

Course Title: Communications Technology I
Course Number: 8601010
Course Credit: 1

Course Description:

This course provides students with instruction in the characteristics and evolution of technology, underlying principles of design, and fundamental knowledge and skills in the use of software used in communications design. Included in the content is the use of essential application software. The ultimate output of this course is a design portfolio created by the student. Each item or product included in the portfolio should include a narrative description and an explanation of the technical approach or techniques used to create the item. Consideration should be given to having students present the portfolio using presentation software.

CTE Standards and Benchmarks	
04.0	Demonstrate an understanding of the characteristics and scope of technology. – The student will be able to:
04.01	Discuss the nature and development of technological knowledge and processes.
04.02	Explain the rapid increase in the rate of technological development and diffusion.
04.03	Conduct specific, goal-directed research related to inventions and innovations.
05.0	Demonstrate an understanding of the core concepts of technology. – The student will be able to:
05.01	Explain systems thinking and the relationship between logic, creativity, and compromise in solving complex problems.
05.02	Describe technological systems and their role within larger technological, social, and environmental systems.
05.03	Identify the stability of a technological system and its influence by all of the components in the system, especially those in the feedback loop.
05.04	Describe the trade-offs between competing values (e.g., availability, cost, desirability, waste, et al) in the selection of resources.
05.05	Describe the criteria and constraints of a solution and how they affect the final result.
05.06	Describe management and associated dynamics as they relate to technological development.
06.0	Demonstrate an understanding of the relationships among technologies and the connection between technology and other fields of study. – The student will be able to:
06.01	Identify technology transfer occurring when a new user applies an existing innovation developed for one purpose in a different function.
06.02	Identify technological innovation resulting when ideas, knowledge, or skills are shared within a technology, among technologies, or across other fields.
06.03	Outline the process of patenting to protect a technological idea.
06.04	Identify technological progresses that promote the advancement of science and mathematics.

CTE Standards and Benchmarks

07.0 Demonstrate an understanding of the influence of technology on history. – The student will be able to:

07.01 Describe how most technological development has been evolutionary, the result of a series of refinements to a basic invention.

07.02 Relate the advancement of technology to the evolution of civilization.

07.03 Describe ways in which technology helps to shape social, cultural, political, and economic aspects of society.

07.04 Describe the major technological developments that characterized the Industrial Revolution and their impact on society.

07.05 Describe the major technological developments that characterized the Information Age and their impact on society.

08.0 Demonstrate an understanding of the design process. – The student will be able to:

08.01 Describe the implication of audience, purpose/message and timeframe constraints of a project.

08.02 Describe the sequence of steps and associated activities involved in applying the design process.

08.03 Compare and contrast creative and analytic problem-solving strategies to the design process.

08.04 Discuss why the design process must begin with a clearly stated problem.

08.05 Explain the relationship between design criteria and design constraints.

08.06 Explain the forms of analysis used in evaluating potential solutions, particularly those forms associated with design principles, estimation, economics, and worst case scenario.

08.07 Brainstorm potential solutions to a communication design problem.

08.08 Describe a decision table and how it is used to evaluate proposed solutions to communications design problem.

08.09 Produce thumbnail sketches/rough design and final designs.

08.10 Identify the factors that ensure the sustainability and effectiveness of a communications design (e.g., visual appeal, audience, media, market research).

09.0 Demonstrate an understanding of and be able to select and use information and communication technologies. – The student will be able to:

09.01 Describe and give examples of the essential elements of a communication system (i.e., inputs, processes, and outputs).

09.02 Describe and give examples of human to human, human to machine, machine to human, and machine to machine communications.

09.03 Select and use information and communication systems to inform, persuade, entertain, control, manage, and educate.

09.04 Identify components of a communication system, including source, encoder, transmitter, receiver, decoder, storage, retrieval, and destination.

