

Course #6000 Introduction to Technology Education

This course is exploratory in nature and covers four areas of technology: communication, manufacturing, transportation, and construction. Basic skills are developed through hands-on activities. This course will help students gain an understanding of how technology is related to other areas of study.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6000-1a.	Read and describe a technical drawing.
6000-1b.	Describe how the course textbook is used to teach each area of technology education.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6000-2a.	Write and prepare a technical report.
6000-2b.	Write articles using proper writing skills to show their ability to analyze information in order to establish an opinion on various topics.
6000-2c.	Explain where to get the information for the reports (i.e., library, newspaper, Internet).
	Standard 3: Understand energy types, sources, and conversions.
6000-3a.	Identify and give examples of the five modes of transportation.
6000-3b.	Construct an airfoil and demonstrate its efficiency.
6000-3c.	Construct a land vehicle and demonstrate its efficiency.
6000-3d.	Describe the use of new materials, processes, and alternative power used in transportation.
	Standard 4: Understand the interaction of science, technology, and society.
6000-4a.	Describe the impact and influence that construction technology has on society, culture, and the environment.
6000-4b.	Apply practical problem-solving skills.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6000-5a.	Describe how technological solutions have tradeoffs such as cost, efficiency, and appearance.
6000-5b.	Describe and use the brainstorming process on an individual and group basis.
6000-5c.	Write mathematical techniques to solve technical problems.

	Technology Education Benchmarks
6000-5d.	Identify and give examples of the five modes of transportation.
6000-5e.	Construct an airfoil and demonstrate its efficiency.
6000-5f.	Construct a land vehicle and demonstrate its efficiency.
	Standard 6: Understand the general nature and use of mathematics.
6000-6a.	Use problem-solving skills in the planning and manufacturing of a product.
6000-6b.	Use mathematical skills to solve technical problems.
6000-6c.	Demonstrate competent use of a ruler.
6000-6d.	Use metric and standard measuring tools.
6000-6e.	Show their ability to dimension in various projects.
	Standard 7: Understand the nature and use of communications technology in our society.
6000-7a.	Understand a working drawing as a means to communicate.
6000-7b.	Solve problems using measuring tools.
6000-7c.	Identify characteristics of design and project planning.
6000-7d.	Identify and give examples of the five reasons of communications.
6000-7e.	Explain how a bar code is used to communicate.
6000-7f.	Develop an original bar code.
6000-7g.	List the four parts of a communication and transportation system.
6000-7h.	Explain the advantages and disadvantages and impacts of telecommunications on society.
6000-7i.	Give examples of telecommunications and list inventions that had to be developed.
6000-7j.	Produce a 30-second video using a camcorder.
6000-7k.	Observe how fiber optics is used in voice communications.
6000-7l.	Describe how laser light wave is used in telephone communication.

	Technology Education Benchmarks
6000-7m.	Know the importance of graphic communication media in our society.
6000-7n.	Describe the technical processes involved in graphic communications.
6000-7o.	Demonstrate the use of photography, drafting, and graphic arts equipment.
6000-7p.	Describe the importance of 3-D studio used in our society.
	Standard 8: Understand the nature and use of construction technology in our society.
6000-8a.	Demonstrate an understanding of the stages required to build a structure (i.e., design, build, and evaluate).
6000-8b.	Describe different materials used in construction.
6000-8c.	Demonstrate the safe use of hand and power tools.
6000-8d.	Apply construction techniques.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6000-9a.	Identify various wood products manufactured in the United States.
6000-9b.	Discuss the advantages and disadvantages of manufactured homes.
6000-9c.	Describe and demonstrate how to use hand and power tools safely.
6000-9d.	Read drawings and blue prints of manufacturing products.
6000-9e.	Describe what manufacturing is and how it developed.
6000-9f.	List three basic types of production systems
6000-9g.	Describe who does manufacturing.
6000-9h.	Name three research methods.
6000-9i.	Demonstrate how to safely use hand tools to produce a product.
6000-9j.	Produce a custom built product.
6000-9k.	Produce a mass produced product.
6000-9l.	Produce a prototype of a manufactured product.

	Technology Education Benchmarks
6000-9m.	Weld a padding plate.
6000-9n.	Produce weld butt welds.
6000-9o.	Produce a finished manufactured product.
6000-9p.	Identify welds that pass acceptable standards.
6000-9q.	Identify and give examples of the five modes of transportation.
6000-9r.	Construct an airfoil and demonstrate its efficiency.
6000-9s.	Construct a land vehicle and demonstrate its efficiency.
	Standard 10: Understand the nature and use of transportation and power technology in our society.
6000-10a.	Demonstrate the safe use of hand and power tools.
6000-10b.	Identify and give examples of the five modes of transportation.
6000-10c.	Construct an airfoil and demonstrate its efficiency.
6000-10d.	Construct a land vehicle and demonstrate its efficiency.
6000-10e.	Compare an engine to a motor.
6000-10f.	Demonstrate how different systems operate.
6000-10g.	Identify various parts of an engine and demonstrate how they operate in an engine.
6000-10h.	Discover new materials, processes, and alternative power used in transportation.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6000-11a.	Explore a variety of technological occupations.
6000-11b.	Solve problems using concepts of creativity, design, and technology.
6000-11c.	List occupations and impacts of communication and transportation on those occupations.
6000-11d.	Know the importance of graphic communication media in our society.

	Technology Education Benchmarks
6000-11e.	Describe the technical processes involved in graphic communications.
6000-11f.	Demonstrate the use of photography, drafting, and graphic arts equipment.
6000-11g.	Describe the importance of 3-D studio used in our society.
	Standard 12: Display competence in using employability skills.
6000-12a.	Demonstrate self-confidence.
6000-12b.	Demonstrate responsibility and time management.
6000-12c.	Demonstrate quality of work.
6000-12d.	Demonstrate teamwork/cooperation.
6000-12e.	Demonstrate integrity/initiative/effort.
6000-12f.	Demonstrate interpersonal skills.

Course #6005 Computer Aided Drafting (C.A.D.)

This course introduces the student to C.A.D. technology and traditional drafting methods. Areas of study include multiview drawing, dimensioning, auxiliary views, sectional views, technical illustration, and C.A.D. concepts.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6005-1a.	Read and describe a technical drawing.
6005-1b.	Determine the meaning of abbreviations and acronyms set up by the A.N.S.I.
6005-1c.	Read and understand technical terms used in this field.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6005-2a.	Write a technical report giving information on various careers/opportunities in C.A.D. fields.
6005-2b.	Write technical reports using proper writing skills and analyze information on various technical topics in C.A.D.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6005-5a.	Use the brainstorming process to solve technological problems.
6005-5b.	Demonstrate the proper steps to create a Mechanical drawing.
6005-5c.	Understand the concept of multiview DRW.
	Standard 6: Understand the general nature and use of mathematics.
6005-6a.	Understand how to create geometric shapes.
6005-6b.	Understand how to enlarge or make a Mechanical Drawing smaller using a scale.
6005-6c.	Demonstrate proper use of (STD & Metric) scales.
6005-6d.	Demonstrate proper use of fractions and decimals.
	Standard 7: Understand the nature and use of communications technology in our society.
6005-7a.	Demonstrate an ability to interact with computer software and electronic information in C.A.D.
6005-7b.	Understand different text fonts used in Mech. Eng. and C.A.D.

	Technology Education Benchmarks
6005-7c.	Demonstrate correct sketching techniques.
6005-7d.	Understand how different images are used to transmit information.
6005-7e.	Demonstrate proper use of dimensioning.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6005-9a.	Understand the use of computers in manufacturing activities.
6005-9b.	Understand an application in manufacturing techniques.
6005-9c.	Understand the various materials used in manufacturing.
6005-9d.	Demonstrate an ability to evaluate good workmanship.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6005-11a.	Explore various technological occupations and their effect on the environment.
6005-11b.	Demonstrate the proper use of C.A.D. related equipment.
6005-11c.	Demonstrate the use of various C.A.D. drawings: section views, auxiliary views, fasteners, and multi views.
	Standard 12: Display competence in using employability skills.
6005-12a.	Demonstrate self-confidence.
6005-12b.	Demonstrate responsibility and time management.
6005-12c.	Demonstrate quality of work.
6005-12d.	Demonstrate teamwork/cooperation.
6005-12e.	Demonstrate integrity/initiative/effort.
6005-12f.	Demonstrate interpersonal skills.

Course #6010 Mechanical Engineering I	
This course involves a study of technical sketching, tolerancing, mechanical drawing, surveying, and computer graphics. Students will learn principles of engineering design & CAD concepts.	
Technology Education Benchmarks	
The student will:	
Standard 1: Demonstrate competence in reading and gathering information of a technical nature.	
6010-1a.	Understand the meaning of abbreviations and acronyms from context.
6010-1b.	Provide definitions of technical terms used in text, technical magazines, and other support material.
Standard 2: Demonstrate competence in organizing and writing technical reports.	
6010-2a.	Research and write a technical report.
6010-2b.	Use electronic media to gather information.
6010-2c.	Produce a technical report.
Standard 4: Understand the interaction of science, technology, and society	
6010-4a.	Describe how technology helps individuals make better investigations, observations, and measurements.
6010-4b.	Describe how people have historically used technology to understand and cope.
6010-4c.	Describe how technology has impacted people's standard of living and quality of life.
Standard 5: Know how to apply complex reasoning and design processes in a technological environment.	
6010-5a.	Apply trouble-shooting strategies to complex situations.
6010-5b.	Demonstrate the design process in the development of a product and solving a problem.
6010-5c.	Describe how new technology often results in unforeseen consequences.
Standard 6: Understand the general nature and use of mathematics.	
6010-6a.	Solve real-world problems using different equations.
6010-6b.	Solve real-world problems involving polar coordinates.
6010-6c.	Solve three-dimensional regions using X, Y, Z-axis.

