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PROGRAM CONCENTRATION: **Architecture, Construction, Communications & Transportation**

CAREER PATHWAY(S): **Graphic Communications**
Graphic Design

COURSE TITLE: **Graphic Design and Production**

Course Description: This course focuses on the procedures commonly used in the graphic communication and design industries. Students will gain experience in creative problem solving and the practical implementation of those solutions across multiple areas of graphic communications.

COLOR THEORY AND PRINCIPLES

Students will understand and manipulate color to achieve various outcomes required by job specifications.

ACCT-GDP-1. Students will explore color and the variety of methods it can be applied.

a. Understand how color impacts the creative strategy of a project.
b. Choose and implement optimal color schemes.
c. Demonstrate effective use of black and white (one color) design.
d. Generate monochromatic, limited chromatic, and full color solutions to solve design problems.

Academic Standards:

ELA9LSV2 The student formulates reasoned judgments about written and oral communication in various media genres. The student delivers focused, coherent, and polished presentations that convey a clear and distinct perspective, demonstrate solid reasoning, and combine traditional rhetorical strategies of narration, exposition, persuasion, and description.

S2CS5 Students will communicate scientific ideas and activities clearly.

ACCT-GDP-2. Students will interpret and apply color models through graphic manipulations.

a. Analyze and implement color management among color systems including CMYK, RGB, and spot (according to the Pantone Matching System).
b. Create printed color with dots and screen patterns.
c. Demonstrate an understanding of the transition of tone images to dots of an output process.
d. Describe the development and current standards of color technology.

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Academic Standards:
SKCS4 Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.

S8CS9 Students will understand the features of the process of scientific inquiry.

ACCT-GDP-3. Students will identify the output issues involving color and demonstrate the proper usage.

a. Understand output devices and which is appropriate according to job description.
b. Evaluate image registration issues.
c. Design traps and spot color for production.
d. Determine optimal screen tints for particular job and output needs.

Academic Standards:
MKG3 Students will identify, create, extend, and transfer patterns from one representation to another using actions, objects, and geometric shapes.

SKP1 Students will describe objects in terms of the materials they are made of and their physical properties.

DESIGN PRINCIPLES
Students will learn design as a visual language that is built on fundamental principles and elements. These principles are organizational rules used to create order and visual interest in a graphic communications product.

ACCT-GDP-4. Students will understand and demonstrate the fundamental basic elements and principles of design.

a. Compare and contrast or critique professionally completed works.
b. Apply knowledge of design principles to new products.
c. List basic elements and principles of design terminology.
d. Incorporate design principles in hand drawn sketches and measured layouts.

Academic Standards:
ELA4LSV2 The student listens to and views various forms of text and media in order to gather and share information, persuade others, and express and understand ideas.

ELA10RL5 The student acquires new vocabulary in each content area and uses it correctly.

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ELA11LSV2 The student formulates reasoned judgments about written and oral communication in various media genres. The student delivers focused, coherent, and polished presentations that convey a clear and distinct perspective, demonstrate solid reasoning, and combine traditional rhetorical strategies of narration, exposition, persuasion, and description.

ACCT-GDP-5. Students will identify and demonstrate a working knowledge of elements and principles.

a. Design a successful composition that employs elements found in an existing collateral design piece.
b. Apply creative thinking skills to produce solutions to artistic problems.
c. Create an original design that utilizes basic elements and principles.

Academic Standards:

ELA10RL5 The student acquires new vocabulary in each content area and uses it correctly.

ELA11LSV2 The student formulates reasoned judgments about written and oral communication in various media genres. The student delivers focused, coherent, and polished presentations that convey a clear and distinct perspective, demonstrate solid reasoning, and combine traditional rhetorical strategies of narration, exposition, persuasion, and description.

ACCT-GDP-6. Students will identify and demonstrate a working knowledge of illustration as it pertains to the design field.

a. Apply traditional drawing skills (i.e. cross hatch, stipple, contouring, and perspective) to graphic solutions.
b. Develop a process or sketch book carrying visual solutions from hand-drawn roughs to a finished digital composition.
c. Identify the role and purpose of illustration in the professional field.
d. Identify and demonstrate a working knowledge of illustration software.

Academic Standards:

ELA10RL5 The student acquires new vocabulary in each content area and uses it correctly.

ELA11LSV2 The student formulates reasoned judgments about written and oral communication in various media genres. The student delivers focused, coherent, and polished presentations that convey a clear and distinct perspective, demonstrate solid reasoning, and combine traditional rhetorical strategies of narration, exposition, persuasion, and description.

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ACCT-GDP-7. Students will continue to explore different outlets for typography and define its role in design.

a. Understand and demonstrate knowledge of typographic principles as they relate to layout and page composition.
b. Investigate and demonstrate typography as an expressive form (i.e. type as image).
c. Explore possible combinations of type and image as two different entities combined into a cohesive form.

