NET Programming or equivalent experience.) Streamline your C# projects by creating your own user-defined classes. This course will review and expand on the object-oriented programming concepts, and guide you through creating and instantiating user-defined classes with user-defined properties, methods, and constructors. Discover tips on searching Visual Studio documentation to locate and use classes and methods provided by the .NET Framework to perform necessary tasks. Learn to declare and use overloaded methods and static members. Use collections to work with groups of objects. Consider the principles of good object-oriented design in your C# programs. Practice inheritance to extend the functionality of existing classes, and then take advantage of inheritance using polymorphic variables and methods.

Fee: $399
Two-Day Class Meets 8:30am-4:00pm (13 hours)
E3326 Thurs., Dec. 1 & Fri., Dec. 2 Beth Arrowsmith

Data Analysis
Use the world’s most popular software tools to aggregate and analyze your data, and learn meaningful ways to present your findings and bring data to life.

Excel Charts ....................... 6
PivotTables ....................... 7
PowerPivot .......................... 7
Power BI ............................ 16
R Studio ............................ 15
SSRS .................................... 13
Tableau ............................. 17

Want to earn a Chancellor’s Certificate in Data Analysis?

Master the skills that make you an asset in any organization:

• Using data analysis software tools in demand by employers.
• Designing visuals to tell your story.
• An understanding of how data is organized and how to manage relationships between various data sets.
• Creating effective SQL queries and handling data with SQL.

Being able to pull all those skills together will make you shine! Start earning your Certificate in Data Analysis today!

For more information, go to http://www.cetc.umsl.edu/dafacts.html
Course Information

Course Listings
Courses are shown with the program code, fee, day/date, and name of the instructor. Course outlines for most classes are available on our web site.

Prerequisites
Prerequisites are important to ensure the experience level of the student is adequately matched with the content level of the class. If you are not sure you have all the prerequisites listed for a class, or have questions concerning the prerequisites and level of class, take advantage of our program advising service.
Call (314) 984-9000 or email info@cetc.umsl.edu to discuss your questions.

Let us help you take the right class that fits your needs and experience!

Disability Access
The University of Missouri complies with the Americans with Disabilities Act of 1990. Persons requiring auxiliary aids should contact the Director of Disability Access Services, (314) 516-5228, at least two weeks prior to the first class session for assessment and assistance.

Alumni Association Member Discount
Become a member of the University of Missouri-St. Louis Alumni Association and receive a 10% discount on Computer Education & Training Center classes. Call (314) 516-5833 for more information.

Bringing Your Own Flash Drive
In order to save your class work if you are taking in-person classes, you may bring your own USB flash drive.

Transcript Requests
Our registration system allows you to view your course transcript. For more information, go to:
https://register.cetc.umsl.edu
If you have not registered recently, you may need to set up an account. If you have taken classes prior to September 2016, we can consolidate your prior courses with your new account. Please call us at (314) 984-9000, or email info@cetc.umsl.edu and we will be happy to assist you.
If you would like a printed copy of your transcript on official letterhead, contact the registration office. Written authorization is required for an official transcript.

Enrollment Confirmation
Upon receipt of your registration, you will receive a confirmation notice by email with a link to a map for directions. Please register early to ensure timely receipt of this information. If you are taking virtual classes, your zoom link and other instructions are sent the day before the class.
Registrations that include all information are normally processed the same day they are received, and confirmations are emailed the same day as well.

Registration & Payment

How to Register
The registration office is located at 12837 Flushing Meadows Drive, St. Louis, MO 63131.
The registration office is open from 8:00 a.m. to 5:00 p.m. Monday through Friday.
Complete the registration form on the back page and send it with full payment.

MAIL: University of Missouri–St. Louis
Computer Education & Training Center
12837 Flushing Meadows Drive
St. Louis, MO 63131

PHONE: Charge with MasterCard, Visa, Discover, or American Express by calling (314) 984-9000.

WEB: https://register.cetc.umsl.edu

Payment of Fees
The registration fee for each course is shown below the course description. Checks should be made payable to the University of Missouri–St. Louis. MasterCard, Visa, American Express, and Discover are also accepted. Credit card payments can be made with our online registration system or by phone. Credit card payments cannot be made by email or fax.
Please note that payment of fees is due in full prior to the start of your class. You are not officially registered until your payment has been received. Course fees include all course materials. No additional purchases are required.

Invoicing
In order to be invoiced, please include authorization and billing information, including the name and signature of the person responsible for payment.

Please note the cancellation and refund policies. Non-payment or failure to abide by payment policies will result in loss of invoicing rights.