Technology Education Benchmarks	
6010-6d.	Use estimation techniques.
6010-6e.	Convert fractions to decimals, percentages to fractions, fractions to percentages, and decimals to fractions.
6010-6f.	Describe the characteristics of a geometric construction.
6010-6g.	Convert one measurement system to another.
6010-6h.	Understand how to scale drawings up or down.
6010-6i.	Use measuring devices to determine weight and length of an object.
6010-6j.	Apply basic trigonometric functions.
	Standard 7: Understand the nature and use of communications technology in our society.
6010-7a.	Demonstrate an ability to interact with computer software and electronic information systems, Desktop Publishing, CAD.
6010-7b.	Demonstrate an understanding of the use of images to transmit information.
6010-7c.	Demonstrate an ability to produce and duplicate images.
6010-7d.	Apply engineering techniques in design, modeling, and testing.
6010-7e.	Show understanding of spatial relationships.
6010-7f.	Demonstrate correct sketching technique.
6010-7g.	Demonstrate correct use of drawing instruments.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6010-9a.	Demonstrate the use of computers in manufacturing activities.
6010-9b.	Demonstrate an application in manufacturing techniques.
6010-9c.	Understand various methods of manufacturing techniques.
6010-9d.	Understand the various materials used in manufacturing.
6010-9e.	Demonstrate an ability to evaluate one's work.

Technology Education Benchmarks	
6010-9f.	Demonstrate the safe use of hand and power tools.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6010-11a.	Use workspace effectively.
6010-11b.	Demonstrate the proper use of instruments correctly and safely.
6010-11c.	Explore opportunities and/or career paths in technology, educational, and vocational opportunities.
	Standard 12: Display competence in using employability skills.
6010-12a.	Demonstrate self-confidence.
6010-12b.	Demonstrate responsibility and time management.
6010-12c.	Demonstrate quality of work.
6010-12d.	Demonstrate teamwork/cooperation.
6010-12e.	Demonstrate integrity/initiative/effort.
6010-12f.	Demonstrate interpersonal skills.

Course #6010 Mechanical Engineering II

This course involves a study of technical sketching, tolerancing, mechanical drawing, surveying, and computer graphics. Students will learn principles of engineering design & CAD concepts.

Technology Education Benchmarks	
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6010-1a.	Understand the meaning of abbreviations and acronyms from context.
6010-1b.	Provide definitions of technical terms used in text, technical magazines, and other support material.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6010-2a.	Research and write a technical report.
6010-2b.	Use electronic media to gather information.
6010-2c.	Produce a technical report.
	Standard 4: Understand the interaction of science, technology, and society.
6010-4a.	Describe how technology helps individuals make better investigations, observations, and measurements.
6010-4b.	Describe how people have historically used technology to understand and cope.
6010-4c.	Describe how technology has impacted people's standard of living and quality of life.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6010-5a.	Apply trouble-shooting strategies to complex situations.
6010-5b.	Demonstrate the design process in the development of a product and solving a problem.
6010-5c.	Describe how new technology often results in unforeseen consequences.
	Standard 6: Understand the general nature and use of mathematics.
6010-6a.	Solve real-world problems using different equations.
6010-6b.	Solve real-world problems involving polar coordinates.
6010-6c.	Solve three-dimensional regions using X, Y, Z-axis.

	Technology Education Benchmarks
6010-6d.	Use estimation techniques.
6010-6e.	Convert fractions to decimals, percentages to fractions, fractions to percentages, and decimals to fractions.
6010-6f.	Describe the characteristics of a geometric construction.
6010-6g.	Convert one measurement system to another.
6010-6h.	Understand how to scale drawings up or down.
6010-6i.	Use measuring devices to determine weight and length of an object.
6010-6j.	Apply basic trigonometric functions.
	Standard 7: Understand the nature and use of communications technology in our society.
6010-7a.	Demonstrate an ability to interact with computer software and electronic information systems, Desktop Publishing, CAD.
6010-7b.	Demonstrate an understanding of the use of images to transmit information.
6010-7c.	Demonstrate an ability to produce and duplicate images.
6010-7d.	Apply engineering techniques in design, modeling, and testing.
6010-7e.	Show understanding of spatial relationships.
6010-7f.	Demonstrate correct sketching technique.
6010-7g.	Demonstrate correct use of drawing instruments.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6010-9a.	Demonstrate the use of computers in manufacturing activities.
6010-9b.	Demonstrate an application in manufacturing techniques.
6010-9c.	Understand various methods of manufacturing techniques.
6010-9d.	Understand the various materials used in manufacturing.
6010-9e.	Demonstrate an ability to evaluate one's work.
6010-9f.	Demonstrate the safe use of hand and power tools.

Technology Education Benchmarks	
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6010-11a.	Use workspace effectively.
6010-11b.	Demonstrate the proper use of instruments correctly and safely.
6010-11c.	Explore opportunities and/or career paths in technology, educational, and vocational opportunities.
	Standard 12: Display competence in using employability skills.
6010-12a.	Demonstrate self-confidence.
6010-12b.	Demonstrate responsibility and time management.
6010-12c.	Demonstrate quality of work.
6010-12d.	Demonstrate teamwork/cooperation.
6010-12e.	Demonstrate integrity/initiative/effort.
6010-12f.	Demonstrate interpersonal skills.

Course #6015 Architecture I

This course will cover the latest technological information, methodology, and standards relating to drafting design and construction. Units on energy, structural calculation, solar planning, and site development will be covered. Design factors and procedures will be explained to include the most current design techniques used in architectural practice.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6015 I-1a.	Understand a variety of types of visual information.
6015 I-1b.	Determine the meaning of abbreviations and acronyms from context.
6015 I-1c.	Understand technical terms used in informational texts.
6015 I-1d.	Determine the meaning of codes and symbols from context.
6015 I-1e.	Recognize how new information has changed one's personal knowledge base.
6015 I-1f.	Understand technical notations, indexes, appendices, glossaries and table of contents.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6015 I-2a.	Use technical terms and notations.
6015 I-2b.	Apply the meaning of abbreviations and acronyms to context.
6015 I-2c.	Apply the meaning of codes and symbols to context.
6015 I-2d.	Correctly format information.
	Standard 4: Understand the interaction of science, technology and society.
6015 I-4a.	Describe how scientific investigation may result in new ideas, objects, and phenomena.
6015 I-4b.	Describe how people have historically used technology to understand and cope.
6015 I-4c.	Describe how technology has impacted people's standard of living.
6015 I-4d.	Demonstrate an understanding of various new materials to the construction industry.

Technology Education Benchmarks	
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6015 I-5a.	Compare consumer products on the basis of features, performance, durability, and costs.
6015 I-5b.	Demonstrate the design process in the development of a product and problem solving.
6015 I-5c.	Know that new technology often results in unforeseen consequences.
6015 I-5d.	Know that people continue inventing new ways of doing things, solving problems, and getting work done.
	Standard 6: Understand the general nature and use of mathematics.
6015 I-6a.	Solve real world problems using different equations.
6015 I-6b.	Solve real world problems using vectors.
6015 I-6c.	Solve real world problems involving polar coordinates.
6015 I-6d.	Model numbers using three-dimensional regions using X, Y, and Z-axis.
6015 I-6e.	Use estimation techniques to understand the characters of geometric construction.
6015 I-6f.	Convert from one measurement system to another system.
6015 I-6g.	Understand that drawings can be used to represent shapes, use of space, and compare locations of things very different in size.
6015 I-6h.	Determine the level of accuracy needed in measurement situations.
6015 I-6i.	Determine the appropriate form of measurement in a variety of situations.
6015 I-6j.	Use measuring devices correctly.
6015 I-6k.	Understand the basic concept of Pythagorean theory.
6015 I-6l.	Describe spatial relationships in geometric terms.
6015 I-6m.	Understand the characters and use of basic trigonometric functions.
	Standard 7: Understand the nature and use of communications technology in our society.
6015 I-7a.	Demonstrate an ability to interact with computer software and electronic information systems.

	Technology Education Benchmarks
6015 I-7b.	Demonstrate an understanding of the use of images to transmit information.
6015 I-7c.	Demonstrate an ability to produce and duplicate images.
6015 I-7d.	Apply engineering techniques.
6015 I-7e.	Demonstrate an ability to produce drawings by a variety of production methods.
6015 I-7f.	Demonstrate an understanding of spatial relationships.
	Standard 8: Understand the different types of text fonts in architectural drawings.
6015 I-8a.	Demonstrate an understanding of complexities of design that balance the needs, codes, and construction/manufacturing requirements.
6015 I-8b.	Demonstrate correct sketching techniques.
6015 I-8c.	Demonstrate correct use of drawing instruments.
6015 I-8d.	Demonstrate an understanding of how information is communicated through a drawing.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6015 I-9a.	Understand various methods of manufacturing techniques: molding, cutting, forming, bonding, and finishing.
6015 I-9b.	Understand the various materials used in manufacturing.
6015 I-9c.	Demonstrate the use of computers and software used in manufacturing.
6015 I-9d.	Understand various manufacturing systems used in technology such as custom-built homes, mass production.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6015 I-11a.	Use workspace effectively.
6015 I-11b.	Demonstrate the use of new instruments by following instructions.
6015 I-11c.	Understand the process of buying and selling goods and services.
6015 I-11d.	Explore opportunities and/or career paths in technologies, educational and vocational opportunities.