Academic Standards:
ELA10RL5 The student acquires new vocabulary in each content area and uses it correctly.

ELA11LSV2 The student formulates reasoned judgments about written and oral communication in various media genres. The student delivers focused, coherent, and polished presentations that convey a clear and distinct perspective, demonstrate solid reasoning, and combine traditional rhetorical strategies of narration, exposition, persuasion, and description.

ACCT-GDP-8. Students will continue to develop communication skills.

a. Demonstrate ability to follow directions.
b. Demonstrate ability to work collaboratively in creative teams.
c. Criticize a classmate's work objectively and constructively as well as accept criticism.

Academic Standard:
ELA10LSV1 The student participates in student-to-teacher, student-to-student, and group verbal interactions.

INTRODUCTION TO CAREER PATHS AND OPPORTUNITIES IN THE DESIGN PROFESSSION

ACCT-GDP-9. Students will examine career opportunities in the design profession.

a. Research various design specialties that exist in the field.

DIGITAL FILE PREPARATION
Students will develop an understanding of file management, file transfer procedures, and demonstrate knowledge of page layout, proofreading skills and output options.

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ACCT-GDP-10. Students will demonstrate knowledge of file management and file formats.

a. Create folder structure to organize documents along with all support files (including client original files, fonts, links, etc.).
b. Identify file formats used in industry: native/default format; meta files (files that contain fonts, raster and vector information, example: wmf, pdf, eps); and generic (example: tif, jpg, gif, and txt).

Academic Standard:
ELA9RC3 The student acquires new vocabulary in each content area and uses it correctly.

ACCT-GDP-11. Students will demonstrate knowledge of digital file preparation.

a. Read and interpret a job ticket for production information.
b. Preflight documents and identify problems (resolution, missing fonts, missing graphics, number of inks).
c. Demonstrate knowledge of spell check and proofreaders marks.
d. Proofread, edit, and make corrections or adjustments to copy.
e. Design and produce a digital document in a page layout program. Layout should include placed graphics of print quality, correct number of inks, correct margins, and gutters for folding purposes.
f. Demonstrate image conversion.

Academic Standards:
ELA9RC3 The student acquires new vocabulary in each content area and uses it correctly.

ELA9C1 The student demonstrates understanding and control of the rules of the English language, realizing that usage involves the appropriate application of conventions and grammar in both written and spoken formats.

MM2N1 Students will represent and operate with complex numbers.

MM1P1 Students will solve problems (using appropriate technology).

MM3P4 Students will make connections among mathematical ideas and to other disciplines.

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INTRODUCTION TO OUTPUT OPERATIONS

Students will be introduced to basic output operation practices and procedures.

ACCT-GDP-12. Students will explain and demonstrate how to operate equipment in a safe manner.

a. Read and interpret equipment operating instructions.
b. Identify equipment safety features.
c. Describe related safety procedures including proper personal protections equipment (PPE) needed, and related MSDS.

Academic Standards:

ELA 10W3 The students uses research and technology to support writing.

ELA 10RL5 The students understands and acquires new vocabulary and uses it correctly in reading and writing.

ELA 10LSV1 The student participates in student-to-teacher, student-to-student, and group verbal interactions.

ACCT-GDP-13. Students will identify and describe the major components and operating controls of the output device.

a. Identify the major components and controls of the output device.
b. Describe their function and how it relates to the printed product.
c. Describe how to correctly start up and shutdown the output device.

Academic Standards:

MM3P5 Students will represent mathematics in multiple ways.

ELA10RL5 The students acquires new vocabulary in each content area and uses it correctly.

ELA10LSV1 The student participates in student-to-teacher, student-to-student, and group verbal interactions.

ACCT-GDP-14. Students will print a product according to customer specifications.

a. Read/Interpret the job ticket and prepare and make ready the machine to print job.
b. Produce a sample using customer specifications outlined on the job ticket.
c. Produce order according to job ticket, accuracy, color, waste, and order quantity.

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d. Shut down the output device properly.
e. Maintain output devices properly.

Academic Standards:
MM3P5 Students will represent mathematics in multiple ways.

ELA10RL5 The students acquires new vocabulary in each content area and uses it correctly.

ELA10LSV1 The student participates in student-to-teacher, student-to-student, and group verbal interactions.

BINDING AND FINISHING

Students will become familiar with the many binding and finishing processes and they will experience several in the creation of a printed product. Students will demonstrate the ability to plan a multi page publication. Proper and safe use of equipment will be identified and demonstrated.

ACCT-GDP-15. Students will impose and plan correctly the finishing and binding workflow of a multiple page publication.

a. Read and comprehend job ticket/specification.
b. Identify the parts of page (head, foot, base, backbone).
c. Follow industry standards for page numbering.
d. Draw the imposition following the job ticket specifications.
e. Transfer the plan to the digital file.
f. Produce the product following the imposition plan.

