

**Florida Department of Education
CURRICULUM FRAMEWORK**

Program Title: Communications Technology
Occupational Area: Technology Education
Program Numbers: 8601000
CIP Number: 0821.010600
Grade Level: Secondary 9-12, & 30, 31
Standard Length: 3 Credits
Facility Design Code: 243, Related 803, 808, 810, 849, 851, 853, 854
CTSO: Florida Technology Student Association (FL-TSA)
Certification: INDUS ARTS @4 @6
 GRAPH ARTS @4
 GEN SHOP @4
 PRINTING @7G
 I ART-TEC 1 @2

- I. **MAJOR CONCEPTS/CONTENT:** The purpose of this program is to provide students with a foundation of knowledge and technically oriented experiences in the study of communications technology. This program focuses on transferable skills and stresses understanding and demonstration of the technological tools, machines, instruments, materials, processes and systems in business and industry.

The content includes, but is not limited to, a study of the processes, uses, and technical skills of graphic communication technology. The content and activities also include the study of entrepreneurship, safety, and leadership skills.

Listed below are the courses that make up this program. Design code 243 is the appropriate laboratory facility for this program.

8601010 - Communications Technology I
 8601020 - Communications Technology II
 8601030 - Communications Technology III

- II. **LABORATORY ACTIVITIES:** Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the tools and materials appropriate to the course content.
- III. **SPECIAL NOTE:** The Florida Technology Student Association (FL-TSA) is the appropriate Career and Technical Student Organization for providing leadership training experiences and reinforcing specific vocational skills. Career and Technical Student Organizations, shall be an integral part of the vocational instructional program, and the activities of such organizations are defined as part of the curriculum in accordance with Rule 6A-6.065, FAC. FL-TSA information can be obtained from the web site at <<http://www.florida-tsa.net>>.

Advanced Applications in Technology (AAiT) - course number 8601900 is appropriate to be used for content area continuation in this program after all three credits of this program have been completed. The purpose of this course is to provide students with the opportunity to develop a school based project from "vision" to "reality". Working in teams to design, engineer, manufacture, construct, test, redesign, test again; and then produce a finished "project". This would involve using ALL the knowledge previously learned, not only in Technology Education but also across the curriculum. See the (AAiT) framework for more information.

Work-Based Experience (WBE) - course number 8601800 is the appropriate course to provide Technology Education students with the opportunity, as Student Learners, to gain real world practical, first-hand exposure in broad occupational clusters or industry sectors through a structured, compensated or uncompensated experience. Work-Based Experience is also designed to give the Student Learners an opportunity to apply and integrate the knowledge, skills, and abilities acquired during their School-Based Experience to actual work situations independent of school facilities. At least one credit of a Technology Education program consisting of three credits must be completed before enrolling in WBE. See the (WBE) framework for more information.

The Intermediate and Advance courses in this program may articulate into postsecondary Tech-Prep 2 + 2 programs when taken in sequence. Tech-Prep 2 + 2 programs require articulation agreements between secondary and postsecondary educational agencies.

When a secondary student with a disability is enrolled in a vocational class with modifications to the curriculum framework, the particular outcomes and student performance standards which the student shall master to earn credit must be specified on an individual basis in each students Individual Educational Plan (IEP).

IV. **INTENDED OUTCOMES:** After successfully completing this program, the student will be able to:

- 01.0 Demonstrate the ability to work safely with a variety of technologies.
- 02.0 Demonstrate interpersonal skills as they relate to the workplace.
- 03.0 Identify and apply methods of information acquisition and utilization.
- 04.0 Apply basic skills in communications, mathematics, and science appropriate to technological content and learning activities.
- 05.0 Demonstrate and apply design/problem-solving processes.
- 06.0 Express an understanding of technological systems and their complex interrelationships.
- 07.0 Demonstrate the ability to properly identify, organize, plan, and allocate resources.
- 08.0 Discuss individual interests and aptitudes as they relate to a career.
- 09.0 Demonstrate employability skills.
- 10.0 Demonstrate an understanding of entrepreneurship.
- 11.0 Make an informed and meaningful career choice.
- 12.0 Express a technical knowledge and understanding about major printing processes.
- 13.0 Describe the properties and specifications of printing materials.
- 14.0 Demonstrate technical knowledge and skills in the preparation of art and copy for printing reproduction.
- 15.0 Demonstrate technical knowledge and skills in graphic communications process photography.
- 16.0 Demonstrate technical knowledge and skills in the processes of platemaking.
- 17.0 Produce printed copies through the operation of a lithographic offset press.
- 18.0 Demonstrate technical knowledge and skills in screen process printing.
- 19.0 Express a technical knowledge and understanding about electronic communication technology.