	Technology Education Benchmarks
	Standard 12: Display competence in using employability skills.
6015 I-12a.	Demonstrate self-confidence.
6015 I-12b.	Demonstrate responsibility and time management.
6015 I-12c.	Demonstrate quality of work.
6015 I-12d.	Demonstrate teamwork/cooperation.
6015 I-12e.	Demonstrate integrity/initiative/effort.
6015 I-12f.	Demonstrate interpersonal skills.

Course #6015 Architecture II

This course will cover the latest technological information, methodology, and standards relating to drafting design and construction. Units on energy, structural calculation, solar planning, and site development will be covered. Design factors and procedures will be explained to include the most current design techniques used in architectural practice.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6015 II-1a.	Understand the significance of technological advances in new materials and construction methods.
6015 II-1b.	Recognize different architectural styles.
6015 II-1c.	Make a list of possible ways to stop land, sound, and visual pollution.
6015 II-1d.	Plan lighting requirements for each room in a house.
6015 II-1e.	Plan electrical circuits for a house.
6015 II-1f.	Read local building regulations.
6015 II-1g.	Read state building regulations.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6015 II-2a.	Explain why C.A.D is important in the fields of Architecture and Construction.
6015 II-2b.	List several graphics output devices that installed for C.A.D. applications.
6015 II-2c.	Explain the benefits of using C.A.D. in generating architectural designs.
6015 II-2d.	Using computer technology, be able to find and list various Web sights that list new architectural design and building materials.
	Standard 4: Understand the interaction of science, technology and society.
6015 II-4a.	Recognize historical architectural styles and identify several district characteristics of each style.
6015 II-4b.	Relate how the development of materials and construction methods influenced architectural styles.
6015 II-4c.	List the new developments in technology that most offset architecture and building.

Technology Education Benchmarks	
	Standard 5: Knows how to apply complex reasoning and design processes in a technological environment.
6015 II-5a.	Recognize different architectural styles.
6015 II-5b.	List the steps in the sequence of architectural design.
6015 II-5c.	Identify wants and needs with architectural design.
6015 II-5d.	Knows the meaning of density planning.
6015 II-5e.	Determine appropriate colors to create a desired architectural atmosphere.
	Standard 6: Understands the general nature and use of mathematics.
6015 II-6a.	Measure reduced drawings with different architectural scales.
6015 II-6b.	Measure reduced drawings with different engineer's scales.
6015 II-6c.	Measure full size with metric scales.
6015 II-6d.	Calculate yards of concrete for foundation work.
6015 II-6e.	Calculate yards of earth to move foundation forms.
6015 II-6f.	Figure load areas for floors and roof trusses.
6015 II-6g.	Figure maximum load, fuse size, and wire size for each circuit.
6015 II-6h.	Calculate live and dead loads.
6015 II-6i.	Estimate building cost by sq. foot method.
6015 II-6j.	Estimate building cost.
	Standard 7: Understands the nature and use of communications technology in our society.
6015 II-7a.	Demonstrate the use of a computer to prepare architectural drawings.
6015 II-7b.	Understand different kinds of software and their functions.
6015 II-7c.	Be able to evaluate C.A.D. software programs.
6015 II-7d.	Interpret and discuss architectural building plans.

	Technology Education Benchmarks
6015 II-7e.	Discuss and interpret local and state building codes.
6015 II-7f.	Demonstrate the use of Auto C.A.D. commands.
6015 II-7g.	Use Auto C.A.D. to produce architectural drawings.
	Standard 11: Demonstrates competence in life skills relating to a technological environment.
6015II-11a	Understand the major steps in getting ready to use C.A.D. to make architectural drawings.
6015II-11b	Explain the advantages of using C.A.D. commands while making an architectural drawing.
6015II-11c.	Outline basic steps in producing floor plans, elevations, foundation plans, plot plans, electrical, and climate control plans.
	Standard 12: Displays competence in using employability skills.
6015II-12a.	Demonstrates teamwork and cooperation.
6015II-12b	Demonstrates initiative and effort.
6015II-12c.	Demonstrates interpersonal skills.
6015II-12d	Demonstrates quality of work.
6015II-12e.	Demonstrates responsibility and time management.
6015II-12f.	Demonstrates good decision-making.
6015II-12g	Demonstrates respect for self and others.

Course #6020 Graphic Communication

This course presents students with a challenge and opportunity with the introduction of computer graphics and publishing software. Students will be able to produce printed materials using various technologies. This class will give students some basic guidelines of Desktop Publishing.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6020-1a.	Demonstrate the meaning of abbreviations and acronyms from context.
6020-1b.	Understand technical terms used in text, technical magazines, and other support material.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6020-2a.	Understand how to research a technical report.
6020-2b.	Understand how to use and gather electronic information.
6020-2c.	Produce a technical report.
	Standard 4: Understand the interaction of science, technology, and society.
6020-4a.	Describe how people have historically used technology to understand and cope.
6020-4b.	Describe how technology has impacted people's standard of living and quality of life.
6020-4c.	Demonstrate an understanding of various materials, processes, equipment used in graphic arts.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6020-5a.	Apply trouble-shooting strategies to complex situations.
6020-5b.	Demonstrate the design processes in the development of a product and problem solving.
	Standard 6: Understand the general nature and use of mathematics.
6020-6a.	Use estimation techniques.
6020-6b.	Use fractions, decimals, percentages, and mixed numbers to solve problems.
6020-6c.	Understand how to scale drawings up or down.

	Technology Education Benchmarks
6020-6d.	Describe the level of accuracy needed in measurement situations.
6020-6e.	Determine appropriate forms of measurement in a variety of situations.
6020-6f.	Understand spatial relationships in geometric terms.
6020-6g.	Demonstrate an understanding of the impact planning and layout have on the total cost.
	Standard 7: Understand the nature and use of communications technology in our society.
6020-7a.	Demonstrate an ability to interact with computer software and electronics information systems.
6020-7b.	Demonstrate an understanding of the use of images to transmit information.
6020-7c.	Demonstrate an ability to produce and duplicate images.
6020-7d.	Understand spatial relationships.
6020-7e.	Understand the influences of style in communicating systems (text fonts and print systems).
6020-7f.	Demonstrate correct sketching techniques.
6020-7g.	Demonstrate use of drawing instruments.
6020-7h.	Demonstrate an understanding of how information is communicated through a drawing.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6020-11a.	Use work space effectively.
6020-11b.	Use instruments correctly and safely.
6020-11c.	Explore opportunities and/or career paths in technology, educational, and vocational opportunities.
	Standard 12: Display competence in using employability skills.
6020-12a.	Demonstrate self-confidence.
6020-12b.	Demonstrate responsibility and time management.
6020-12c.	Demonstrate quality of work.
6020-12d.	Demonstrate teamwork/cooperation.
6020-12e.	Demonstrate integrity/initiative/effort.
6020-12f.	Demonstrate interpersonal skills.

Course #6025 Residential Wiring

This course, formally known as Practical Wiring, provides the fundamentals of residential house wiring procedures. Wiring skills are developed with several hands-on exercises. Small appliance repair and careers in this field will be explored.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6025-1a.	Understand what the National Electrical Code is, why it exists, and how to use the codebook.
	Standard 3: Understand energy types, sources, and conversions.
6025-3a.	Understand terms used to define electricity and how it is measured.
	Standard 8: Understand the nature and use of construction technology in our society.
6025-8a.	Recognize the electrical symbols used to show where service is to be provided on a building plan.
6025-8b.	Draw a floor plan of your home residence using these symbols.
6025-8c.	Through the use of videos, they will be shown every aspect of what it takes to wire a typical family dwelling.
6025-8d.	Trace from textbook drawings, which show how to install wiring required for switches, outlets, and fixtures.
6025-8e.	Transfer tracings into personal booklet with appropriate changes for the installation of romex in place of conduit.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6025-9a.	Identify various wire sizes and types of cables used in a modern residence.
6025-9b.	Identify various sizes and types of conduits and raceways. <ul style="list-style-type: none"> • electrical boxes and covers-variety • switches-single pole, 3-way and 4-way • outlet receptacles-for portable devices • electricians' tools and equipment
6025-9c.	Understand what the underwriter's laboratory is, why it exists, and how to identify materials, which are listed by them.
6025-9d.	Use your booklet as a reference to wire up the various configurations on an individual circuit board provided. Plug in and test.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6025-11a.	Understand safety rules while working with electricity.
6025-11b.	Develop motor skills with electricians' tools to measure, cut, strip, bend, and twist electrical wiring materials.

	Technology Education Benchmarks
6025-11c.	Troubleshoot and repair (if possible) three small appliances: one with a motor, one with a heating element, and one of your choice.
6025-11d.	Acquaint the students with the opportunities in the electrical field.
	Standard 12: Display competence in using employability skills.
6025-12a.	Develop cooperative work habits, good citizenship, and a sense of responsibility.

Course #6030 Electronics I

The very basic fundamentals of electronics are learned through a variety of student experiences. Demonstrations, lab experiments, and kit construction are incorporated. Safety goggles are required.

