

# AGRICULTURE

This program consists of courses for all students who wish to increase their knowledge and skill in agriculture. The program includes introductory courses in animal and plant science along with specialized courses in agri-business, mechanics and horticulture. Students who wish to join FFA and remain a member must be enrolled in at least one Agriculture course. Joining the FFA gives students the opportunity to develop leadership skills, participate in contests, and win awards.

***Earned credit in Agriculture meets the vocational-technical requirement for graduation. RTHS requires a minimum 1 earned credit in the vocational-technical area.***

## AVAILABLE 2021-2022 COURSES

<u>COURSE</u>	<u>CREDIT</u>	<u>PREREQUISITE</u>	<u>GRADE LEVELS</u>	<u>FEES</u>
Introduction to Agriculture	1 unit—two semesters	No	9, 10, 11, 12	Yes
Advanced Agriculture Science	1 unit—two semesters	Yes	10, 11, 12	Yes
Horticulture Science 1	1 unit—two semesters	Yes (Grade Level)	10, 11, 12	Yes
Horticulture Science 2	1 unit—two semesters	Yes	11, 12	Yes
Agri-Business Management	1 unit—two semesters	Yes	10, 11, 12	No
Biological Science Applications in Agriculture	1 unit—two semesters	Yes	10, 11, 12	Yes
Natural Resources & Conservation Management	1 unit—two semesters	Yes	10, 11, 12	No
Basic Agriculture Mechanics	1 unit—two semesters	No	9, 10, 11, 12	No
Agricultural Machinery Service	1 unit—two semesters	Yes	10, 11, 12	No
Home Maintenance & Repair	1 unit—two semesters	Yes (Grade Level)	10, 11, 12	Yes



# AGRICULTURE

## INTRODUCTION TO AGRICULTURE

**FEES:** \$10.00

**Prerequisite:** An interest in agriculture

**Grade Levels:** 9, 10, 11, 12

**Credit:** 1 unit - two semesters

Designed to help students learn the vital role agriculture plays in our society and in their lives. Students will become aware of the many career opportunities available in the agriculture industry and be eligible to win awards through FFA. Students will learn about animal science, plant science, agribusiness, food science, and conservation.

## ADVANCED AGRICULTURE SCIENCE (offered in even numbered years {2022-2023})

**FEES:** \$10.00

**Prerequisite:** Introduction to Agriculture or consent of instructor

**Grade Levels:** 10, 11, 12

**Credit:** 1 unit - two semesters

Agriculture: The industry too big to ignore. Explore career opportunities in this country's largest and most important industry. Discuss environmental issues, do experiments, care for animals, grow plants, learn about conservation, manage an aquaculture system, process food products, learn about food safety, develop basic mechanical skills, and more. Through class instruction and involvement in FFA, students will have the option of participating in sectional contests, applying for awards, and attending leadership conferences.

## HORTICULTURE SCIENCE 1

**FEES:** \$10.00

**Prerequisite:** 10, 11, 12

**Credit:** 1 unit - two semesters

Horticulture course topics include lawn care and development, tree planting and care, landscaping, gardening (vegetables, fruits, and flowers), plant growth, plant propagation, managing the growing environment, and flower arranging. This applied agriculture science class gives students such experiences as seeding a lawn, sodding a lawn, drawing landscape plans, planting trees, fertilizing trees, using herbicides and insecticides, testing soil, planting a garden, rooting cuttings, forcing bulbs, grafting woody plants, breaking seed dormancy, sterilizing soil, mixing growing media, arranging flowers, and making corsages.

## HORTICULTURE SCIENCE 2

**FEES:** \$10.00

**Prerequisite:** Horticulture Science 1

**Grade Levels:** 11, 12

**Credit:** 1 unit - two semesters

This course will be offered to provide students an opportunity to expand their horticultural, agricultural, and FFA knowledge, experiences, and opportunities. Floral design, hydroponics, greenhouse crop production, nursery production, plant propagation and research will be some of the topics covered.