- 20.0 Demonstrate technical knowledge and skills in binding and finishing processes.
- 21.0 Use technical knowledge and skills in continuous tone photography.
- 22.0 Apply technical knowledge and skills in the processes of multi-colored printing.
- 23.0 Perform advanced study and technical skills related to graphic communications technology.
- 24.0 Operate a computer utilizing a program related to graphic communications technology.
- 25.0 Demonstrate technical knowledge and skills in advanced printing procedures.
- 26.0 Demonstrate technical knowledge and skills in continuous-tone photography.
- 27.0 Conduct a research and experimentation project in graphic communications technology.

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

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

COURSE DESCRIPTION: This course provides students with an introduction to the knowledge, human relations and technical skills of graphic communications technology.

01.0 DEMONSTRATE THE ABILITY TO WORK SAFELY WITH A VARIETY OF TECHNOLOGIES--

The student will be able to:

- 01.01 Select appropriate tools, procedures, and/or equipment needed to produce a product.
- 01.02 Demonstrate the safe usage of appropriate tools, procedures, and operation of equipment needed to produce a product.
- 01.03 Demonstrate knowledge required to maintain and troubleshoot equipment used in a variety of technological systems.
- 01.04 Follow laboratory safety rules and procedures.
- 01.05 Demonstrate good housekeeping at work station within total laboratory.
- 01.06 Identify color-coding safety standards.
- 01.07 Explain fire prevention and safety precautions and practices for extinguishing fires.
- 01.08 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.

02.0 DEMONSTRATE INTERPERSONAL SKILLS AS THEY RELATE TO THE WORKPLACE--The

student will be able to:

- 02.01 Perform roles in a student personnel system or in the Florida Technology Student Association (FL-TSA).
- 02.02 Participate as a member of a team.
- 02.03 Teach others new skills.
- 02.04 Identify skills needed to serve clients/customers.
- 02.05 Demonstrate leadership skills.
- 02.06 Describe strategies necessary for negotiating agreements.
- 02.07 Demonstrate the application of skills necessary to work with people of diverse backgrounds.
- 02.08 Form an understanding and appreciation for work after listening to or observing technology workers.
- 02.09 Form an understanding and appreciation for work after participating in a simulated technology group project in the laboratory.
- 02.10 Form an understanding and appreciation for the roles and work of co-workers.

03.0 IDENTIFY AND APPLY METHODS OF INFORMATION ACQUISITION AND UTILIZATIONS--

The student will be able to:

- 03.01 Define terms related to computers.
- 03.02 Identify and describe methods of information acquisition and evaluation.
- 03.03 Discuss advantages and disadvantages in the application of technologies.

- 03.04 Produce a plan to organize and maintain information relevant to emerging technologies.
- 03.05 Comprehend and communicate information relevant to emerging technologies.
- 03.06 Demonstrate the use of computers to process information.
- 04.0 APPLY BASIC SKILLS IN COMMUNICATIONS, MATHEMATICS, AND SCIENCE APPROPRIATE TO TECHNOLOGICAL CONTENT AND LEARNING ACTIVITIES--The student will be able to:
- 04.01 Identify and explain the main and subordinate ideas in a written work.
- 04.02 Distinguish different purposes and methods of writing, identify a writer's point of view and tone, and interpret a writer's meaning.
- 04.03 Define unfamiliar words by use of structural analysis, decoding, contextual clues, or by using a dictionary.
- 04.04 Distinguish fact from opinion.
- 04.05 Read critically by asking pertinent questions, by recognizing assumptions and implications, and by evaluating ideas.
- 04.06 Select, relate, and organize, ideas using outlining and/or graphic organizers and develop the ideas in coherent paragraphs.
- 04.07 Improve one's own writing by restructuring, correcting errors, and rewriting.
- 04.08 Gather and organize information from primary and secondary sources; write a report using this research; quote, paraphrase, and summarize accurately; and cite sources properly.
- 04.09 Vary one's writing style, including vocabulary and sentence structure, for different readers and purposes.
- 04.10 Write logical and understandable statements, or phrases, to accurately fill out commonly used forms.
- 04.11 Compose unified and coherent correspondence, directions, descriptions, explanations and reports.
- 04.12 Participate critically and constructively in the exchange of ideas, particularly during class discussions and conferences with instructors.
- 04.13 Conceive and develop ideas about a topic for the purpose of speaking to a group; choose and organize related ideas; present them clearly in Standard English; and evaluate similar presentations by others.
- 04.14 Use the mathematics of:
 - integers, fractions, and decimals;
 - ratios, proportions, and percentages;
 - roots and powers;
 - algebra;
 - geometry.
- 04.15 Make estimates and approximations, and judge the reasonableness of a result.
- 04.16 Use elementary concepts of probability and statistics.
- 04.17 Draw, read, and analyze graphs, charts, and tables.
- 04.18 Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solutions of such questions through familiarity with laboratory and field work.
- 04.19 Organize and communicate the results obtained by observation and experimentation.
- 04.20 Apply the basic principles of biology, physics, and chemistry (properties of matter; structure of compounds; concepts of motion; temperature, pressure and volume; work, power, force and energy; machines; human cell structure).