CTE Standards and Benchmarks

09.05	Compare and contrast the means of communicating visual messages (i.e., graphically, electronically) and associated forms (e.g., digital, analog, and multimedia).
09.06	Compare and contrast the forms for communicating technological information (e.g., symbols, icons, graphic, measurement, et al).
10.0	Demonstrate safe and appropriate use of tools, machines, and materials in communications technology. – The student will be able to:
10.01	Select appropriate tools, procedures, and/or equipment.
10.02	Demonstrate the safe usage of appropriate tools, procedures, and operation of equipment.
10.03	Follow laboratory safety rules and procedures.
10.04	Demonstrate good housekeeping at workstation within total laboratory.
10.05	Identify color-coding safety standards.
10.06	Explain fire prevention and safety precautions and appropriate practices for extinguishing fires.
10.07	Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.
11.0	Demonstrate technical knowledge and skills in the area of product design. – The student will be able to:
11.01	Demonstrate an understanding of the elements and principles of design of a communications product (e.g., media, venue, language, message, interactivity),
11.02	Compare and contrast basic types of layouts.
11.03	Describe the activities and implications of content preparation and editing/proofreading.
11.04	Develop specifications for a particular job.
12.0	Perform layout, design, and measurement activities associated with desktop publishing. – The student will be able to:
12.01	Demonstrate basic technical skills using a desktop publishing application (e.g., Quark, InDesign, Microsoft Publisher)
12.02	Understand the differences between manual paste-up and electronic page layout.
12.03	Identify distinct elements in a layout.
12.04	Demonstrate familiarity with terms associated with desktop publishing (e.g., leading, kerning, tracking, baseline shift, ligature, line spacing),
12.05	Identify characteristics of type, type families, type series, and type styles.
12.06	Install and apply fonts.

CTE Standards and Benchmarks

12.07	Compare and contrast methods of measurement used in desktop publishing (e.g., in, cm, mm, points, picas)
12.08	Produce a variety of designs using desktop publishing software, including multi-panel and those using master pages.
12.09	Incorporate clip art/images, borders, and other special effects into a DTP design.
12.10	Understand and comply with the legalities of using preexisting images (copyright/trademark).
12.11	Describe page imposition and its impact on document design.
12.12	Create various print and digital publications (e.g., business cards, letterheads, flyers, brochures, newsletters, posters, programs and calendars).
13.0	Express technical knowledge and understanding of major printing processes. – The student will be able to:
13.01	Explain and demonstrate pre-press operations.
13.02	Demonstrate an understanding of printing processes (i.e., letterpress, gravure, screen, lithographic).
13.03	Demonstrate an understanding of digital printing processes (e.g., dye sublimation, direct print, laser jet).
13.04	Demonstrate an understanding of the process of projection printing.
13.05	Demonstrate an understanding of the lithographic offset press process.
13.06	Explain the difference between printing and duplicating processes.
13.07	Design and layout copy for single-color printing project.
13.08	Produce a printing project.
14.0	Identify computer components and their functions. – The student will be able to:
14.01	Identify the internal components of a computer (e.g., power supply, hard drive, mother board, I/O cards/ports, cabling, etc.).
14.02	Identify various computer input devices (e.g., mouse, keyboard, phone, camera) and describe their use.
14.03	Identify various computer output devices (e.g., monitor, printer, phone) and describe their use.
14.04	Identify various storage devices (e.g., flash drive, iPod, phone, external hard drive, etc.)
15.0	Demonstrate proficiency with common computer peripherals, including connections to standard input and output devices. – The student will be able to:
15.01	Identify and demonstrate the types and functions of common input devices (e.g., mouse, keyboard, camera, microphone, scanner).
15.02	Identify the types and functions of specialized input devices (e.g., digital cameras, mobile devices, GPS devices).