## AGRI-BUSINESS MANAGEMENT

**Prerequisite:** Sophomore, Junior or senior standing and successful completion of Intro to Ag or Basic Ag Mechanics

**Credit:** 1 unit - two semesters

This course is designed to explore issues facing agriculture and business in today's society. Students will learn agricultural business procedures and computer applications. Establishing, managing, and financing the agribusiness along with marketing, advertising, and selling of products will be studied. Students will have a chance to create their own business through the knowledge obtained in this course. Guest speakers and field trips will help make students aware of career opportunities and develop a new perspective on agricultural opportunities. Students will also do lab activities such as creating product displays, creating advertisements, and trying to sell a product.



## BIOLOGICAL SCIENCE APPLICATIONS IN AGRICULTURE

**FEES:** \$10.00

**Prerequisite:**

*1 year of science (preferably Biology)*

**Grade Levels:** 10, 11, 12

**Credit:** 1 unit - two semesters. (May be used as a science credit.

This class is designed as a laboratory class that will help students understand science concepts and principles by using relevant agriculture applications. The integration of science and agriculture will give students the opportunity to see science at work in plants, animals and the agriculture environment. Students will come to understand agriculture practices and the scientific principles that govern their use.

Students will learn to conduct agricultural research, see agriculture's role in environmental issues, study plant and animal reproduction, and find the "how" and "why" balancing. Students will also do lab exercises dealing with mitosis, flowers, fruits, ruminant digestion, dairy products, and many more. First semester will focus on plant science with second semester devoted to animal science.

## NATURAL RESOURCES & CONSERVATION MANAGEMENT

**Prerequisite:** Introduction to Agriculture

**Grade Levels:** 10, 11, 12

**Credit:** 1 unit - two semesters

This course develops management and conservation skills in understanding the connection between agriculture and natural resources. Student knowledge and skills are developed in: understanding natural resources and its importance; fish, wildlife, and forestry management & conservation; and exploring outdoor recreational enterprises. Hunting and fishing as a sport, growing and managing tree forests, and outdoor safety education will be featured.

## BASIC AGRICULTURAL MECHANICS

**Prerequisite:** None

**Grade Levels:** 9, 10, 11, 12

**Credit:** 1 unit - two semesters

In this course, theory and hands-on experiences provide opportunities for students to develop basic knowledge and skills in agricultural mechanics. Instructional areas include the basic fundamentals of maintaining and repairing small gasoline engines, basic electricity, welding, construction, cold metal work, and operating agricultural equipment safely. Improving workplace and computer skills will be a focus.

## AGRICULTURAL MACHINERY SERVICE

**Prerequisite:** Basic Ag Mechanics

**Grade Levels:** 10, 11, 12

**Credit:** 1 unit - two semesters

This comprehensive machinery service course concentrates on the following are as: using service manuals, electrical applications for agricultural equipment, fundamentals of multi-cylinder engines, reconditioning and repairing agricultural equipment, assembling and adjusting agricultural equipment, welding, organization and management of agricultural machinery dealerships, human relations, and sales techniques. Careers such as agricultural equipment salesperson, mechanic, parts manager, sales manager, service technician, and other related occupations will be examined. Improving workplace and computer skills will be a focus.

## HOME MAINTENANCE & REPAIR

**FEES:** \$10.00

**Prerequisite:** 10, 11, 12

**Credit:** 1 unit - two semesters.

This advanced course focuses on the knowledge, hands-on skills, and workplace skills applicable to construction in the agricultural industry. Major units of instruction include: personal safety, hand tools, power tools, blueprint reading, surveying, construction skills in carpentry, plumbing, electricity, concrete, block laying, drywall and painting. Careers such as agricultural engineers, carpenter, plumber, electrician, concrete and block layers, finishers, safety specialists, and other related occupations will be examined. Improving workplace and computer skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

# BUSINESS

The Business Education Department prepares students to become responsible citizens capable of making economic decisions that will benefit their personal and professional lives. This is achieved by providing a blend of academic and hands-on real world experiences that groom students for further education, business careers, and future employment.