- 04.21 Identify problems rooted in basic biology, physics, or chemistry (effects of hazardous materials on health and safety, effects of drugs on health, trouble shooting problems on a machine).
- 05.0 DEMONSTRATE AND APPLY DESIGN/PROBLEM-SOLVING PROCESSES--The student will be able to:
- 05.01 Describe and explain steps in the design/problem-solving process.
- 05.02 Propose solutions to given problems.
- 05.03 Design and implement the optimal solution to a given problem.
- 05.04 Document each step of the design/problem-solving process.
- 05.05 Demonstrate "brainstorming" as a process to solve problems.
- 05.06 Define "critical thinking" and its value in the problem-solving process.
- 06.0 EXPRESS AN UNDERSTANDING OF TECHNOLOGICAL SYSTEMS AND THEIR COMPLEX INTERRELATIONSHIPS--The student will be able to:
- 06.01 Demonstrate a knowledge of how social, organizational, and technological systems work.
- 06.02 Explore methods used to monitor and correct performance of technological systems.
- 06.03 Design and implement an optimal solution to a given problem.
- 06.04 Outline major historical technological developments or events.
- 06.05 Identify recent advances in technology.
- 06.06 Explain problem-solving roles of technology.
- 06.07 Forecast a technological development or event.
- 06.08 Define technology.
- 07.0 DEMONSTRATE THE ABILITY TO PROPERLY IDENTIFY, ORGANIZE, PLAN, AND ALLOCATE RESOURCES--The student will be able to:
- 07.01 Demonstrate the ability to select goal-relevant activities, rank them, allocate time, and prepare and follow schedules.
- 07.02 Use or prepare budgets, make forecasts, keep records, and make adjustments to meet objectives.
- 07.03 Demonstrate the ability to acquire, store, allocate, and use materials or space efficiently.
- 07.04 Display a knowledge of the efficient use of human resources.
- 08.0 DISCUSS INDIVIDUAL INTERESTS AND APTITUDES AS THEY RELATE TO A CAREER--The student will be able to:
- 08.01 Describe individual strengths and weaknesses.
- 08.02 Discuss individual interests related to a career.
- 08.03 Identify careers within specific areas of technology.
- 08.04 Explore careers within specific areas of interest.
- 09.0 DEMONSTRATE EMPLOYABILITY SKILLS--The student will be able to:
- 09.01 Conduct a job search.
- 09.02 Secure information about a career.
- 09.03 Identify documents which may be required when applying for a job interview.
- 09.04 Complete a job application form correctly.
- 09.05 Demonstrate competence in job interview techniques.
- 09.06 Prepare a resume for a job.

- 10.0 DEMONSTRATE AN UNDERSTANDING OF ENTREPRENEURSHIP--The student will be able to:
- 10.01 Define entrepreneurship.
 - 10.02 Describe the importance of entrepreneurship to the American economy.
 - 10.03 List the advantages and disadvantages of business ownership.
 - 10.04 Identify the risks involved in ownership of a business.
 - 10.05 Identify the necessary personal characteristics of a successful entrepreneur.
 - 10.06 Identify the business skills needed to operate a small business efficiently and effectively.
- 11.0 MAKE AN INFORMED AND MEANINGFUL CAREER CHOICE--The student will be able to:
- 11.01 Make a tentative occupational choice based on the information learned and interest developed in this course.
 - 11.02 Review tentative occupational choices based on the information learned and interest developed in this course.
- 12.0 EXPRESS A TECHNICAL KNOWLEDGE AND UNDERSTANDING ABOUT MAJOR PRINTING PROCESSES--The student will be able to:
- 12.01 Explain the processes of relief, gravure, screen lithographic, electrostatic, and projection printing.
 - 12.02 Explain the difference between printing and duplicating processes.
- 13.0 DESCRIBE THE PROPERTIES AND SPECIFICATIONS OF PRINTING MATERIALS--The student will be able to:
- 13.01 Describe the types, sizes, quantities and properties of paper.
 - 13.02 Explain the different ingredients and purposes of inks.
 - 13.03 Describe the chemical properties and precautions of graphic arts solvents.
 - 13.04 Describe the manufacturing technology and process in making paper and inks.
 - 13.05 Explain the chemistry and specifications of photographic films and papers.
- 14.0 DEMONSTRATE TECHNICAL KNOWLEDGE AND SKILLS IN THE PREPARATION OF ART AND COPY FOR PRINTING REPRODUCTION--The student will be able to:
- 14.01 Explain the principles of graphic communications layout and design.
 - 14.02 Express an understanding of printers' measurements, proofreaders marks, and type styles.
 - 14.03 Demonstrate the processes of cold type composition, phototypesetting, and computer generated type.
 - 14.04 Explain the processes of copyfitting, cropping, and registering.
 - 14.05 Apply the standard procedures and techniques in generating copy or paste-ups for printing reproduction.
- 15.0 DEMONSTRATE TECHNICAL KNOWLEDGE AND SKILLS IN GRAPHIC COMMUNICATIONS PROCESS PHOTOGRAPHY--The student will be able to:
- 15.01 Identify different styles of process cameras.
 - 15.02 Describe specifications and properties of graphic arts films, screens, and chemicals.