	Technology Education Benchmarks
	The student will:
	Standard 3: Understand energy types, sources, and conversions.
6030-3a.	Produce electricity from six different energy sources.
6030-3b.	Describes the component energy conversion of heat, light, friction, chemical, and magnetism.
6030-3c.	Use Ohm's Law to determine unknown values in an electrical circuit.
6030-3d.	Learn the mathematical relationships of voltage, current, and resistance.
6030-3e.	Identify the three types of circuits: series, parallel, and compound.
6030-3f.	Know how to operate a basic ammeter, voltmeter, and ohmmeter (multi-meter).
6030-3g.	Accurately measure an unknown quantity by selecting the proper meter function, range, scale, and polarity.
	Standard 4: Understand the interaction of science, technology, and society.
6030-4a.	Know and understand the basic principles of the structure of matter and how they are involved with the study of electronics.
6030-4b.	Contrast conductors and insulators.
6030-4c.	Know and use the units of measurement used in electronics.
	Standard 10: Understand the nature and use of transportation and power technology in our society.
6030-10a.	Identify all parts and components of the training system provided.
6030-10b.	Identify symbols and schematic diagrams.

Technology Education Benchmarks	
6030-10c.	Use the resistor color code to identify the value of a fixed carbon resistor.
6030-10d.	Compare indicated and measured values of 25 laboratory resistors.
6030-10e.	Observe effects of using magnetic devices.
6030-10f.	Learn the terminology associated with magnetism including poles, fields, temporary and permanent magnets, electromagnetism, magnetic permeability, magnetic domains, and ferromagnets.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6030-11a.	Learn and practice safe working habits while working in the electrical laboratory.
6030-11b.	List possible hazards.
6030-11c.	List safety rules.
6030-11d.	Construct an electronic device from a parts kit.
6030-11e.	Work safely and cooperatively.

Course #6035 Electronics II

This course involves an in-depth study of electronic theory and concepts as they apply to the home and industry. Lab experimentation, circuit design, computer based individualized instruction and hard-wired trainers will be used to understand the technology behind robotics, lasers, computers, fiber optics, and many other uses of electronics.

	Technology Education Benchmarks
	The student will:
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6035-2a.	Write a technical report reflecting your interest in electronic technology and present the report to the class.
	Standard 3: Understand energy types, sources, and conversions.
6035-3a.	Know the fundamental concepts of alternating current.
6035-3b.	Construct a graph to illustrate a sine wave.
6035-3c.	Define the terminology: period, frequency, radians, cycle, peak, effective and average voltages, and RMS (Root Mean Square).
6035-3d.	Know the basic properties of inductance as applied to an AC or DC circuit.
6035-3e.	Demonstrate counter EMF.
6035-3f.	Know how coils operate with AC and the relationship between voltage, current, and impedance.
6035-3g.	Define the terminology: self-induction, mutual induction, Henry, reactance, angular velocity, phase angle, and impedance.
6035-3h.	Know the basic properties of capacitors and the factors, which determine their charge.
6035-3i.	Perform various calculations to calculate energy stored in reference to different values of capacitors in combinations.
6035-3j.	Define the terminology: capacitance, dielectric, Farad, working voltage, nonpolarized, electrolytic, and time constant.
6035-3k.	Know how capacitive circuits operate in series and parallel, capacitance and frequency and some circuit applications of capacitors.
6035-3l.	With AC applied, know the meanings of capacitive reactance, impedance, and phase angle.
6035-3m.	Determine the characteristics of a resistive-capacitive circuit.
6035-3n.	Construct a graph to indicate that capacitive reactance is inversely proportional to frequency.
6035-3o.	Observe several circuits using capacitors, identifying how they affect the circuit operation.

	Technology Education Benchmarks
6035-3p.	Discuss the basic operating principles of AC and DC motors.
6035-3q.	Demonstrate the effects that magnetic fields have on the power and speed of an electric motor.
	Standard 10: Understand the nature and use of transportation and power technology in our society.
6035-10a.	Define a semi-conductor material, how they are made, and how they are used.
6035-10b.	Describe how N-type and P-type sections are made.
6035-10c.	Understand how conduction takes place.
6035-10d.	Describe how to rectify AC using a PN junction diode.
6035-10e.	Connect diode circuits and observe their rectifying action.
6035-10f.	Construct and observe NPN and PNP transistor junction circuit action.

Course #6040 Metal Processes I

This course explores a variety of metal processes and other processes used in the manufacturing of products. Modern Technology in the form of precision measurement, CNC- 3 Axis Milling, Research & Development, Manufacturing Systems, Material testing, Technical Writing, experimentation, industrial robotics and Entrepreneur/Enterprise will be taught. Traditional areas such as welding, casting, Sheet Metal, Forging and Machine Tool Technology are also studied and skills developed. Safety goggles are required.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6040-1a.	Understand the meaning of Codes and symbols from blueprints.
6040-1b.	Understand technical terms used in informational texts.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6040-2a.	Apply the meaning of technical codes and symbols as used in industry on various documents.
	Standard 4: Understand the interaction of science, technology and society.
6040-4a.	Demonstrate an understanding of various materials in the manufacturing industry.
6040-4b.	Know the impact of how various materials affect the environment.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6040-5a.	Demonstrate the design process in the development of a product and problem solving
6040-5b.	Demonstrate an understanding of how to manipulate machinery in a lab/industry setting, to achieve maximum efficiency.
	Standard 6: Understand the general nature and use of mathematics.
6040-6a.	Solve real world mathematics problems using various equations.
6040-6b.	Demonstrate the ability to read precision measuring equipment.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6040-9a.	Understand the use of computers in manufacturing activities.
6040-9b.	Understand the various methods of manufacturing to achieve a final product.

	Technology Education Benchmarks
6040-9c.	Demonstrate safe use of metals lab equipment.
	Standard 11: Demonstrates competence in life skills relating to a technological environment.
6040-11a.	Explore opportunities and career paths in manufacturing.
6040-11b.	Participate in the VICA club.
	Standard 12: Displays competence in using employability skills.
6040-12a.	Demonstrate self-confidence.
6040-12b.	Demonstrate responsibility and time management.
6040-12c.	Demonstrate quality of work.
6040-12d.	Demonstrate teamwork/cooperation.
6040-12e.	Demonstrate integrity/initiative/effort.
6040-12f.	Demonstrate interpersonal skills.

Course #6045 Metals Processing II

This course is designed so that each student can program his/her own 18-week schedule in 4-1/2 week blocks of time. Students may choose from machine tool, sheet metal, welding, forging, heat treating, metallurgy, casting, metals, machinery repair and maintenance, plus their own work. Related technical information will be learned through demonstrations, reports, written articles, and textbook assignments. Good work habits will be highly emphasized. This course may be repeated as No. 6047 below. Safety goggles are required.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6045-1a.	Understand the meaning of codes and symbols from blueprints as applied to more complex assignments.
6045-1b.	Understand technical terms used in informational texts.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6045-2a.	Apply the meaning of technical codes and symbols as used in industry on various documents.
	Standard 4: Understand the interaction of science, technology and society.
6045-4a.	Know the impact of how various materials affect the environment.
6045-4b.	Demonstrate an understanding of various materials in the manufacturing industry.
	Standard 5: Knows how to apply complex reasoning and design processes in a technological environment.
6045-5a.	Demonstrate the design process in the development of a strict tolerance product.
6045-5b.	Understand the importance of following procedure.
6045-5c.	Demonstrate and understanding of how to manipulate machinery in a lab/industry setting to achieve maximum efficiency.
	Standard 6: Understands the general nature and use of mathematics.
6045-6a.	Solve real world mathematics problems using various equations.
6045-6b.	Demonstrate the ability to read precision measuring equipment.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6045-9a.	Demonstrate the safe use of metals lab equipment.

	Technology Education Benchmarks
6045-9b.	Understand various methods of manufacturing to achieve a final product.
6045-9c.	Understand the use of computers in manufacturing activities.
6045-9d.	Apply manufacturing techniques.
	Standard 11: Demonstrates competence in life skills relating to a technological environment.
6045-11a.	Explore opportunities and career paths in manufacturing.
6045-11b.	Participate in the VICA club.
	Standard 12: Displays competence in using employability skills.
6045-12a.	Demonstrate self-confidence
6045-12b.	Demonstrate responsibility and time management.
6045-12c.	Demonstrate quality of work.
6045-12d.	Demonstrate teamwork/cooperation.
6045-12e.	Demonstrate integrity/initiative/effort.
6045-12f.	Demonstrate interpersonal skills.

Course #6045 Metals Processing III

Students who have successfully completed Metal Processes I & II can take this course with the idea that they will complete a major project of their choice. Areas that can be worked in are welding, machine tool technology, sheet metal casting, and forging. Students must select, design, and construct their project. Problems that arise on projects will be explored by all class members using a manufacturing type environment. Cost depends on project selection. Safety glasses and good work habits will be required.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6047-1a.	Understand and apply the meaning of codes and symbols from blueprints as applied to more complex assignments.
6047-1b.	Understand technical terms used in informational texts.
	Standard 4: Understand the interaction of science, technology and society.
6047-4a.	Know the impact of how various materials affect the environment.
6047-4b.	Demonstrate an understanding of various materials in the manufacturing industry.
	Standard 5: Knows how to apply complex reasoning and design processes in a technological environment.
6047-5a.	Design and construct an independent project.
6047-5b.	Understand the importance of following procedure.
	Standard 6: Understands the general nature and use of mathematics.
6047-6a.	Solve real world mathematics problems using various equations.
6047-6b.	Demonstrate the ability to read precision measuring equipment.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6047-9a.	Demonstrate safe use of metals lab equipment.
6047-9b.	Understand various methods of manufacturing to achieve a final product.
	Standard 11: Demonstrates competence in life skills relating to a technological environment.
6047-11a.	Participate in VICA club.
6047-11b.	Explore opportunities and career paths in manufacturing.