CTE Standards and Benchmarks

15.03	Describe the types and purposes of various computer connection ports (e.g., USB, firewire, parallel, serial, Ethernet, et al).
15.04	Connect an input device (e.g., mouse, keyboard, cell phone, camera, et al) and verify proper operation.
15.05	Connect an output device (e.g., printer, monitor, projector, et al) and verify proper operation.
16.0	Demonstrate knowledge of computer file management. – The student will be able to:
16.01	Describe and use conventional file naming conventions.
16.02	Demonstrate proficiency with file management tasks (e.g., folder creation, file creation, backup, copy, delete, open, save).
16.03	Be able to identify file types by extension (e.g., .doc, .txt, .wav, xls, etc.).
17.0	Demonstrate proficiency using the Internet to locate information. – The student will be able to:
17.01	Identify and use web terminology.
17.02	Define Universal Resource Locators (URLs) and associated protocols (e.g., http, ftp, telnet, mailto).
17.03	Compare and contrast the types of Internet domains (e.g., .com, .org, .edu, .gov, .net, .mil).
17.04	Demonstrate proficiency using search engines, including Boolean search techniques.
17.05	Apply the rules for properly citing works or other information obtained from the Internet.
17.06	Identify and apply Copyright Fair Use guidelines.
17.07	Evaluate online information for credibility and quality using basic guidelines and indicators (e.g. authority, affiliation, purpose, etc.).
18.0	Demonstrate an understanding of Internet safety and ethics. – The student will be able to:
18.01	Describe cyber-bullying and its impact on perpetrators and victims.
18.02	Differentiate between viruses and malware, specifically their sources, ploys, and impact on personal privacy and computer operation, and ways to avoid infection.
18.03	Demonstrate proficiency running an antivirus scan to remove viruses and malware.
18.04	Describe risks associated with social networking sites (e.g., FaceBook, MySpace, and Twitter) and ways to mitigate these risks.
18.05	Adhere to cyber safety practices with regard to conducting Internet searches, email, chat rooms, and other social network websites.
18.06	Adhere to Acceptable Use Policies when accessing the Internet.
19.0	Develop and apply word processing and document manipulation skills. – The student will be able to:

CTE Standards and Benchmarks

19.01 Apply and adjust margins, tabs, line spacing and paragraph indents.

19.02 Insert and manipulate text, graphics/images, and WordArt.

19.03 Format text using the font interface and styles interface.

19.04 Adjust the size, position, and layout wrapping settings of a graphic/image.

19.05 Use the status bar to determine the number of pages, words, and characters in a document.

19.06 Insert codes for current date and time.

19.07 Copy text between documents using mouse, menu, and keyboard techniques.

19.08 Move text in a document using mouse, menu, and keyboard techniques.

19.09 Create bulleted and numbered lists.

19.10 Create a table – Inserting, moving and entering data.

19.11 Create a table – format rows, columns and cells.

19.12 Insert page breaks.

19.13 Adjust magnification of document display single and multiple pages.

19.14 Understand printing options including shrink to fit, gutters, and document orientation.

19.15 Create a report or essay that contains a title page, text, a graphic/image, and WordArt.

20.0 Develop and apply fundamental spreadsheet skills. – The student will be able to:

20.01 Describe a spreadsheet and the ways in which it may be used.

20.02 Identify the parts of the spreadsheet display.

20.03 Insert and format text information into cells.

20.04 Insert and format numeric information into cells.

20.05 Insert and format date and time information into cells.

20.06 Select multiple cells using the mouse.

20.07 Copy information from one or more cells to another part of the spreadsheet.

CTE Standards and Benchmarks

20.08	Move information from one or more cells to another part of the spreadsheet.
20.09	Sum the numeric values of multiple cells.
20.10	Use the sort function to alphabetize a table of information.
20.11	Create and navigate through a worksheet.
20.12	Change column width and row height.
20.13	Insert columns and rows.
20.14	Merge cells.
20.15	Use Undo and Redo features.
20.16	Insert arithmetic formulas into a spreadsheet.
20.17	Create and print a table that displays and sums the quantities or values of different categories of data.
20.18	Create a chart based on data sets defined in a spreadsheet.
20.19	Adjust chart types to appropriately represent base data.
21.0	Demonstrate an understanding of color theory and its role in communications design. – The student will be able to:
21.01	Describe the spectral colors in the visible light spectrum.
21.02	Describe the difference between color and light.
21.03	Differentiate between spectral and primary colors.
21.04	Describe the difference between additive and subtractive color mixing.
21.05	Compare and contrast the RGB and CYMK color models as used in communication design.
21.06	Demonstrate knowledge in terms relating to color such as chroma, lightness, saturation, hue, intensity, luminance/value, shade, tint, etc.
21.07	Demonstrate an understanding relating to the meanings of color (the psychology of color & the application of color in design).
21.08	Demonstrate a working knowledge and technical skills relating to Application of color theory to design practices.
22.0	Demonstrate an understanding of the elements and principles of graphic design. – The student will be able to:
22.01	Describe the elements of graphic design (e.g., line, shape, mass, texture, color, lighting).