- 15.03 Display a knowledge of darkroom lighting and ventilation.
 - 15.04 Apply the procedures for camera set up, exposing, film processing, correcting problems, and clean-up.
 - 15.05 Produce a quality line and halftone negative.
- 16.0 DEMONSTRATE TECHNICAL KNOWLEDGE AND SKILLS IN THE PROCESSES OF PLATEMAKING--The student will be able to:
- 16.01 Describe the processes for making letterpress and gravure plates.
 - 16.02 Express knowledge about the types, styles, and properties of offset lithographic plates.
 - 16.03 Explain the photomechanics of a photo-offset plate.
 - 16.04 Apply the technical procedures for stripping a flat, generating direct and photo-offset plates, identifying and correcting problems, and preserving and storing plates.
 - 16.05 Produce a quality offset metal plate.
- 17.0 PRODUCE PRINTED COPIES THROUGH THE OPERATION OF A LITHOGRAPHIC OFFSET PRESS--The student will be able to:
- 17.01 Identify the major systems and functions of an offset press.
 - 17.02 Perform the standard procedure for operating an offset press, including make ready, operating procedures, identifying and correcting problems, and clean-up.
 - 17.03 Produce a quality offset project.
- 18.0 DEMONSTRATE TECHNICAL KNOWLEDGE AND SKILLS IN SCREEN PROCESS PRINTING--The student will be able to:
- 18.01 Describe the types of inks and screens for screen process printing.
 - 18.02 Explain the substrate surfaces and materials commonly printed on through the screen printing process.
 - 18.03 Describe the standard procedures for screen printing, including screen preparation, operating procedures, identifying and correcting problems, and clean-up.
 - 18.04 Describe stencil making processes.
 - 18.05 Produce a single color screen print.
- 19.0 EXPRESS A TECHNICAL KNOWLEDGE AND UNDERSTANDING ABOUT ELECTRONIC COMMUNICATIONS TECHNOLOGY--The student will be able to:
- 19.01 Describe the theory and technical applications of telephone communications systems.
 - 19.02 Describe the theory and technical processes of radio communications systems applications.
 - 19.03 Describe the theory and technical processes of television communications systems.
 - 19.04 Describe the theory and technical applications of digital data communications.
 - 19.05 Describe the theory and technical applications of satellite communications.

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

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

COURSE DESCRIPTION: This course provides students with an introduction to the knowledge, human relations and technical skills of graphic communications technology.

01.0 DEMONSTRATE THE ABILITY TO WORK SAFELY WITH A VARIETY OF TECHNOLOGIES--
The student will be able to:

- 01.01 Select appropriate tools, procedures, and/or equipment needed to produce a product.
- 01.02 Demonstrate the safe usage of appropriate tools, procedures, and operation of equipment needed to produce a product.
- 01.03 Demonstrate knowledge required to maintain and troubleshoot equipment used in a variety of technological systems.
- 01.04 Follow laboratory safety rules and procedures.
- 01.05 Demonstrate good housekeeping at work station within total laboratory.
- 01.06 Identify color-coding safety standards.
- 01.07 Explain fire prevention and safety precautions and practices for extinguishing fires.
- 01.08 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.