Academic Standards:
ELA10W2 The students demonstrates competence in a variety of genres.

ELA10W3 The students uses research and technology to support writing.

ELA10RL5 The student understands and acquires new vocabulary and uses it correctly in reading and writing.

ACCT-GDP-16. Students will identify binding processes, describe the binding processes, and demonstrate the ability to bind a printed product.

a. List the binding methods
b. Identify safety considerations in bindery operations.
c. Identify production considerations in using different binds.
d. Analyze the proper application of the binding methods.
e. Demonstrate binding techniques on various printed materials.

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Academic Standards:
ELA10RL5 The student acquires new vocabulary in each content area and uses it correctly.

ELA10RC4 The student establishes a context for information acquired by reading across subject areas.

ELA10W3 The student uses research and technology to support writing.

ELA10LSV1 The student participates in student-to-teacher, student-to-student, and group verbal interactions.

ACCT-GDP-17. Students will identify finishing processes, describe the finishing processes, and demonstrate the ability to add finishes to a printed product.

a. List the finishing methods.
b. Identify safety consideration in finishing operations.
c. Identify production considerations in using different finishing techniques.
d. Analyze the proper application of the finishing methods.
e. Demonstrate finishing techniques on various printed materials.

Academic Standards:
ELA10RL5 The student acquires new vocabulary in each content area and uses it correctly.

ELA10RC4 The student establishes a context for information acquired by reading across subject areas.

ELA10W3 The student uses research and technology to support writing.

ELA10LSV1 The student participates in student-to-teacher, student-to-student, and group verbal interactions.

ACCT-GDP-18. Students will identify, demonstrate, and practice proper, safe paper cutting techniques on various class projects.

a. Identify the types of paper cutters.
b. Demonstrate proper, safe cutter operation.
c. Identify problems or special considerations when cutting various paper types.
d. Demonstrate the ability to cut both standard and combination cuts on a variety of paper stock.
e. Demonstrate the ability to trim the head, foot, and face of a publication.

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Academic Standards:
ELA10RL5 The student acquires new vocabulary in each content area and uses it correctly.

ELA10RC4 The student establishes a context for information acquired by reading across subject areas.

ELA10W3 The student uses research and technology to support writing.

ELA10LSV1 The student participates in student-to-teacher, student-to-student, and group verbal interactions.

INK AND SUBSTRATES
Students will understand the importance of choosing the correct consumables to meet customer and employer's needs.

ACCT-GDP-19. Students will explain the various applications and characteristics of paper substrates.

a. Explain how paper is manufactured.
b. Describe the common uses of the various types of paper.
    -Coated and uncoated
    -Bond Paper
    -Tag, Index
    -Carbonless Paper (NCR)
    -Cover and Book
    -Recycled Paper
c. Describe the various paper qualities.
    -Paper grain
    -Surface Texture
    -Caliper
    -Brightness
    -Opacity
d. Read and interpret a label on a box of paper.

Academic Standards:
ELA 10W3 The student uses research and technology to support writing.

ELA 10RL5 The student understands and acquires new vocabulary and uses it correctly in reading and writing.

ELA 10LSV1 The student participates in student-to-teacher, student-to-student, and group verbal interactions.

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ACCT-GDP-20. Students will identify the various types of inks used in the graphics and printing industry.

a. Examine the different types of inks used in lithography, flexography, digital, and screen printing
b. Define the three basic ingredients of lithographic inks.
    -Vehicle
    -Pigment
    -Additives
c. Interpret a Pantone Matching System (PMS) Chart and explain its importance.

Academic Standards:
MM3P5 Students will represent mathematics in multiple ways.

ELA 10RL5 The students acquires new vocabulary in each content area and uses it correctly.

ELA 10LSV1 The student participates in student-to-teacher, student-to-student, and group verbal interactions.

WORK FLOW
Students will understand print production processes from concept to final output.

ACCT-GDP-21. Students will model proper customer service and sales principles.

a. Interpret a customer job request.
b. Estimate costs of a project.
c. Determine a schedule in terms of capabilities, resources, and deadline.
d. Develop and interpret a job ticket.
e. Experience invoicing and collection.

Academic Standards:
S1CS2 Students will have the computation and estimation skills necessary for analyzing data and following scientific explanations.

M2N3 Students will understand multiplication, multiply numbers, and verify results.

ACCT-GDP-22. Students will exercise effective project preparation.

a. Prepare digital file layouts.
b. Generate a proof for customer approval.

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c. Deal with customer change requests successfully.
d. Prepare the output successfully.