	Technology Education Benchmarks
	Standard 12: Displays competence in using employability skills.
6047-12a.	Demonstrate self-confidence.
6047-12b.	Demonstrate responsibility and time management.
6047-12c.	Demonstrate quality of work.
6047-12d.	Demonstrate teamwork/ cooperation.
6047-12e.	Demonstrate integrity/ initiative/ effort.
6047-12f.	Demonstrate interpersonal skills.

Course #6055 Residential Construction

Residential construction places emphasis on the practices and construction of houses, garages, and small structures. Students learn how the site is cleared, the structure is designed, how to have designs approved, how to obtain permits needed, and methods used in construction of these structures. Students will be divided into groups for the purpose of research, designing and constructing models, full size structures, and hands-on building experiences. Students will learn to read blueprints, make material lists, make cost estimates, plan the construction sequence, and build a structure.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6055-1a.	Read and describe technical drawings.
6055-1b.	Demonstrate basic sketching techniques.
6055-1c.	Apply basic sketching techniques to develop a construction design.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6055-2a.	Write a technical report on trends in the construction industry.
	Standard 4: Understand the interaction of science, technology, and society.
6055-4a.	Demonstrate an understanding of the various materials new to the construction industry.
6055-4b.	Demonstrate an understanding of the impacts on society and the environment when using newly developed material.
6055-4c.	Demonstrate an understanding that scientific investigations may result in new ideas, products, or processes.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6055-5a.	Apply practical problem-solving skills.
6055-5b.	Understand technical terms used in the construction industry.
6055-5c.	Know that people continue inventing new ways of doing things, solving problems and getting work done.
	Standard 6: Understand the general nature and use of mathematics.
6055-6a.	Use mathematical techniques to solve and analyze technical problems.
6055-6b.	Solve problems using various measuring devices that are unique to the construction industry.

	Technology Education Benchmarks
	Standard 7: Understand the nature and use of communications technology in our society.
6055-7a.	Demonstrate basic sketching techniques to communicate ideas.
6055-7b.	Demonstrate an understanding of how information is communicated through drawings and blueprints.
	Standard 8: Understand the nature and use of construction technology in our society.
6055-8a.	Demonstrate an understanding of the stages required to build a structure (i.e., design, build, and evaluate).
6055-8b.	Know a variety of materials used in the construction industry.
6055-8c.	Demonstrate the safe use of hand and power tools.
6055-8d.	Apply and use proper construction techniques.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6055-9a.	Understand the use of computers in the construction industry.
6055-9b.	Demonstrate an understanding of manufacturing as related to the construction industry.
6055-9c.	Use a variety of materials used in the manufacturing construction industry (i.e., wood, metals, etc.).
6055-9d.	Read drawings and blueprints of manufactured construction products (i.e., house plans).
6055-9e.	Demonstrate safe use of hand and power tools.
	Standard 10: Understand the nature and use of transportation and power technology in our society.
6055-10a.	Understand transportation systems as they apply to cabinet-making and the construction industry.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6055-11a.	Explore a variety of technical occupations.
6055-11b.	Participate in the VICA Club.
	Standard 12: Display competence in using employability skills.
6055-12a.	Demonstrate self-confidence.
6055-12b.	Demonstrate responsibility and time management.

	Technology Education Benchmarks
6055-12c.	Demonstrate quality of work.
6055-12d.	Demonstrate teamwork/cooperation.
6055-12e.	Demonstrate integrity/initiative/effort.
6055-12f.	Demonstrate interpersonal skills.

Course #6060 Wood Technics I

This course covers the areas of shop and machine safety, proper use of woodworking machines, use of hand power tools, wood finishing, and employment in the woodworking trades. There is a required project selected by the instructor. Safety glasses are required.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6060-1a.	Read and describe technical drawings for the mantle clock.
6060-1b.	Demonstrate an understanding of the type of information available in technical manuals (i.e., mantle clock technical manual, etc.).
6060-1c.	Explain technical terms used in informational texts and CNC technology.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6060-2a.	Write a focused report explaining trends in wood technology.
	Standard 4: Understand the interaction of science, technology, and society.
6060-4a.	Demonstrate an understanding of the various materials new to the construction industry.
6060-4b.	Demonstrate an understanding of the impact on society and the environment when using newly developed materials.
6060-4c.	Demonstrate an understanding that scientific investigations may result in new ideas, products, or processes.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6060-5a.	Apply practical problem-solving skills.
6060-5b.	Demonstrate the design process in the development of a product.
6060-5c.	Describe how people continue inventing new ways of doing things, solving problems, and getting work done (high production in cabinet making).
	Standard 6: Understand the general nature and use of mathematics.
6060-6a.	Use mathematical techniques to solve and analyze technical problems. Ruler proficiency included.
6060-6b.	Solve problems using various measuring devices.

	Technology Education Benchmarks
	Standard 7: Understand the nature and use of communications technology in our society.
6060-7a.	Demonstrate basic sketching techniques to communicate ideas (i.e., first required project or independent project).
6060-7b.	Demonstrate an understanding of how information is communicated through a drawing.
	Standard 8: Understand the nature and use of construction technology in our society.
6060-8a.	Demonstrate an understanding of the stages required to build a structure (i.e., design, build, and evaluate mantle clock).
6060-8b.	Know a variety of materials used in cabinet-making and construction (i.e., glues, screws, sandpaper, stains, and finishes).
6060-8c.	Demonstrate safe use of hand and power tools including CNC milling safety.
6060-8d.	Apply and use proper construction techniques.
6060-8e.	Understand and apply engineering techniques (i.e., design, modeling, testing, and evaluations).
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6060-9a.	Understand the use of computers in manufacturing activities.
6060-9b.	Demonstrate the understanding of manufacturing systems (i.e., mass production, and custom building, manufacturing cell).
6060-9c.	Demonstrate safe use of hand and power tools (i.e., surfacer, jointer, bandsaw, router, tablesaw, CNC machine, etc.).
6060-9d.	Use a variety of materials used in manufacturing (i.e., wood, metals, composites, etc.).
6060-9e.	Apply manufacturing techniques.
6060-9f.	Read drawings and blueprints of manufactured products.
	Standard 10: Understand the nature and use of transportation and power technology in our society.
6060-10a.	Understand transportation systems as they apply to cabinet-making and construction.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6060-11a.	Explore a variety of technological occupations.
6060-11b.	Participate in the VICA Club.

	Technology Education Benchmarks
	Standard 12: Display competence in using employability skills.
6060-12a.	Demonstrate self-confidence.
6060-12b.	Demonstrate responsibility and time management.
6060-12c.	Demonstrate quality of work.
6060-12d.	Demonstrate teamwork/cooperation.
6060-12e.	Demonstrate integrity/initiative/effort.
6060-12f.	Demonstrate interpersonal skills.

Course #6065 Wood Technics II

This course covers areas of reading drawings, wood identification, cost, proper and safe use of hand and power tools, drawer construction, construction of both rabbet and dado and rabbet and groove joints, web frame construction, spray finishing, and installation of hardware. There is a required project. Safety glasses are required.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6065-1a.	Read and describe technical drawings (i.e., nightstand blueprint, etc.).
6065-1b.	Demonstrate basic sketching techniques.
6065-1c.	Apply basic sketching techniques to develop a product design (might include CAD or CNC resources).
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6065-2a.	Write a focused report explaining trends in wood technology.
	Standard 4: Understand the interaction of science, technology, and society.
6065-4a.	Demonstrate an understanding of various materials new to the construction industry.
6065-4b.	Demonstrate an understanding of the impact on society and the environment when using newly developed materials.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6065-5a.	Describe the use of high technology in construction (i.e., CNC technology, composite materials used in cabinet construction, production machines, etc.).
6065-5b.	Demonstrate the design process in the development of a product and solving problems.
	Standard 6: Understand the general nature and use of mathematics.
6065-6a.	Use mathematical techniques to solve and analyze technical problems.
6065-6b.	Solve problems using various measuring devices.
	Standard 7: Understand the nature and use of communications technology in our society.
6065-7a.	Demonstrate an understanding of how information is communicated through a drawing.
	Standard 8: Understand the nature and use of construction technology in our society.
6065-8a.	Demonstrate the use of computers for construction activities (i.e., Mastercam unit, with required project).

	Technology Education Benchmarks
6065-8b.	Demonstrate an understanding of the stages required to build a structure (i.e., design, build, evaluate).
6065-8c.	Know a variety of materials used in construction (i.e., glues, screws, biscuits, pocket hole screws).
6065-8d.	Demonstrate the safe use of hand and power tools including new tools since Wood Technics I (i.e., pocket hole jig, biscuit joiner, spray gun).
6065-8e.	Apply construction techniques including, but not limited to, pocket hole technology and biscuits.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6065-9a.	Understand the use of computers in manufacturing activities (i.e., CNC integrated into solid surface exercise).
6065-9b.	Demonstrate the understanding of manufacturing systems (i.e., mass production, and custom building, manufacturing cell).
6065-9c.	Demonstrate safe use of hand and power tools, including CNC milling safety.
6065-9d.	Use a variety of materials used in manufacturing (i.e., wood, metals, composites, etc.).
6065-9e.	Apply manufacturing techniques (i.e., production in woodworking and cabinet making, including solid surface project, CNC project, frame and panel project, etc).
6065-9f.	Read drawings and blueprints of manufactured products, including the nightstand drawing and CNC project.
	Standard 10: Understand the nature and use of transportation and power technology in our society.
6065-10a.	Understand transportation systems as they apply to cabinet-making and construction industries.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6065-11a.	Explore a variety of technological occupations.
6065-11b.	Participate in the VICA Club.
	Standard 12: Display competence in using employability skills.
6065-12a.	Demonstrate self-confidence.
6065-12b.	Demonstrate responsibility and time management.
6065-12c.	Demonstrate quality of work.
6065-12d.	Demonstrate teamwork/cooperation.
6065-12e.	Demonstrate integrity/initiative/effort.
6065-12f.	Demonstrate interpersonal skills.