02.0 DEMONSTRATE INTERPERSONAL SKILLS AS THEY RELATE TO THE WORKPLACE--The student will be able to:

- 02.01 Perform roles in a student personnel system or in the Florida Technology Student Association (FL-TSA).
- 02.02 Participate as a member of a team.
- 02.03 Teach others new skills.
- 02.04 Identify skills needed to serve clients/customers.
- 02.05 Demonstrate leadership skills.
- 02.06 Describe strategies necessary for negotiating agreements.
- 02.07 Demonstrate the application of skills necessary to work with people of diverse backgrounds.
- 02.08 Form an understanding and appreciation for work after listening to or observing technology workers.
- 02.09 Form an understanding and appreciation for work after participating in a simulated technology group project in the laboratory.
- 02.10 Form an understanding and appreciation for the roles and work of co-workers.

03.0 IDENTIFY AND APPLY METHODS OF INFORMATION ACQUISITION AND UTILIZATIONS--
The student will be able to:

- 03.01 Define terms related to computers.
- 03.02 Identify and describe methods of information acquisition and evaluation.
- 03.03 Discuss advantages and disadvantages in the application of technologies.

- 03.04 Produce a plan to organize and maintain information relevant to emerging technologies.
- 03.05 Comprehend and communicate information relevant to emerging technologies.
- 03.06 Demonstrate the use of computers to process information.
- 04.0 APPLY BASIC SKILLS IN COMMUNICATIONS, MATHEMATICS, AND SCIENCE APPROPRIATE TO TECHNOLOGICAL CONTENT AND LEARNING ACTIVITIES--The student will be able to:
- 04.01 Identify and explain the main and subordinate ideas in a written work.
- 04.02 Distinguish different purposes and methods of writing, identify a writer's point of view and tone, and interpret a writer's meaning.
- 04.03 Define unfamiliar words by use of structural analysis, decoding, contextual clues, or by using a dictionary.
- 04.04 Distinguish fact from opinion.
- 04.05 Read critically by asking pertinent questions, by recognizing assumptions and implications, and by evaluating ideas.
- 04.06 Select, relate, and organize, ideas using outlining and/or graphic organizers and develop the ideas in coherent paragraphs.
- 04.07 Improve one's own writing by restructuring, correcting errors, and rewriting.
- 04.08 Gather and organize information from primary and secondary sources; write a report using this research; quote, paraphrase, and summarize accurately; and cite sources properly.
- 04.09 Vary one's writing style, including vocabulary and sentence structure, for different readers and purposes.
- 04.10 Write logical and understandable statements, or phrases, to accurately fill out commonly used forms.
- 04.11 Compose unified and coherent correspondence, directions, descriptions, explanations and reports.
- 04.12 Participate critically and constructively in the exchange of ideas, particularly during class discussions and conferences with instructors.
- 04.13 Conceive and develop ideas about a topic for the purpose of speaking to a group; choose and organize related ideas; present them clearly in Standard English; and evaluate similar presentations by others.
- 04.14 Use the mathematics of:
 - integers, fractions, and decimals;
 - ratios, proportions, and percentages;
 - roots and powers;
 - algebra;
 - geometry.
- 04.15 Make estimates and approximations, and judge the reasonableness of a result.
- 04.16 Use elementary concepts of probability and statistics.
- 04.17 Draw, read, and analyze graphs, charts, and tables.
- 04.18 Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solutions of such questions through familiarity with laboratory and field work.
- 04.19 Organize and communicate the results obtained by observation and experimentation.
- 04.20 Apply the basic principles of biology, physics, and chemistry (properties of matter; structure of compounds; concepts of motion; temperature, pressure and volume; work, power, force and energy; machines; human cell structure).

- 04.21 Identify problems rooted in basic biology, physics, or chemistry (effects of hazardous materials on health and safety, effects of drugs on health, trouble shooting problems on a machine).
- 05.0 DEMONSTRATE AND APPLY DESIGN/PROBLEM-SOLVING PROCESSES--The student will be able to:
- 05.01 Describe and explain steps in the design/problem-solving process.
- 05.02 Propose solutions to given problems.
- 05.03 Design and implement the optimal solution to a given problem.
- 05.04 Document each step of the design/problem-solving process.
- 05.05 Demonstrate "brainstorming" as a process to solve problems.
- 05.06 Define "critical thinking" and its value in the problem-solving process.
- 06.0 EXPRESS AN UNDERSTANDING OF TECHNOLOGICAL SYSTEMS AND THEIR COMPLEX INTERRELATIONSHIPS--The student will be able to:
- 06.01 Demonstrate a knowledge of how social, organizational, and technological systems work.
- 06.02 Explore methods used to monitor and correct performance of technological systems.
- 06.03 Design and implement an optimal solution to a given problem.
- 06.04 Outline major historical technological developments or events.
- 06.05 Identify recent advances in technology.
- 06.06 Explain problem-solving roles of technology.
- 06.07 Forecast a technological development or event.
- 06.08 Define technology.
- 07.0 DEMONSTRATE THE ABILITY TO PROPERLY IDENTIFY, ORGANIZE, PLAN, AND ALLOCATE RESOURCES--The student will be able to:
- 07.01 Demonstrate the ability to select goal-relevant activities, rank them, allocate time, and prepare and follow schedules.
- 07.02 Use or prepare budgets, make forecasts, keep records, and make adjustments to meet objectives.
- 07.03 Demonstrate the ability to acquire, store, allocate, and use materials or space efficiently.
- 07.04 Display a knowledge of the efficient use of human resources.
- 08.0 DISCUSS INDIVIDUAL INTERESTS AND APTITUDES AS THEY RELATE TO A CAREER--The student will be able to:
- 08.01 Describe individual strengths and weaknesses.
- 08.02 Discuss individual interests related to a career.
- 08.03 Identify careers within specific areas of technology.
- 08.04 Explore careers within specific areas of interest.
- 09.0 DEMONSTRATE EMPLOYABILITY SKILLS--The student will be able to:
- 09.01 Conduct a job search.
- 09.02 Secure information about a career.
- 09.03 Identify documents which may be required when applying for a job interview.
- 09.04 Complete a job application form correctly.
- 09.05 Demonstrate competence in job interview techniques.
- 09.06 Prepare a resume for a job.