CTE Standards and Benchmarks

22.02 Describe the principles of graphic design (e.g., balance, unity, contrast, rhythm, proportion, scaling).

22.03 Apply the elements and principles of design to enhance the message of the image/text and layout.

22.04 Distinguish between criteria and constraints for a given communication design problem.

23.0 Demonstrate an understanding of typography. – The student will be able to:

23.01 Describe character and line spacing and their role in enhancing readability, legibility, and emphasis.

23.02 Identify characteristics of type, type families, type series, and type styles

23.03 Demonstrate an understanding of the history of typography

23.04 Describe the principles of typographic design as they relate to communication design.

23.05 Compare and contrast the techniques for typographic communication relative to their appropriateness and effectiveness.

23.06 Demonstrate proficiency in incorporating typographic techniques into a communication design.

24.0 Demonstrate basic proficiency in using digital photography and digital imaging. – The student will be able to:

24.01 Demonstrate typical features and operation of a digital camera.

24.02 Demonstrate knowledge of ethics related to digital imaging, as well as legal and consent issues.

24.03 Apply effective design principles in digital photography compositions.

24.04 Illustrate the essence of an event, quote, or slogan through digital photography/imaging.

24.05 Incorporate scanned or digitally taken photographs into documents comprising a communication design (e.g., poster, brochure, card, advertisement, web).

25.0 Demonstrate proficiency in using a software application for digital imaging. – The student will be able to:

25.01 Differentiate between bitmap/raster and vector graphic images.

25.02 Demonstrate a basic knowledge of the tools and techniques for using vector software application (e.g., Illustrator)

25.03 Create various illustrations using vector software.

25.04 Demonstrate a basic knowledge of the tools and techniques for using a bitmap/raster software application (e.g., Photoshop)

25.05 Create and edit images/photographs using digital imaging software (e.g. Photoshop).

25.06 Demonstrate skill in image manipulation, color correction, and special effects to creatively convey a message.

CTE Standards and Benchmarks

25.07	Demonstrate skill in scanning and cropping photographs.
25.08	Compare and contrast image formats (e.g., TIF, BMP, EPS, JPEG, GIF, Raw).
25.09	Demonstrate an understanding of image resolution and compression factors such as transmission speed, color reduction, and delivery media parameters.
26.0	Develop an awareness of emerging technologies associated with communication design. – The student will be able to:
26.01	Compare and contrast emerging technologies relative to their role in communication design (e.g., wireless, wireless web, cell phones, portables, handhelds, kiosks).
26.02	Describe social media as an emerging communications technology.
26.03	Describe the emerging or evolving nature of software applications used in communication design (e.g., Adobe InDesign).
26.04	Explain how the use of advanced image sensing devices have altered the manner in which communication takes place, especially those employing Quick Response (QR) codes or other form of two-dimensional bar coding technologies.

Course Title: Communications Technology II
Course Number: 8601020
Course Credit: 1

Course Description:

In this course, students learn more about the nature of design and development techniques for communication purposes. Students are also provided with instruction in a variety of technologies commonly used to communicate concepts and designs. Students are expected to continue collating their portfolio using exemplars of their work. As with previous portfolio pieces, each exemplar should include a narrative description of the item with an explanation of any special techniques used to create the item.