Course #6067 Wood Technics III

This course allows the student to select, design, and construct a project of his/her choice. Areas of construction problems, which arise on individual projects, are examined and solutions to these problems are discussed by all members. Cost depends on project selection. Safety glasses are required. Wood Technics III may be taken more than once with instructor's approval.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6067-1a.	Read and describe technical drawings (i.e., face frame exercise, frame and panel exercise and project blueprints).
6067-1b.	Demonstrate an understanding of the type of information available in technical manuals and through internet sources.
6067-1c.	Explain technical terms used in informational texts, CNC technology, and the production workplace.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6067-2a.	Compose a project portfolio that demonstrates proficiency in cabinetry terminology and quality in the workplace.
	Standard 4: Understand the interaction of science, technology, and society.
6067-4a.	Demonstrate an understanding of various materials new to the construction industry.
6067-4b.	Demonstrate an understanding of the impacts on society and the environment when using newly developed materials.
6067-4c.	Demonstrate an understanding that scientific investigations may result in new ideas, products, or processes.
6067-4d.	Demonstrate and understanding of how CNC impacts production in cabinet making.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6067-5a.	Apply practical problem-solving skills.
6067-5b.	Describe the design in the development of a product via a project portfolio.
	Standard 6: Understand the general nature and use of mathematics.
6067-6a.	Use mathematical techniques to solve and analyze technical problems (i.e., face frame exercise, etc.).
6067-6b.	Solve problems using various measuring devices.
	Standard 7: Understand the nature and use of communications technology in our society.
6067-7a.	Demonstrate basic sketching techniques to communicate ideas (possible forms might include CAD or CNC technology).

	Technology Education Benchmarks
6067-7b.	Demonstrate an understanding of how information is communicated through a drawing or through CNC program.
	Standard 8: Understand the nature and use of construction technology in our society.
6067-8a.	Demonstrate an understanding of the stages required to build a structure (i.e., design, build, and evaluate).
6067-8b.	Know a variety of materials and resources used in cabinet making and construction, including pocket hole technology, biscuit joinery, glues, etc.
6067-8c.	Apply and use proper construction techniques (i.e., biscuits, pocket hole technology, face frames, frame and panel doors, drawers) keeping in mind production and quality.
6067-8d.	Apply engineering techniques (i.e., design, modeling, testing, and evaluating).
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6067-9a.	Understand the use of computers in manufacturing activities.
6067-9b.	Demonstrate the safe use of hand and power tools including CNC safety.
6067-9c.	Use a variety of materials used in manufacturing (i.e., wood, metals, composites, etc.).
6067-9d.	Apply manufacturing techniques (i.e., air nailing stiles/ rails, pocket hole technology, etc.).
6067-9e.	Read drawings and blue prints of manufactured products.
	Standard 10: Understand the nature and use of transportation and power technology in our society.
6067-10a.	Understand transportation systems as they apply to cabinet making and to the construction industry.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6067-11a.	Explore a variety of technical occupations.
6067-11b.	Participate in the VICA Club.
	Standard 12: Display competence in using employability skills.
6067-12a.	Demonstrate self-confidence.
6067-12b.	Demonstrate responsibility and time management.
6067-12c.	Demonstrate quality of work.

	Technology Education Benchmarks
6067-12d.	Demonstrate teamwork/cooperation.
6067-12e.	Demonstrate integrity/initiative/effort.
6067-12f.	Demonstrate interpersonal skills.

Course #6069 Wood Technics Extended Learning Block

This course is intended for students that want to further develop their cabinetmaking skills. With the extended block of time, two class periods run back to back, students will be able to construct more complex projects than would normally be attempted. In addition to personal projects, students will also have advanced cabinetmaking exercised to complete throughout the semester. Students will need to supply materials for advanced projects. Safety glasses are required.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6067-1a.	Read and describe technical drawings.
6067-1b.	Demonstrate an understanding of the type of information available in technical manuals as well as web-based resources.
6067-1c.	Explain technical terms used in informational texts, cabinetry literature and in the workplace.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6067-2a.	Compose a computer based project portfolio that demonstrates higher levels of achievement in cabinet making.
	Standard 4: Understand the interaction of science, technology, and society.
6067-4a.	Demonstrate an understanding of various materials new to the construction industry.
6067-4b.	Demonstrate an understanding of the impacts on society and the environment when using newly developed materials.
6067-4c.	Demonstrate an understanding that scientific investigations may result in new ideas, products, or processes.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6067-5a.	Apply practical problem-solving skills (i.e., highlighted in project portfolio).
6067-5b.	Describe the design in the development of a product (i.e., highlighted in project portfolio).
	Standard 6: Understand the general nature and use of mathematics.
6067-6a.	Use mathematical techniques to solve and analyze technical problems.
6067-6b.	Solve problems using various measuring devices.
	Standard 7: Understand the nature and use of communications technology in our society.
6067-7a.	Demonstrate basic sketching techniques to communicate ideas (i.e., drawings, CAD, or CNC).

Technology Education Benchmarks	
6067-7b.	Demonstrate an understanding of how information is communicated through a drawing.
	Standard 8: Understand the nature and use of construction technology in our society.
6067-8a.	Demonstrate an understanding of the stages required to build a structure (i.e., design, build, and evaluate).
6067-8b.	Know a variety of materials used in cabinet making and construction (i.e., CNC, pocket hole technology, biscuit technology, advanced adhesives, etc.).
6067-8c.	Apply and use proper construction techniques in cabinet making.
6067-8d.	Apply engineering techniques (i.e., design, modeling, testing, and evaluating).
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6067-9a.	Understand the use of CNC technology to improve production and safety.
6067-9b.	Demonstrate the safe use of hand and power tools including CNC technology.
6067-9c.	Use a variety of materials used in manufacturing (i.e., wood, metals, composites, etc.).
6067-9d.	Apply manufacturing techniques used in the cabinetmaking industry (i.e., air nailing stiles/ rails, pocket hole technology, etc.).
6067-9e.	Read drawings and blue prints of manufactured products.
	Standard 10: Understand the nature and use of transportation and power technology in our society.
6067-10a.	Understand transportation systems as they apply to cabinet making and to the construction industry.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6067-11a.	Write a plan that focuses on career goals, including post-secondary education and/or work.
	Standard 12: Display competence in using employability skills.
6067-12a.	Demonstrate self-confidence.
6067-12b.	Demonstrate responsibility and time management.
6067-12c.	Demonstrate quality of work.

	Technology Education Benchmarks
6067-12d.	Demonstrate teamwork/cooperation.
6067-12e.	Demonstrate integrity/initiative/effort.
6067-12f.	Demonstrate interpersonal skills.

Course #6073 Small Engines

This course is designed for students interested in small engines. Students will gain a fundamental understanding of internal combustion engine operation, components, and mechanical systems. The topics covered include safety, fluid power systems lubrication systems, cooling systems, fuel systems, and exhaust systems. This course will be a core introductory understanding of mechanical technician troubleshooting techniques.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6073-1a.	Be able to cross reference while gathering information (i.e, refer to a small engine manual, read blueprints and diagrams).
6073-1b.	Understand a variety of types of visual information including pictures from reference manuals (i.e, small engine manual, troubleshooting manual, engine specifications list).
6073-1c.	Understand the meaning of abbreviations and acronyms from context (i.e, EFI, OVC, ECM, etc).
6073-1d.	Understand technical information and terms (i.e., engine specifications, engine components).
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6073-2a.	Use technical terms and notations (i.e, Carburetor Rebuild Activity, Air Pressure activities).
6073-2b.	Apply the meaning of abbreviations and acronyms to context.
6073-2c.	Use indexes, appendices, glossaries, and table of contents.
6073-2d.	Correctly format information (i.e., Carburetor Rebuild Activity, Air Pressure activities).
	Standard 3: Understand energy types, sources, and conversions.
6073-3a.	Demonstrate the use of computers in transportation and power (i.e., engine computers, engine diagnostic, engine control, computer diagnostic systems, fuel injection systems, digital multimeters, fuel systems, ignition systems, engine control module, system diagnostic devices etc.)
6073-3b.	Inspect, disassemble, reassemble, and describe simple mechanical devices (i.e., simple machines and their application within tools and in mechanical engine components).
6073-3c.	Demonstrate an understanding of electronic control systems (i.e., points-breaker, solid state, distributor ignition, distributorless ignition, alternators, stators, fuel injection, ignition module, ignition coil).
6073-3d.	Demonstrate basic competence in service and maintenance in transportation and power technologies (i.e., oil change, spark test, compression test, fluid changes, spark plug change, fuel/air system cleaning/adjustment).