- 10.0 DEMONSTRATE AN UNDERSTANDING OF ENTREPRENEURSHIP--The student will be able to:
- 10.01 Define entrepreneurship.
 - 10.02 Describe the importance of entrepreneurship to the American economy.
 - 10.03 List the advantages and disadvantages of business ownership.
 - 10.04 Identify the risks involved in ownership of a business.
 - 10.05 Identify the necessary personal characteristics of a successful entrepreneur.
 - 10.06 Identify the business skills needed to operate a small business efficiently and effectively.
- 11.0 MAKE AN INFORMED AND MEANINGFUL CAREER CHOICE--The student will be able to:
- 11.01 Make a tentative occupational choice based on the information learned and interest developed in this course.
 - 11.02 Review tentative occupational choices based on the information learned and interest developed in this course.
- 20.0 DEMONSTRATE TECHNICAL KNOWLEDGE AND SKILLS IN BINDING AND FINISHING OPERATIONS--The student will be able to:
- 20.01 Describe standard binding processes.
 - 20.02 Explain die cutting.
 - 20.03 Describe the processes of scoring, folding, gathering, and collating.
 - 20.04 Describe the processes of hot stamping, laminating, perforating, punching, drilling, and thermography.
 - 20.05 Demonstrate the proper and safe use of a paper cutter and trimmer.
 - 20.06 Make a bound and finished printed product using the proper technical skills.
- 21.0 USE TECHNICAL KNOWLEDGE AND SKILLS IN CONTINUOUS-TONE PHOTOGRAPHY--The student will be able to:
- 21.01 Describe the standard procedure for making a continuous-tone negative including camera operation, processing film, identifying and correcting problems, and clean-up.
 - 21.02 Describe the standard procedure for making a continuous-tone print, including darkroom operation, printing and processing, identifying and correcting problems, and clean-up.
 - 21.03 Produce a quality negative.
 - 21.04 Produce a quality print.
- 22.0 APPLY TECHNICAL KNOWLEDGE AND SKILLS IN THE PROCESSES OF MULTI-COLOR PRINTING--The student will be able to:
- 22.01 Design and layout copy for multi-color registration and printing.
 - 22.02 Use the proper technical skills in the layout, preparation, production, and finishing of a multi-colored offset printing job.
 - 22.03 Use the proper technical skills in the layout, preparation, production, and finishing of a multi-colored screen process printed job.
- 23.0 PERFORM ADVANCED STUDY AND TECHNICAL SKILLS RELATED TO GRAPHIC COMMUNICATIONS TECHNOLOGY--The student will be able to:

- 23.01 Select an individual or group project in cooperation with teacher.
- 23.02 Develop a written plan of work to carry out the project.
- 23.03 Show evidence of technical study in support of the project.
- 23.04 Perform skills related to the project.
- 23.05 Complete the project as planned.

**Florida Department of Education
STUDENT PERFORMANCE STANDARDS**

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

COURSE DESCRIPTION: This course provides students with an introduction to the knowledge, human relations and technical skills of graphic communications technology.

01.0 DEMONSTRATE THE ABILITY TO WORK SAFELY WITH A VARIETY OF TECHNOLOGIES--
 The student will be able to:

- 01.01 Select appropriate tools, procedures, and/or equipment needed to produce a product.
- 01.02 Demonstrate the safe usage of appropriate tools, procedures, and operation of equipment needed to produce a product.
- 01.03 Demonstrate knowledge required to maintain and troubleshoot equipment used in a variety of technological systems.
- 01.04 Follow laboratory safety rules and procedures.
- 01.05 Demonstrate good housekeeping at work station within total laboratory.
- 01.06 Identify color-coding safety standards.
- 01.07 Explain fire prevention and safety precautions and practices for extinguishing fires.
- 01.08 Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.