CTE Standards and Benchmarks	
27.0	Demonstrate an understanding and application of the various approaches used in problem solving. – The student will be able to:
27.01	Employ research and development processes to assess the functional, economic, and ethical viability of a product or prototype.
27.02	Research a problem and determine the most appropriate problem-solving method to employ.
27.03	Determine whether the solution to a specific problem is technology-based.
27.04	Utilize a multidisciplinary approach to solving technological problems.
28.0	Demonstrate abilities to apply the design process. – The student will be able to:
28.01	Determine whether a communications design problem is worthy of being resolved or addressed.
28.02	Identify the criteria and constraints associated with a communications design problem and select the most appropriate solution based on these factors.
28.03	Evaluate the quality, efficiency, and productivity of an existing or proposed design and refine the design accordingly.
28.04	Evaluate an existing design using conceptual, physical, and mathematical models and note aspects for improvement.
28.05	Select an appropriate brainstorming process (e.g., concept mapping, graphic organizers) and explain its role in the design process.
28.06	Design and develop communications design solution using the design process.
28.07	Create and deliver a slide presentation to communicate the design process, design decision methodology, design criteria and constraints, and final solution to a communications design problem.
29.0	Demonstrate safe and appropriate use of tools, machines, and materials in communications technology. – The student will be able to:
29.01	Select appropriate tools, procedures, and/or equipment needed to produce a product.
29.02	Demonstrate the safe usage of appropriate tools, procedures, and operation of equipment needed to manufacture a product.
29.03	Follow laboratory safety rules and procedures.

CTE Standards and Benchmarks

29.04 Demonstrate good housekeeping at workstation within total laboratory.

29.05 Identify color-coding safety standards.

29.06 Explain fire prevention and safety precautions and appropriate practices for extinguishing fires.

29.07 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.

30.0 Demonstrate technical knowledge and skills in the area of design. – The student will be able to:

30.01 Demonstrate how to represent type and graphic elements in a rough layout.

30.02 Describe the effects of various printing technologies on the design.

30.03 Describe how a project's purpose, mood and audience affect the design.

30.04 Demonstrate organizational structures in layout and design.

31.0 Demonstrate technical knowledge and skills in finishing, binding and packaging. – The student will be able to:

31.01 Describe standard binding, finishing and packaging processes.

31.02 Demonstrate the proper and safe use of binding, finishing, and packaging equipment.

31.03 Describe the processes of imposition, pagination, scoring, folding, gathering, and collating.

31.04 Finish and bind a printed product using the proper technical skills.

31.05 Demonstrate proper packaging for a printed project.

32.0 Demonstrate proficiency in using presentation software. – The student will be able to:

32.01 Describe presentation software and the ways in which it may be used.

32.02 Create a Slide Master.

32.03 Adjust presentation format using the Slide Master.

32.04 Add and format titles, subtitles, and talking points to a presentation slide.

32.05 Insert date and time codes and slide numbers to slides.

32.06 Insert and format images/graphics onto slides.

32.07 Insert new or duplicate slides.

CTE Standards and Benchmarks

32.08 Adjust slide transition to include animation.

32.09 Insert and adjust sound settings and timing in presentation.

32.10 Adjust the sequence of slides in the presentation.

32.11 Produce a presentation that includes text, graphics, and digital images and present it using a projection system.

32.12 Adjust Slide Show Set-up to loop show continuously.

33.0 Define, design, and complete a desktop publishing project. – The student will be able to:

33.01 Use communication, analysis, and design skills to define project specifications that will meet client needs/desires.

33.02 Create a project plan to account for time and resources to complete the project.

33.03 Complete the project according to plan.

33.04 Create a portfolio to showcase the project.

34.0 Demonstrate proficiency in using digital photography and digital imaging. – The student will be able to:

34.01 Demonstrate proficiency in adjusting the hardware features of a basic digital SLR camera, including manual settings, shutter speed, f-stops, et al,

34.02 Demonstrate an understanding of lighting in photographic composition.

34.03 Use imaging techniques (e.g., High Dynamic Range (HDR), panoramic, long exposure, stop motion, time lapse) to achieve different artistic effects.

34.04 Demonstrate proficiency in photojournalism by creating a photo essay, magazine spread, book cover, video, or slideshow, et al.