**Earned credit in Business meets the vocational technical requirement for graduation (Intro. to Business meets the Consumer Education requirement.) RTHS requires a minimum 1 earned credit in the vocational -technical area.**

## AVAILABLE 2021-2022 COURSES

<u>COURSE</u>	<u>CREDIT</u>	<u>PREREQUISITE</u>	<u>GRADE LEVELS</u>
Introduction to Business	1/2 unit—one semester	No	9, 10, 11, 12
Record Keeping	1/2 unit—one semester	Yes	10, 11, 12
Keyboarding 1	1/2 unit—one semester	No	9, 10, 11, 12
Keyboarding 2/DC Keybd 2	1/2 unit—one semester	Yes	9, 10, 11, 12
Computer Applications	1/2 unit—one semester	Yes	9, 10, 11, 12
Word Processing (Dual Credit)	1/2 unit—one semester	Yes	10, 11, 12
Spreadsheets (Dual Credit)	1/2 unit—one semester	Yes	10, 11, 12
Web Page Dev. & Design	1/2 unit—one semester	Yes	9, 10, 11, 12
Digital & Interactive Media	1 unit—two semesters	Yes	10, 11, 12
Accounting 1	1 unit—two semesters	Yes (Grade Level)	10, 11, 12
Accounting 2	1 unit—two semesters	Yes	11, 12
Marketing	1/2 unit—one semester	Yes	10, 11, 12
Business Law 1	1/2 unit—one semester	Yes (Grade Level)	11, 12
Business Law 2	1/2 unit—one semester	Yes	11, 12
Economics	1/2 unit—one semester	Yes (Grade Level)	11, 12
Entrepreneurship/DC Entrep.	1/2 unit—one semester	Yes	11, 12
Cooperative Education (work program)	class = 1 unit, work = 2 units	Yes	11, 12
Internships/Career Exploration	1 unit—two semesters	Yes (Grade Level)	11, 12



## **INTRODUCTION TO BUSINESS**

**Prerequisite:** None  
**Grade Levels:** 9, 10, 11, or 12  
**Credit:** 1/2 unit - one semester

This course takes students on a journey towards life outside of high school. Students will learn about careers and how to create a path toward the career of their interest and skills. Students will also examine the basic concepts of financial literacy, specifically budgeting, banking, and credit. All of this is done while focusing on employability skills. \* **This course fulfills the Consumer Education graduation requirement.**

## **RECORDKEEPING**

**Prerequisite:** Successful completion of, or concurrent enrollment in, Intro to Business. Students with credit in Accounting will not be eligible to take this course  
**Grade Levels:** 10, 11, 12  
**Credit:** 1/2 unit - one semester

Recordkeeping develops understanding of and skill in maintaining accurate records; includes skills used in everyday business activities both for personal and professional use; provides an opportunity to develop skills related to personal financial management as well as budgeting, financial planning, cashier's records, handling of money, and tasks common to simple office practices.

## **KEYBOARDING 1**

**Prerequisite:** None.  
**Grade Levels:** 9, 10, 11, 12  
**Credit:** 1/2 unit - one semester.

Students will develop skills in operating a computerized keyboard by using the touch system to efficiently produce documents used in academic, personal, and business situations. Students who feel their keyboarding skills are more advanced have the option to take an exam to determine if they are eligible to proficiency out of Keyboarding 1 and into Keyboarding 2. Proficiency test score: 45 GWAM (gross words a minute) with 3 or fewer errors on a 3 minute timing.

## **KEYBOARDING 2**

**Prerequisite:** Successful completion of Keyboarding 1 or Proficiency  
**Grade Levels:** 9, 10, 11, 12  
**Credit:** 1/2 unit - one semester

This course is designed to develop keyboarding skills to rapidly and accurately produce business letters, memos, reports, and tables.

## **DUAL CREDIT KEYBOARDING 2 (CIS 157)**

**Prerequisite:** Successful completion of Keyboarding 1 *and must be able to touch type (Parkland requirement) or Proficiency and Parkland touch type requirement*  
**Grade Levels:** 11, 12  
**Credit:** 1/2 unit - one semester

This course is designed to develop keyboarding skills to rapidly and accurately produce business letters, memos, reports, and tables. 3 Parkland College credit hours can be earned.

## **COMPUTER APPLICATIONS**

**Prerequisite:** Successful completion of Keyboarding 1. Students with credit in Word Processing or Spreadsheets are not eligible to take this course.  
**Grade Levels:** 9, 10, 11, 12  
**Credit:** 1/2 unit - one semester

Students will use application software in the Microsoft Office Suite to create documents, spreadsheets, graphs, and presentations. Students will also explore and produce documents in various other applications.