Cancellation, Withdrawal & Refunds
The University reserves the right to cancel any program. In the event of cancellation, you will be notified immediately, and course fees will be refunded or applied to a future program at your request.
If you must cancel your registration or if you want to transfer to another class, call (314) 984-9000 by 9:00 a.m. two business days prior to the start of a day class to guarantee a refund or to ensure a transfer. Refunds will not be given after a course begins. There is a limit of one transfer per class.
Substitutions are allowed at any time prior to the beginning of the course. If you are unable to attend but would like another employee to attend in your place, contact the registration office with the information to make the change.
West County Computer Education Center

The Computer Education & Training Center is located in West County at 12837 Flushing Meadows Drive, in St. Louis, MO, 63131.

The Center is in the Bel Aire Office Park, near the intersection of I–270 and Manchester Road, just down Des Peres Road from the Des Peres Ciné.

From Des Peres Road, turn west onto Flushing Meadows Drive. Go approximately two blocks past Deer Tracks Trail. The Center is a brown building on your right. Registration and Check-in is on the first floor, in the center of the building.

Virtual (Live Online) Classes
Instructions for Virtual (Live Online) Classes are sent the day before the class.

In-Person Check-In
If you are taking the class in-person, please arrive 10 to 15 minutes early for your first class session to check in. Day class check-in begins at 8:00 a.m. Go to the registration area on the first floor in the center of the building for a sign directing you to the correct computer classroom.

Parking for In-Person Classes
Course fees include all parking charges for Computer Education & Training Center courses. No permit is required for the West County Computer Education Center.

Parking can be accessed off Flushing Meadows Drive or Hidden Creek Court. Parking is available both in front and behind the building. Handicap-accessible parking is located at the front of the building.

The Facility
You will be given an hour for lunch. Restaurants are located nearby (within a 5- to 10-minute drive). There are vending machines and a small student lounge in the building for eating lunch.

No child-care facilities are available. Children who are not registered for a class cannot accompany students to classes or be left unattended at the facilities during classes.

Inclement Weather
In the event of inclement weather, notices of class cancellations are given on major television and radio stations. Classes may still be held virtually even if in-person classes are cancelled.

Chancellor’s Certificate & CEUs
By completing 96 hours of classroom work (9.6 CEUs), you receive the Chancellor’s Certificate on the Computer. This certificate provides recognition for the time and effort you spent to expand your computer knowledge. In addition, Continuing Education Units (CEUs) are offered for participation in these courses and are kept on record at the University. CEUs (one for each 10 class hours) record your efforts toward personal and professional growth. For more information, call Adam Mosley at (314) 984-9000 or email us at info@cetc.umsl.edu.

For More Information
To register, find out if a class is full, or request a catalog (314) 984-9000
Course & Certificate advice (314) 984-9000
Adam Mosley
For information on our PrePurchase program, group training, or room rentals (314) 984-9000
Kate Moore
Chancellor’s Certificate in Data Analysis is designed to help you understand and use the tools needed for making sense of your data. The certificate’s three areas - core classes, data analysis & visualization, and electives - give you the flexibility to choose the path that applies to your experience level and job category.

Chancellor’s Certificate in Web Page Design provides you with the tools you need to design, develop, and maintain attractive and effective web pages.

Chancellor’s Certificate in Database Technology provides you with an understanding of database technology and database design, development, and implementation.

Chancellor’s Certificate in Business Applications helps develop computer skills and proficiency in a variety of software applications that are essential for success in today’s office environment.

Chancellor’s Certificate in Programming teaches you fundamental programming concepts and how they apply to object-oriented languages, as well as the standard techniques and programming logic that will help you solve practical problems.

Chancellor’s Certificate in Python Data Analysis teaches you fundamental programming techniques in Python to analyze and visualize data to solve business problems and make effective decisions.

Chancellor’s Certificate in Electronic Art and Publishing is for designers, editors, desktop publishers, and others responsible for producing layout and artwork for distribution through a conventional printing process or electronically via the web.

Chancellor’s Certificate in Excel is for anyone using Excel to input and manage data and who wants to learn the Excel features that automate work, prevent errors, & make data entry easier.

Chancellor’s Certificate in SharePoint covers the collaboration features of SharePoint, as well as how to integrate with Office products, store and secure data, customize lists, and manage user access.

For more information, go to our certificate page: www.cetc.umsl.edu/webfacts.html or email: info@cetc.umsl.edu

1. Learn specific, targeted computer skills and earn credentials for proof of concentrated study.
2. Explore a new career or a career change.
3. Use the certificate program as a guide for a course of study.
4. Update and strengthen your current computing knowledge and increase your value to your organization.
5. Demonstrate your computer skills to current and potential employers.
Computer Education & Training Center Classes AUGUST – DECEMBER 2022

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Fees are payable by check or charge. To charge, fill in: MasterCard/Visa/American Express/Discover 

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I do not want to register for a course right now, but please keep me on your mailing list for future course catalogs.

Please enroll me in the following specialized certificate program(s). Please add a $25 processing fee for each specialized certificate.

20.6.23#22-03