02.0 DEMONSTRATE INTERPERSONAL SKILLS AS THEY RELATE TO THE WORKPLACE--The student will be able to:

- 02.01 Perform roles in a student personnel system or in the Florida Technology Student Association (FL-TSA).
- 02.02 Participate as a member of a team.
- 02.03 Teach others new skills.
- 02.04 Identify skills needed to serve clients/customers.
- 02.05 Demonstrate leadership skills.
- 02.06 Describe strategies necessary for negotiating agreements.
- 02.07 Demonstrate the application of skills necessary to work with people of diverse backgrounds.
- 02.08 Form an understanding and appreciation for work after listening to or observing technology workers.
- 02.09 Form an understanding and appreciation for work after participating in a simulated technology group project in the laboratory.
- 02.10 Form an understanding and appreciation for the roles and work of co-workers.

03.0 IDENTIFY AND APPLY METHODS OF INFORMATION ACQUISITION AND UTILIZATIONS--
 The student will be able to:

- 03.01 Define terms related to computers.
- 03.02 Identify and describe methods of information acquisition and evaluation.
- 03.03 Discuss advantages and disadvantages in the application of technologies.

- 03.04 Produce a plan to organize and maintain information relevant to emerging technologies.
- 03.05 Comprehend and communicate information relevant to emerging technologies.
- 03.06 Demonstrate the use of computers to process information.
- 04.0 APPLY BASIC SKILLS IN COMMUNICATIONS, MATHEMATICS, AND SCIENCE APPROPRIATE TO TECHNOLOGICAL CONTENT AND LEARNING ACTIVITIES--The student will be able to:
- 04.01 Identify and explain the main and subordinate ideas in a written work.
- 04.02 Distinguish different purposes and methods of writing, identify a writer's point of view and tone, and interpret a writer's meaning.
- 04.03 Define unfamiliar words by use of structural analysis, decoding, contextual clues, or by using a dictionary.
- 04.04 Distinguish fact from opinion.
- 04.05 Read critically by asking pertinent questions, by recognizing assumptions and implications, and by evaluating ideas.
- 04.06 Select, relate, and organize, ideas using outlining and/or graphic organizers and develop the ideas in coherent paragraphs.
- 04.07 Improve one's own writing by restructuring, correcting errors, and rewriting.
- 04.08 Gather and organize information from primary and secondary sources; write a report using this research; quote, paraphrase, and summarize accurately; and cite sources properly.
- 04.09 Vary one's writing style, including vocabulary and sentence structure, for different readers and purposes.
- 04.10 Write logical and understandable statements, or phrases, to accurately fill out commonly used forms.
- 04.11 Compose unified and coherent correspondence, directions, descriptions, explanations and reports.
- 04.12 Participate critically and constructively in the exchange of ideas, particularly during class discussions and conferences with instructors.
- 04.13 Conceive and develop ideas about a topic for the purpose of speaking to a group; choose and organize related ideas; present them clearly in Standard English; and evaluate similar presentations by others.
- 04.14 Use the mathematics of:
 - integers, fractions, and decimals;
 - ratios, proportions, and percentages;
 - roots and powers;
 - algebra;
 - geometry.
- 04.15 Make estimates and approximations, and judge the reasonableness of a result.
- 04.16 Use elementary concepts of probability and statistics.
- 04.17 Draw, read, and analyze graphs, charts, and tables.
- 04.18 Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solutions of such questions through familiarity with laboratory and field work.
- 04.19 Organize and communicate the results obtained by observation and experimentation.
- 04.20 Apply the basic principles of biology, physics, and chemistry (properties of matter; structure of compounds; concepts of motion; temperature, pressure and volume; work, power, force and energy; machines; human cell structure).