Academic Standards:
ELA12LSV2 The student formulates reasoned judgments about written and oral communication in various media genres. The student delivers focused, coherent, and polished presentations that convey a clear and distinct perspective, demonstrate solid reasoning, and combine traditional rhetorical strategies of narration, exposition, persuasion, and description.

ELA4R1 The student demonstrates comprehension and shows evidence of a warranted and responsible explanation of a variety of literary and informational texts.

ACCT-GDP-23. Students will implement optimal job production processes.

a. Manage the output process.
b. Complete a job with finishing and binding required.
c. Experience project delivery.

Academic Standard:
SS5E3 The student will describe how consumers and businesses interact in the United States economy across time.

Reading Across the Curriculum

Reading Standard Comment
After the elementary years, students engage in reading for learning. This process sweeps across all disciplinary domains, extending even to the area of personal learning. Students encounter a variety of informational as well as fictional texts, and they experience text in all genres and modes of discourse. In the study of various disciplines of learning (language arts, mathematics, science, social studies), students must learn through reading the communities of discourse of each of those disciplines. Each subject has its own specific vocabulary, and for students to excel in all subjects, they must learn the specific vocabulary of those subject areas in *context*.

Beginning with the middle grades years, students begin to self-select reading materials based on personal interests established through classroom learning. Students become curious about science, mathematics, history, and literature as they form contexts for those subjects related to their personal and classroom experiences. As students explore academic areas through reading, they develop favorite subjects and become confident in their verbal discourse about those subjects.

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Reading across curriculum content develops both academic and personal interests in students. As students read, they develop both content and contextual vocabulary. They also build good habits for reading, researching, and learning. The Reading Across the Curriculum standard focuses on the academic and personal skills students acquire as they read in all areas of learning.

CTAE-RC-1 Students will enhance reading in all curriculum areas by:

Reading in All Curriculum Areas

-Read a minimum of 25 grade-level appropriate books per year from a variety of subject disciplines and participate in discussions related to curricular learning in all areas.
-Read both informational and fictional texts in a variety of genres and modes of discourse.
-Read technical texts related to various subject areas.

Discussing Books

-Discuss messages and themes from books in all subject areas.
-Respond to a variety of texts in multiple modes of discourse.
-Relate messages and themes from one subject area to messages and themes in another area.
-Evaluate the merit of texts in every subject discipline.
-Examine author's purpose in writing.
-Recognize the features of disciplinary texts.

Building Vocabulary Knowledge

-Demonstrate an understanding of contextual vocabulary in various subjects.
-Use content vocabulary in writing and speaking.
-Explore understanding of new words found in subject area texts.

Establishing Context

-Explore life experiences related to subject area content.
-Discuss in both writing and speaking how certain words are subject area related.
-Determine strategies for finding content and contextual meaning for unknown words.

CTAE Foundation Skills

The Foundation Skills for Career, Technical and Agricultural Education (CTAE) are critical competencies that students pursuing any career pathway should exhibit to be successful. As core standards for all career pathways in all program concentrations, these skills link career, technical and agricultural education to the state's academic performance standards.

The CTAE Foundation Skills are aligned to the foundation of the U. S. Department of Education's 16 Career Clusters. Endorsed by the National Career Technical Education Foundation (NCTEF) and the National Association of State Directors of Career

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Technical Education Consortium (NASDCTEc), the foundation skills were developed from an analysis of all pathways in the sixteen occupational areas. These standards were identified and validated by a national advisory group of employers, secondary and postsecondary educators, labor associations, and other stakeholders. The Knowledge and Skills provide learners a broad foundation for managing lifelong learning and career transitions in a rapidly changing economy.

CTAE-FS-1 Technical Skills: Learners achieve technical content skills necessary to pursue the full range of careers for all pathways in the program concentration.

CTAE-FS-2 Academic Foundations: Learners achieve state academic standards at or above grade level.

CTAE-FS-3 Communications: Learners use various communication skills in expressing and interpreting information.

CTAE-FS-4 Problem Solving and Critical Thinking: Learners define and solve problems, and use problem-solving and improvement methods and tools.

CTAE-FS-5 Information Technology Applications: Learners use multiple information technology devices to access, organize, process, transmit, and communicate information.

CTAE-FS-6 Systems: Learners understand a variety of organizational structures and functions.

CTAE-FS-7 Safety, Health and Environment: Learners employ safety, health and environmental management systems in corporations and comprehend their importance to organizational performance and regulatory compliance.

CTAE-FS-8 Leadership and Teamwork: Learners apply leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.

CTAE-FS-9 Ethics and Legal Responsibilities: Learners commit to work ethics, behavior, and legal responsibilities in the workplace.

CTAE-FS-10 Career Development: Learners plan and manage academic-career plans and employment relations.

CTAE-FS-11 Entrepreneurship: Learners demonstrate understanding of concepts, processes, and behaviors associated with successful entrepreneurial performance.