# BUSINESS

## WORD PROCESSING (Dual Credit)

**Prerequisite:** Successful completion of Keyboarding I  
**Grade Levels:** 10, 11, 12  
**Credit:** 1/2 unit - one semester

Students will examine and become familiar with the basic and advanced features of Microsoft Word. Students will explore the benefits of Microsoft Word as it pertains to their personal and professional lives. Students can earn 3 Parkland College Credits.

## SPREADSHEETS (Dual Credit)

**Prerequisite:** Successful completion of Word Processing or Computer Applications  
**Grade Levels:** 10, 11, 12  
**Credit:** 1/2 unit - one semester

Students will examine and become familiar with the basic and advanced features of Microsoft Excel. Students will explore the benefits of Microsoft Excel as it pertains to their personal and professional lives.

## WEB PAGE DEVELOPMENT AND DESIGN

**Prerequisite:** Successful completion of Keyboarding I  
**Grade Levels:** 9, 10, 11, 12  
**Credit:** 1/2 unit - one semester

Students will be able to create their own working website by the end of this course by manipulating: images, tables, menu bars, links, and CSS layouts and rules. Students will learn about copyright laws and how they affect what they can and cannot include in their websites.

## DIGITAL & INTERACTIVE MEDIA

**Prerequisite:** Completion of application. Application includes staff expectations signed by both student and parent/guardian  
**Grade Levels:** 10, 11, 12  
**Credit:** 1 unit—two semesters

Students will navigate the Premiere Pro workspace in order to produce new for the rest of the school. Students decide what will be highlighted for the rest of the school to see and how this year will look for the rest of the student body. This course will also allow the students to engage in all aspects of video production; from the planning stages to the implementation, editing and final production.

Students will have the opportunity to live cast school events on the school Youtube Channel.

## ACCOUNTING 1

**Prerequisite:** 10, 11, 12  
**Credit:** 1 unit - two semesters

Students will plan, record, analyze, and interpret financial information to enable them to more knowledgeably manage and understand financial resources. Students will also explore work ethics and professional business ethics and their importance for success to workers and citizens.

## ACCOUNTING 2

**Prerequisite:** Successful completion of Accounting I  
**Grade Levels:** 11, 12  
**Credit:** 1 unit - two semesters

Students will expand their study of planning, recording, analyzing, and interpreting financial information according to generally accepted accounting practices using manual and electronic methods.



## MARKETING

**Prerequisite:** Successful completion of Introduction to Business  
**Grade Levels:** 10, 11, 12  
**Credit:** 1/2 unit - one semester

Students will discover the foundations and functions needed to successfully market goods, services, and ideas to consumers. Students will design a marketing plan for a business that is suited for a specific target market that will meet the goals of the business.

## BUSINESS LAW 1

**Prerequisite:** Junior or senior standing  
**Credit:** 1/2 unit - one semester

Students will explore the foundations of business law while investigating personal law topics. Students will demonstrate their understanding of the U.S. legal system and constitution through a mock trial.

## BUSINESS LAW 2

**Prerequisite:** Successful completion of Business Law 1  
**Grade Levels:** 11, 12  
**Credit:** 1/2 unit - one semester

Students will expand their knowledge by exploring more in depth topics related to personal and business law concepts. Students will demonstrate their knowledge of contract, labor, employment law through a mock trial.

## ECONOMICS

**Prerequisite:** Junior or senior standing  
**Credit:** 1/2 unit - one semester

Students will examine how individuals, households and firms make decisions to allocate limited resources. Students will focus on individual decisions and specific markets to make better economic decisions and satisfy their needs and wants.

## ENTREPRENEURSHIP

**Prerequisite:** Successful completion of Introduction to Business  
**Grade Levels:** 11, 12  
**Credit:** 1/2 unit - one semester

This course takes students on a step-by-step journey through the process of owning a business. This course focuses on the fundamentals of entrepreneurship and small business management with an emphasis on organization, financial, and marketing management. The main activities is business planning, and keys to business success.