	Technology Education Benchmarks
6073-3e.	Demonstrate basic competence in fluid, mechanical, electrical, and thermal systems (i.e., cooling fins, radiator operation, coolant pumps, water jackets, material conductivity, hydrostatic transmissions, liquid cooled engines, air cooled engines, electronic ignition systems).
6073-3f	Explore different forms of energy (i.e., petroleum products, electrical current, motion).
6073-3g	Demonstrate the safe use of hand and power tools (i.e., wrenches, sockets, pneumatic and electrical hand tools, pneumatic wrenches, electric drills, electric grinders, etc).
	Standard 4: Understand the interaction of science, technology and society.
6073-4a	Describe how technology helps individuals make better investigations, observations, and measurements (i.e., feeler gauge, micrometer, telescoping gauge, valve clearance).
6073-4b	Describe how people have historically used technology to understand and cope (i.e., external combustion engines, internal combustion engines, evolution of engines).
6073-4c	Describe how technology has impacted the standard of living (i.e., better fuel economy, less pollution, greater weight to power ratios.)
6073-4d	Understand the impact on society and the environment when using newly developed materials (i.e., lighter engines, engine longevity, more improvement of engine efficiency, supply and demand vs. pollution).
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6073-5a	Convert one measurement system to another (i.e., inch pounds to foot pounds, foot pounds to Nm, Nm to inch pounds, etc.).
6073-5b	Determine the level of accuracy needed in measurement in situations (i.e., tolerance of engine machining, clearance of moving engine components, electrical field gaps).
	Standard 6: Understand the general nature and use of mathematics.
6073-6a	Convert fractions to decimals, decimals to fractions, percentages to fractions, fractions to percentages, percentages to decimals, decimals to percentages, common fractions and mixed numbers to decimal fractions, and decimal fractions to common fractions and mixed numbers to solve problems and create products.
6073-6b	Read analog and digital meters on instruments used to make direct measurements (i.e., sensor testing, battery testing, circuit testing).
6073-6c	Solve problems using different equations (i.e., force=mass x acceleration, $\frac{1}{2} \times \text{base} \times \text{height} = \text{engine displacement}$, top dead center- bottom dead center = stroke length).
6073-6d	Define the standard measurements (i.e., inch, feet, millimeter, meter, ohm, amp, volts, degree Fahrenheit, degree Celsius).

	Technology Education Benchmarks
6073-6e	Use estimation techniques (i.e., cylinder volume, compression ratio, fuel to air mixture).
	Standard 10: Understand the nature and use of transportation and power technology in our society
6073-10a	Be able to describe and explain alternative drive train/propulsion systems (i.e., track-drive, water-jet, fluid transmission, gear and clutch).
6073-10b	Be able to describe and explain alternative fuel system operation (i.e., fuel cell technology, gas/electric hybrid, electric).
6073-10c	Understand the evolution from external combustion engines into the various internal combustion engine types and the effects of each of the engine types (i.e., Otto cycle, 2-stroke, 4-stroke).
6073-10d	Explain how natural resources affect politics and economics (i.e., fuel prices, technology demands and advances).
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6073-11a	Explore a variety of technical occupations (i.e., small engine/outdoor power equipment service technician).
6073-11b	Participate in Skills USA club.
6073-11c	Understand and explain laboratory safety rules.
6073-11d	Understand and explain possible safety hazards.
6073-11e	Learn and practice safe working habits in the laboratory setting.
6073-11f	Work safely and cooperatively.
	Standard 12: Display competence in using employability skills.
6073-12a	Demonstrate self-confidence (i.e., career research assignment, decision making, problem solving skills).
6073-12b	Demonstrate responsibility and time management (i.e., meeting project deadlines, devotion and effort to work and assignments, attention to details).
6073-12c	Demonstrate quality of work.
6073-12d	Demonstrate teamwork/cooperation (i.e., working in groups on engines, working well around others, communicating with others).
6073-12e	Demonstrate integrity/initiative/effort (i.e., personal projects in class).
6073-12f	Demonstrate interpersonal skills (i.e., sharing, communication, respect).
6073-12g	Describe proper procedure when applying for a job (i.e., researching position, providing valid personal qualities, using reference).
6073-12h	Explore opportunities and /or career paths in technology, educational, and vocational opportunities (i.e., career research assignment, technical college presentations, local job opportunities).

	Technology Education Benchmarks
6073-12i	Use workspace effectively (i.e., sharing tools and equipment, sharing lab workspace, working in groups to achieve a common task).
6073-12j	Demonstrate the use of instruments following instructions (i.e., micrometer, vernier caliper, torque wrench, feeler gauges, digital multimeter).
6073-12k	Understand the process of buying and selling goods and services (i.e., contracting engine part retail store, comparing prices, comparing part quality, create communication skills).
6073-12l	Understand the process of maintaining consumer goods (i.e., keeping materials up to date, keeping equipment and tools well maintained, keeping an inventory of supplies).

Course #6075 Auto Mechanics and Transportation

This course is designed for students who are interested in small engines and automobiles. The first 4 weeks of the course covers small engines and safety, while the remaining 14 weeks deal specifically with cars, trucks, and other vehicles. In this class, most of the activities are hands-on, with the student bringing in his/her own vehicles. In addition to working on their own vehicles, the students will also explore many mechanical and automotive fields. The course also covers important areas such as internal combustion engines, lubrication systems, cooling systems, fuel systems, exhaust systems, fluid power, and many more.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6075-1a	Be able to cross reference while gathering information.
6075-1b	Understand a variety of types of visual information including pictures from reference manuals.
6075-1c	Understand the meaning of abbreviations and acronyms from context.
6075-1d	Understand technical information and terms.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6075-2a	Use technical terms and notations.
6075-2b	Apply the meaning of abbreviations and acronyms to context.
6075-2c	Use indexes, appendices, glossaries, and table of contents.
6075-2d	Correctly format information.
	Standard 3: Understand energy types, sources, and conversions.
6075-3a	Demonstrate the use of computers in transportation and power.
6075-3b	Inspect, disassemble, reassemble, and describe simple mechanical devices.
6075-3c	Demonstrate an understanding of electronic control systems.
6075-3d	Demonstrate basic competence in service and maintenance in transportation and power technologies.
6075-3e	Demonstrate basic competence in fluid, mechanical, electrical, and thermal systems.
6075-3f	Explore different forms of energy.
6075-3g	Understand the interrelationship of transportation systems.
6075-3h	Demonstrate the safe use of hand and power tools.

Technology Education Benchmarks	
	Standard 4: Understand the interaction of science, technology and society.
6075-4a	Describe how technology helps individuals make better investigation, observations, and measurements.
6075-4b	Describe how people have historically used technology to understand and cope.
6075-4c	Describe how technology has impacted the standard of living.
6075-4d	Understand the impact of society and the environment when using newly developed materials.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6075-5a	Convert one measurement system to another.
6075-5b	Determine the level of accuracy needed in measurement situations.
	Standard 6: Understand the general nature and use of mathematics.
6075-6a	Convert fractions to decimals, decimals to fractions, percentages to fractions, fractions to percentages, percentages to decimals, decimals to percentages, common fractions and mixed numbers to decimal fractions, and decimal fractions to common fractions and mixed numbers to solve problems and create products.
6075-6b	Read analog and digital meters on instruments used to make direct measurements.
6075-6c	Solve problems using different equations.
6075-6d	Define the standard measurements.
6075-6e	Use estimation techniques.
	Standard 10: Understand the nature and use of transportation and power technology in our society
6075-10a	Demonstrate the use of computers in transportation and power activities.
6075-10b	Inspect, disassemble, reassemble, and describe simple devices.
6075-10c	Demonstrate an understanding of electronic control systems.
6075-10d	Demonstrate basic service and maintenance in transportation and power technologies.
6075-10e	Demonstrate basic competence in fluid, mechanical, electrical, and thermal systems.
6075-10f	Explore different forms of energy.
6075-10g	Demonstrate the safe use of power tools.

	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6075-11a	Use workspace effectively.
6075-11b	Demonstrate the use of instruments following instruction.
6075-11c	Understand the process of buying and selling goods and services.
6075-11d	Describe proper procedure when applying for a job.
6075-11e	Explore opportunities and /or career paths in technology, educational, and vocational opportunities.
6075-11f	Understand the process of maintaining consumer goods.
	Standard 12: Display competence in using employability skills.
6075-12a	Demonstrate self –confidence.
6075-12b	Demonstrate responsibility and time management.
6075-12c	Demonstrate quality work.
6075-12d	Demonstrate teamwork/cooperation.
6075-12e	Demonstrate integrity/initiative/effort.
6075-12f	Demonstrate interpersonal skills.

Course #6080 Home Maintenance & Repair

This course is designed for students with little or no experience in independent living skills related to home and apartment maintenance. This course will help anyone learn to do simple repairs and thus save the cost of hiring someone. Small jobs in automobile and lawn mower repair, plumbing, electrical, and other relevant topics will be covered. Grades will be determined each nine weeks based on cooperation, responsibility, work habits, reports, skills execution plus written and performance tests. Students that have completed 2 or more Tech Ed classes will not be allowed to take this course.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6080-1a.	Learner demonstrates use of cross-referencing while gathering information.
6080-1b.	Learner is able to identify types of visual information such as symbols, schematics, graphs, and charts.
6080-1c.	Learner is able to use electrical services to gather information.
6080-1d.	Learner understands technical terms.
6080-1e.	Able to read current job related publications.
6080-1f.	Able to read and comprehend written communication and information.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6080-2a.	Learner able to write up purchase orders.
6080-2b.	Learner able to write up job estimates.
6080-2c.	Learner able to fill out a resume.
6080-2d.	Complete required forms.
6080-2e.	Write a letter of application.
6080-2f.	Write a follow up letter.
6080-2g.	Develop a career plan.