34.05 Demonstrate effective presentation (mounting, display, etc.) of a thematic photograph or video portfolio.

35.0 Demonstrate proficiency in manipulating two-dimensional images. – The student will be able to:

35.01 Demonstrate proficiency using selections and measurements.

35.02 Transform images using scale, skew, distortion, rotation, and flip features.

35.03 Adjust images using arrange, group, and flatten functions.

35.04 Convert images to symbols.

35.05 Create hotspots and slices.

35.06 Use gradients and color channels to alter/adjust images.

CTE Standards and Benchmarks

35.07 Use retouch and blend functions on images.

35.08 Use patterns, textures, brushes, filters, masks, and transparency functions to create special effects.

36.0 Demonstrate an understanding of kinetic typography. – The student will be able to:

36.01 Describe the principles of kinetic typography as they relate to communication design.

36.02 Compare and contrast scrolling, dynamic, and fluid typographic layouts relative to their appropriateness and effectiveness.

36.03 Demonstrate proficiency in incorporating kinetic typography into a communication design.

37.0 Use computer networks, internet and online resources to facilitate collaborative communication. – The student will be able to

37.01 Demonstrate how to connect to an online collaborative resource.

37.02 Discuss the ethics and copyright legalities of downloading or sharing music or videos from online collaborative environments (e.g., GoogleDocs).

37.03 Describe risks associated with using social networking sites (e.g., FaceBook, MySpace, and Twitter) for collaboration and ways to mitigate these risks.

37.04 Adhere to cyber safety practices with regard to conducting Internet searches, email, chat rooms, and other social network websites.

37.05 Use various web tools associated with online collaboration, including those used downloading files, transfer of files, telnet, FTP, PDF, plug-ins, and data compression.

37.06 Describe how communication is supported by interactive web applications, including real-time sharing of photos and video clips, messaging, chatting and collaborating.

37.07 Describe appropriate use of social networking sites and applications, blogs and collaborative tools for information, images, etc.

38.0 Compare and contrast various forms of digital media delivery systems. – The student will be able to:

38.01 Explain the benefits and constraints of fixed versus streaming digital media.

38.02 Describe the variations in design considerations between mass display and on-demand display of digital media.

38.03 Discuss the variations in design considerations related to digital signage.

38.04 Describe the implications to the design of digital images and/or graphics based on projected mobile and WiFi delivery media.

39.0 Plan, organize, and carry out a communications project plan. – The student will be able to:

39.01 Apply the design process to determine the scope of a project.

39.02 Organize the team according to individual strengths.

CTE Standards and Benchmarks

39.03 Assign specific tasks within a team.

39.04 Determine project priorities and timeline.

39.05 Identify required resources.

39.06 Plan research, design, development, and evaluation activities as required.

39.07 Carry out the project plan to successful completion.

39.08 Create a presentation to articulate the problem, the solution, the process chosen, conclusions, and lessons learned.

Course Title: Communications Technology III
Course Number: 8601030
Course Credit: 1

Course Description:

In addition to exploring the implications of applying technologies, this course provides students with instruction in advanced techniques relative to both static and animated communication designs. In addition to learning more advanced techniques and emerging technologies, students will have an opportunity to research a project, design an appropriate solution, and present their results. The ultimate output of this course is the student's presentation of a completed portfolio illustrating their best exemplars. The portfolio should include a narrative description of the scenario, the approach to data collection, resulting renderings, and an interpretation of each chart/graph. Research references should be cited appropriately. Given the advanced nature of this course, students should be encouraged to produce the portfolio using presentation software suitable for dissemination via the Internet.