## DUAL CREDIT ENTREPRENEURSHIP

**Prerequisite:** 3.0 GPA, reading placement score of CCS099 or college level reading  
**Grade Levels:** 11, 12  
**Credit:** 1/2 unit - one semester

This course is designed for all owners, managers, and employees of existing or proposed small or independent businesses, including nonprofit organizations. This course focuses on the fundamentals of entrepreneurship and small business management with an emphasis on organization, financial, and marketing management. The main activities are business planning and keys to business success. 3 Parkland College credit hours can be earned.



## COOPERATIVE EDUCATION 1 (offered in even numbered years 2022-2023)

**Prerequisite:** Instructor recommendation & application process  
**Grade Levels:** 11, 12  
**Credit:** 1 unit - two semesters

(Students must follow all given state regulations for this type of work experience program.)

Students will develop a clearer vision of a productive future and an understanding of how to make that vision a reality through an extensive school-to-work program with a close relationship between local businesses and school. Students will explore a wide range of career options with increased motivation to stay in and to succeed in school.

## COOPERATIVE EDUCATION 2 (offered in odd numbered years 2021-2022)

**Prerequisite:** Instructor recommendation & application process  
**Grade Levels:** 11, 12  
**Credit:** 1 unit - two semesters

(Students must follow all given state regulations for this type of work experience program.)

Students will examine additional topics in order to make the transition from school to work a comprehensive experience.

## COOPERATIVE EDUCATION WORK PROGRAM

**Prerequisite:** Instructor recommendation & application process  
**Grade Levels:** 11, 12  
**Credit:** 2 units - two semesters.

This is the work portion of the Cooperative Education program. Students will obtain and keep a job at an approved training station for the entire school year. They will leave school before last period of each day and report to their job site. The hours spent at their job per week shall number at least fifteen and no more than thirty. **Students must maintain employment in order to receive credit for any of the Work/Coop programs.**

## INTERNSHIPS/CAREER EXPLORATION

**Prerequisite:** Credit Current  
**Grade Levels:** 11, 12  
**Credit:** 1 units - two semesters.

The internship program is designed for career exploration that benefits the student and will be tailored to meet the unique needs and interests of the learner. The student will participate in a workplace experience while interning with a mentor in a business/organization which is reflective of the student's career interest, while observing workplace functions and investigating the requirements of a specific career field. Essential Skills will be correlated with soft skills and academic skills in a project based format. The student will be released from school during times which are coordinated with the internship site. The student can expect to spend between 5-10 hours a week at a place-ment.

In addition to the internship, the student will complete the Essential Workplace Skills program as part of the internship. The student will receive college credit for successful completion of the Essential Workplace Skills Program.

Successful Completion of both parts of the course could result in a \$500 stipend

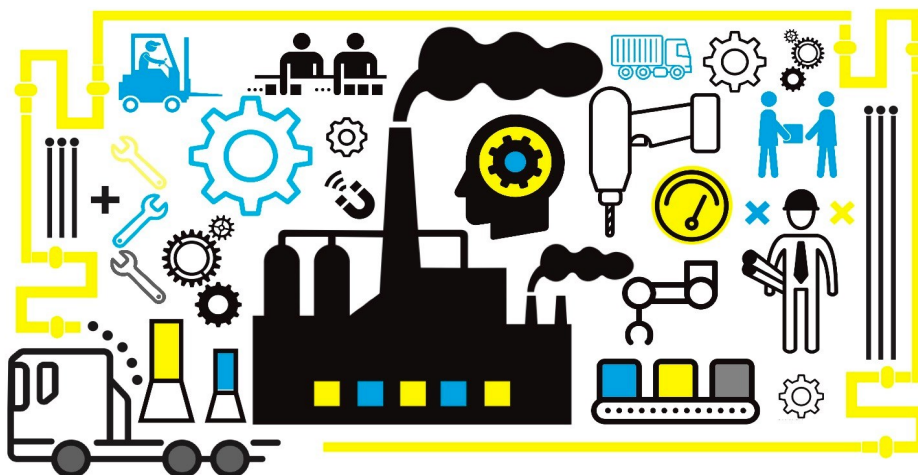




# TECHNOLOGY & ENGINEERING

***Earned credit in Technology & Engineering meets the vocational-technical requirement for graduation. RTHS requires a minimum 1 earned credit in the vocational-technical area.***