- 04.21 Identify problems rooted in basic biology, physics, or chemistry (effects of hazardous materials on health and safety, effects of drugs on health, trouble shooting problems on a machine).
- 05.0 DEMONSTRATE AND APPLY DESIGN/PROBLEM-SOLVING PROCESSES--The student will be able to:
- 05.01 Describe and explain steps in the design/problem-solving process.
- 05.02 Propose solutions to given problems.
- 05.03 Design and implement the optimal solution to a given problem.
- 05.04 Document each step of the design/problem-solving process.
- 05.05 Demonstrate "brainstorming" as a process to solve problems.
- 05.06 Define "critical thinking" and its value in the problem-solving process.
- 06.0 EXPRESS AN UNDERSTANDING OF TECHNOLOGICAL SYSTEMS AND THEIR COMPLEX INTERRELATIONSHIPS--The student will be able to:
- 06.01 Demonstrate a knowledge of how social, organizational, and technological systems work.
- 06.02 Explore methods used to monitor and correct performance of technological systems.
- 06.03 Design and implement an optimal solution to a given problem.
- 06.04 Outline major historical technological developments or events.
- 06.05 Identify recent advances in technology.
- 06.06 Explain problem-solving roles of technology.
- 06.07 Forecast a technological development or event.
- 06.08 Define technology.
- 07.0 DEMONSTRATE THE ABILITY TO PROPERLY IDENTIFY, ORGANIZE, PLAN, AND ALLOCATE RESOURCES--The student will be able to:
- 07.01 Demonstrate the ability to select goal-relevant activities, rank them, allocate time, and prepare and follow schedules.
- 07.02 Use or prepare budgets, make forecasts, keep records, and make adjustments to meet objectives.
- 07.03 Demonstrate the ability to acquire, store, allocate, and use materials or space efficiently.
- 07.04 Display a knowledge of the efficient use of human resources.
- 08.0 DISCUSS INDIVIDUAL INTERESTS AND APTITUDES AS THEY RELATE TO A CAREER--The student will be able to:
- 08.01 Describe individual strengths and weaknesses.
- 08.02 Discuss individual interests related to a career.
- 08.03 Identify careers within specific areas of technology.
- 08.04 Explore careers within specific areas of interest.
- 09.0 DEMONSTRATE EMPLOYABILITY SKILLS--The student will be able to:
- 09.01 Conduct a job search.
- 09.02 Secure information about a career.
- 09.03 Identify documents which may be required when applying for a job interview.
- 09.04 Complete a job application form correctly.
- 09.05 Demonstrate competence in job interview techniques.
- 09.06 Prepare a resume for a job.

- 10.0 DEMONSTRATE AN UNDERSTANDING OF ENTREPRENEURSHIP--The student will be able to:
- 10.01 Define entrepreneurship.
 - 10.02 Describe the importance of entrepreneurship to the American economy.
 - 10.03 List the advantages and disadvantages of business ownership.
 - 10.04 Identify the risks involved in ownership of a business.
 - 10.05 Identify the necessary personal characteristics of a successful entrepreneur.
 - 10.06 Identify the business skills needed to operate a small business efficiently and effectively.
- 11.0 MAKE AN INFORMED AND MEANINGFUL CAREER CHOICE--The student will be able to:
- 11.01 Make a tentative occupational choice based on the information learned and interest developed in this course.
 - 11.02 Review tentative occupational choices based on the information learned and interest developed in this course.
- 24.0 OPERATE A COMPUTER UTILIZING A PROGRAM RELATED TO COMMUNICATIONS TECHNOLOGY--The student will be able to:
- 24.01 Produce written copy utilizing a word processing program.
 - 24.02 Produce and manipulate artwork utilizing a drawing program.
 - 24.03 Utilize a desktop publishing program to produce camera ready copy.
- 25.0 DEMONSTRATE TECHNICAL KNOWLEDGE AND SKILLS IN ADVANCED PRINTING PROCEDURES--The student will be able to:
- 25.01 Explain the photographic and lithographic theories and technical skills of color separation printing.
 - 25.02 Explain the screen printing procedures for special materials and for different shaped objects.
 - 25.03 Perform or set up a technical display of the color separation process.
 - 25.04 Print a screen process job on a special shape, surface, or for a special purpose such as printed circuitry.
- 26.0 DEMONSTRATE TECHNICAL KNOWLEDGE AND SKILLS IN CONTINUOUS-TONE PHOTOGRAPHY--The student will be able to:
- 26.01 Describe the theory and technical processes of producing colored prints and colored slides.
 - 26.02 Describe the theory and technical practices of special-effects photography.
 - 26.03 Describe the theory and technical applications of high-speed photography.
 - 26.04 Produce a photographic study using the technical skills of color, special effects, or high speed photography.
- 27.0 CONDUCT A RESEARCH AND EXPERIMENTATION PROJECT IN GRAPHIC COMMUNICATIONS TECHNOLOGY--The student will be able to:
- 27.01 Identify a problem
 - 27.02 State a need to research the problem.
 - 27.03 Form a hypothesis about the problem.
 - 27.04 Plan the procedures for researching the problem.
 - 27.05 Conduct the research following the planned procedures.

- 27.06 Present the research findings in a seminar.
- 27.07 State conclusions based on the research findings.