	Standard 3: Understand energy types, sources and conversions.
6080-3a.	List better ways to use water utilities.
6080-3b.	List better ways to use appliances.
6080-3c.	Understand the use of insulation.
6080-3d.	Understand how different heating and cooling systems operate.
6080-3e.	Describe how solar systems operate.
	Standard 4: Understand the interaction of science, technology and society.
6080-4a.	Demonstrate that technology has impacted people's standard of living and quality of life.
6080-4b.	Demonstrate an understanding of various materials new to the home maintenance.
6080-4c.	Demonstrate an understanding of the impact on society and the environment when using newly developed materials.
	Standard 5: Knows how to apply complex reasoning and design processes in a technological environment.
6080-5a.	Compare consumer products on the basis of features, performances, durability and cost.
6080-5b.	Know that new technology often results in consequences.
6080-5c.	Know that people continue inventing new ways of doing things, solving problems and getting work done.
	Standard 6: Understands the general nature and use of mathematics.
6080-6a.	Demonstrates the characteristics of geometric constructions.
6080-6b.	Demonstrates that scale drawings can be used to represent shapes and use of space. Compare locations of things vary different in size.
6080-6c.	Demonstrates accuracy needed in measurement situations.
6080-6d.	Demonstrates the uses of basic trigonometric functions.
6080-6e.	Understand how to calculate board feet.
6080-6f.	Demonstrate how to calculate sq. feet.
6080-6g.	Demonstrate how to measure liquids and solids.

	Technology Education Benchmarks
6080-6h.	Demonstrate proper electrical measurements.
	Standard 8: Understands the nature and use of construction technology in our society.
6080-8a.	Demonstrates an understanding of methods of construction techniques.
6080-8b.	Demonstrates an understanding of various materials used in construction.
6080-8c.	Demonstrates knowledge of various finishes and their application.
6080-8d.	Demonstrates knowledge of various wall coverings and their application.
6080-8e.	Demonstrate knowledge of various styles, materials, and applications of doors and windows.
6080-8f.	Demonstrate knowledge of wall and ceiling fixtures and their applications.
6080-8g.	Demonstrate knowledge of roofing materials.
	Standard 9: Understand the nature of use of manufacturing technology in our society.
6080-9a.	Demonstrates the use of computers in manufacturing and construction activities.
6080-9b.	Understands the manufacturing systems used in construction such as custom building and modular building.
6080-9c.	Demonstrates the wide use of materials used in construction. (I.e., woods, metals, composites, plastics, etc.)
6080-9d.	Demonstrates how to read drawings and blue prints of manufactured products.
	Standard 10: Understands the nature and use of transportation and power technology in our society.
6080-10a.	Demonstrate proper use of power tools.
6080-10b.	Lists what materials can and cannot be used with each tool.
6080-10c.	Demonstrate basic maintenance for landscaping equipment.
6080-10d.	Demonstrates basic maintenance for household transportation.
6080-10e.	Understands the movement of goods, services and people.

	Technology Education Benchmarks
6080-10f.	Understands consumer information when purchasing and selling transportation vehicles.
	Standard 11: Demonstrates competence in life skills relating to a technological environment.
6080-11a.	Learner understands the process of buying and selling goods and services.
6080-11b.	Demonstrate knowledge for necessary permits and licenses.
6080-11c.	Demonstrate basic maintenance for landscaping equipment.
6080-11d.	Investigate opportunities and/or career paths in technology. (I.e., educational and vocational)
	Standard 12: Displays competence in using employability skills.
6080-12a.	Exhibit dependability.
6080-12b.	Demonstrate punctuality.
6080-12c.	Follow rules and regulations.
6080-12d.	Recognize the consequences of dishonesty.
6080-12e.	Exhibit pride and loyalty.
6080-12f.	Demonstrate ability to set priorities.
6080-12g.	Use equipment correctly.
6080-12h.	Use personal protective equipment properly.
6080-12i.	Demonstrate personal hygiene and cleanliness.
6080-12j.	Demonstrate willingness to learn.

Course #6095 Exploring Technology

The modular technology lab course combines multimedia computer-based instruction with high quality training equipment. The critical skills of teamwork, decision making, critical thinking, logical reasoning, troubleshooting, problem-solving, and independent research are incorporated into the course as well as career exploration. This new state-of-the-art-training lab will offer students the opportunity to select from the following modules: Electronics, Desktop Publishing, Laser and Fiber Optics, Flight Technology, Robotics, Aerodynamics, Structural Engineering, and Singer Embroidery module.

	Technology Education Benchmarks
	The student will:
	Standard 1: Demonstrate competence in reading and gathering information of a technical nature.
6095-1a.	Organize a variety of types of visual information including pictures and symbols.
6095-1b.	Use electronic information services to gather information.
6095-1c.	Understand technical terms used in texts, manuals, and computers.
6095-1d.	Demonstrate an understanding of a variety of types of information from manuals, texts, and computers.
	Standard 2: Demonstrate competence in organizing and writing technical reports.
6095-2a.	Write and prepare a technical report using technical terms and notations.
6095-2b.	Write and prepare a technical report using proper spelling, grammar, and sentence structure.
6095-2c.	Able to use indexes, appendices, glossaries, and table of contents to organize information.
	Standard 3: Understand energy types, sources, and conversions.
6095-3a.	Understand the parts and relationships between the atom and the ion.
6095-3b.	Describe how energy can never be created or destroyed.
6095-3c.	Describe how energy reacts to conduction, convection, and/or radiation.
6095-3d.	Describe the relationship between conductors and insulators.
6095-3e.	Describe the basic law of magnetism.
	Standard 4: Understand the interaction of science, technology, and society.
6095-4a.	Describe how the systems of the human body work.

	Technology Education Benchmarks
6095-4b.	Demonstrate how to grow plants in a hydroponic environment.
6095-4c.	Design a work cell for an average worker.
6095-4d.	Conduct a recycling experiment.
6095-4e.	Describe the process of weather forecasting and the different climates in our world.
6095-4f.	Describe the history of weather in the U.S. and how it influences our daily lives.
	Standard 5: Know how to apply complex reasoning and design processes in a technological environment.
6095-5a.	Learn the principles of design and layout.
6095-5b.	Recognize how computers have revolutionized the publishing field.
6095-5c.	Will scan, import, and place graphics to illustrate proper layout procedures and page composition.
6095-5d.	Develop skills to use text and object manipulation to produce quality documents.
6095-5e.	Apply trouble-shooting strategies to different situations.
6095-5f.	Know that people continue new ways of doing things and solving problems to getting work done.
6095-5g.	Know that technology often results in unforeseen consequences.
	Standard 6: Understand the general nature and use of mathematics.
6095-6a.	Carry out statistical experiments.
6095-6b.	Solve problems using different equations.
6095-6c.	Solve problems using polar coordinates.
6095-6d.	Apply math, physics, and problem solving skills as they learn to work with integrated manufacturing.
6095-6e.	Understand different characteristics of geometric construction.
6095-6f.	Convert one measurement system to another.
6095-6g.	Understand that scale drawings can be used to make drawings larger or smaller in size.

	Technology Education Benchmarks
6095-6h.	Demonstrate proficient measuring skills.
6095-6i.	Explain how pneumatic circuits work by examining relationships between force, work, area, volume, and pressure.
6095-6j.	Create several programs using both the Cartesian and polar math coordinate systems.
6095-6k.	Describe the design process, principles of engineering, and stress factors.
	Standard 7: Understand the nature and use of communications technology in our society.
6095-7a.	Describe the history of graphic communications and the elements of design, including formal and informal balance, proportion, and contrast.
6095-7b.	Develop a graphic message for module-specified audiences.
6095-7c.	Identify and label various parts of magazine advertisements and explain the ad's market and effect.
6095-7d.	Understand the elements of proper design and layout.
6095-7e.	Demonstrate proper sketching techniques.
	Standard 8: Understand the nature and use of construction technology in our society.
6095-8a.	Demonstrate an understanding of the stages required building a bridge, truss, or tower.
6095-8b.	Describe how elements are linked together to provide the support needed for a structure to withstand loads.
6095-8c.	Set up a C.N.C. mill to produce a part to specifications.
	Standard 9: Understand the nature and use of manufacturing technology in our society.
6095-9a.	Describe the history of C.N.C. machines.
6095-9b.	Describe the industry standard codes used in C.N.C. systems.
6095-9c.	Use a scale down version of a C.N.C. mill used in industry.
	Standard 10: Understand the nature and use of transportation and power technology in our society.
6095-10a.	Conduct hands-on experiments that teach about the properties of air and how it affects objects as it flows.
6095-10b.	Define the terminology and principles associated with aerodynamics, fluid dynamics, and flight.

	Technology Education Benchmarks
6095-10c.	Utilize test data to design and construct a model.
6095-10d.	Describe the four forces that affect flight.
6095-10e.	Describe the history and principles of aviation.
6095-10f.	Study, design, construct, and test a model aircraft.
6095-10g.	Operate a flight simulator and describe how an aircraft is controlled during takeoff, flight, and landing.
	Standard 11: Demonstrate competence in life skills relating to a technological environment.
6095-11a.	Explore a variety of technological occupations.
6095-11b.	Solve problems using concepts of creativity, design, and technology.
6095-11c.	List impacts of technology.
6095-11d.	Understand the process of buying & selling goods and services.
	Standard 12: Display competence in using employability skills.
6095-12a.	Demonstrate self-confidence.
6095-12b.	Demonstrate responsibility and time management.
6095-12c.	Demonstrate quality of work.
6095-12d.	Demonstrate teamwork/cooperation.
6095-12e.	Demonstrate integrity/initiative/effort.
6095-12f.	Demonstrate interpersonal skills.