CTE Standards and Benchmarks	
43.0	Demonstrate an understanding of the cultural, social, economic, and political effects of technology. – The student will be able to:
43.01	Identify changes caused by the use of technology ranging from gradual to rapid and from subtle to obvious.
43.02	Classify the use of technology involving weighing the trade-offs between the positive and negative effects.
44.0	Demonstrate the abilities to use and maintain technological products and systems. – The student will be able to:
44.01	Document processes and procedures and communicate them to different audiences using appropriate oral and written techniques.
44.02	Diagnose a system that is malfunctioning and use tools, materials, machines, and knowledge to repair it.
44.03	Troubleshoot, analyze, and maintain systems to ensure safe and proper function and precision.
44.04	Operate systems so that they function in the way they were designed.
44.05	Use computers and calculators to access, retrieve, organize, process, maintain, interpret, and evaluate data and information in order to communicate.
45.0	Demonstrate proficiency in the design of communication solutions involving motion, rich media, or special effects. – The student will be able to:
45.01	Design a communication solution that employs animation or motion (e.g., graphics, text, video) to achieve or enhance the intended message.
45.02	Demonstrate proficiency in the use of digital authoring and editing software (e.g., Flash, After Effects) to create a product featuring special visual effects.
45.03	Design and create an interactive communication product featuring the use of rich media.
45.04	Describe the design constraints associated with optics and devices (e.g., tablet, kiosk, smart phone) used in delivering communication products, especially as they relate to the incorporation of audio.

CTE Standards and Benchmarks

46.0	Demonstrate proficiency in producing a communications product for delivery using mobile communication devices. – The student will be able to:
46.01	Design and create a communication product suitable for delivery via multiple media (e.g., smart phones, tablets, laptop).
46.02	Discuss the design implications of products intended for delivery via Bluetooth enabled devices.
46.03	Compare and contrast the security and privacy issues associated with different delivery media, particularly those involving social media.
47.0	Demonstrate technical knowledge and skills in digital and electronic communication. – The student will be able to:
47.01	Demonstrate effective use of the internet to locate and evaluate information.
47.02	Distribute information electronically.
47.03	Identify effective design methods for presenting information digitally.
47.04	Explain the history of electronic media and its role in the mass media and society.
47.05	Demonstrate key roles in each stage of the production process.
47.06	Organize a set for an electronic media production.
47.07	Demonstrate ability to select appropriate media topics, equipment, and materials for an electronic media production.
47.08	Identify and write different types of script copy.
47.09	Produce an electronic media project.
48.0	Demonstrate the abilities to assess the impact of products and systems. – The student will be able to:
48.01	Collect information and evaluate its quality.
48.02	Evaluate data, analyze trends, and draw conclusions regarding the effect of technology on the individual, society, and environment.
48.03	Use assessment techniques, such as trend analysis and experimentation to make decisions about the future development of technology.
48.04	Identify forecasting techniques to evaluate the results of altering natural systems.
49.0	Demonstrate an understanding of career opportunities and requirements in the field of communications technology. – The student will be able to:
49.01	Discuss individual interests related to a career in communications technology.
49.02	Explore career opportunities related to a career in communications technology.

CTE Standards and Benchmarks

49.03	Explore secondary education opportunities related to communications technology.
49.04	Conduct a job search.
49.05	Complete a job application form correctly.
49.06	Demonstrate competence in job interview techniques.
49.07	Create a professional resume and letter of introduction.
49.08	Solicit awards, letters of recommendation and recognition.
49.09	Organize work samples in a professional, presentable format.
50.0	Demonstrate an understanding of the use of emerging technologies in communication and advertising. – The student will be able to:
50.01	Describe photonics and its role in designing solutions to communications problems.
50.02	Demonstrate an understanding of the principles of optics and how they relate to communications technology.
50.03	Describe basic theories of wavelength, light and optics used in a variety of industries using lasers, including: manufacturing, engineering, telecommunications, entertainment, medicine, construction, and art.
50.04	Discuss modern trends in digital signage and imprinted advertising specialties.
50.05	Explain the various technologies associated with these industries.
50.06	Compare and contrast imprinted and dye sublimation transfer processes.
51.0	Plan, organize, and carry out project plans for creating various communications products. – The student will be able to:
51.01	Apply the design process to determine the goal, scope, criteria, constraints, and timeline of the project.
51.02	Work as part of the project team, supporting project focus, direction, and progress.
51.03	Identify required resources.
51.04	Plan research, design, development, and evaluation activities as required.
51.05	Carry out the project plan to successful completion.
51.06	Create a presentation to articulate the problem, the solution, the process chosen, conclusions, and lessons learned.