<b><u>AVAILABLE 2021-2022 COURSES</u></b>				
<b><u>COURSE</u></b>	<b><u>CREDIT</u></b>	<b><u>PREREQUISITE</u></b>	<b><u>GRADE LEVELS</u></b>	<b><u>FEES</u></b>
Foundations of Technology & Engineering	1/2 unit—one semester	No	9, 10, 11, 12	Yes
Precision Metal Production 1	1/2 unit—one semester	Yes	9, 10, 11, 12	Yes
Precision Metal Production 2, Welding	1/2 unit—one semester	Yes	10, 11, 12	Yes
Engineering by Design	1 unit—two semesters	Yes	11, 12	Yes
Foundation of Precision Wood Production	1/2 unit—one semester	Yes	9, 10, 11, 12	Yes
Precision Wood Production 1	1/2 unit—one semester	Yes	10, 11, 12	Yes
Precision Wood Production 2	1 unit—two semesters	Yes	11, 12	Yes
Electronics Technology 1	1/2 unit—one semester	Yes	9, 10, 11, 12	Yes
Electronics Technology 2, Robotics	1/2 unit—one semester	Yes	10, 11, 12	Yes
Electronics Technology 3, Mechatronics 3	1 unit—two semesters	Yes	11, 12	Yes
Foundations of Drafting Communication Technology	1/2 unit—one semester	Yes	9, 10, 11, 12	Yes
Architectural Drafting 1 & 2	1 unit—two semesters	Yes	10, 11, 12	Yes
Mechanical Drafting 1 & 2	1 unit—two semesters	Yes	10, 11, 12	Yes



# TECHNOLOGY & ENGINEERING

## FOUNDATIONS OF TECHNOLOGY & ENGINEERING

**FEES:** \$10.00

**Prerequisite:** None

**Grade Levels:** 9, 10, 11, 12

**Credit:** 1/2 unit - one semester

Introduction to Technology & Engineering is comprised of the following areas: Production, Transportation, Communication, Energy Utilization and Engineering Design but is not limited to these areas only. This course will cover the resources, technical processes, industrial applications, technological impact and occupations encompassed by that system.

## PRECISION METAL PRODUCTION 1

**FEES:** \$15.00

**Prerequisite:** Successful completion of Foundations of Tech & Engineering

**Grade Levels:** 9, 10, 11, 12

**Credit:** 1/2 unit - one semester

This course offers a planned sequence of learning experiences which provide students with the opportunities to develop competencies needed for employment in a variety of manufacturing related occupations. This course introduces students to the skills common to many occupations, such as applying safety practices, selecting materials, performing bench work operations, performing precision measurement, performing layouts, recordkeeping activities, and operating a variety of tools used for separating, forming, and combining materials.

## PRECISION METAL PRODUCTION 2, WELDING

**FEES:** \$15.00

**Prerequisite:** Successful completion of Precision Metal Prod. 1

**Grade Levels:** 10, 11, 12

**Credit:** 1/2 unit - one semester

This course assists students in gaining the knowledge and developing the basic skills needed to be successful in welding technology. Units of instruction include Arc, TIG and MIG welding, metallurgy, cutting metal using arc, plasma, and oxy-gas. In addition, students learn the basics of blueprint reading, precision measuring, layout, and production process planning.

## ENGINEERING BY DESIGN (offered in even # years, 2022-2023)

**FEES:** \$20.00

**Prerequisite:** Successful completion of Precision Metal Prod. 2

**Grade Levels:** 11, 12

**Credit:** 1 unit - two semesters

In this course, engineering scope, content, and professional practice are presented through practical applications. Students in engineering teams apply technology, science, and mathematics concepts and skills to solve engineering design problems and create innovative designs. Students gain machining skills while working with lathes, milling machines, surface grinders, drill presses, and other equipment. In addition, students learn the basics of blueprint reading, precision measuring, layout, and machining process planning. Students research, develop, test, and analyze engineering designs using criteria such as design effectiveness, public safety, human factors, and ethics. This course is the capstone experience for students who are interested in Technology, Innovation, Design, and Engineering.

## FOUNDATION OF PRECISION WOOD PRODUCTION

**FEES:** \$15.00

**Prerequisite:** Successful completion of Foundations of Tech & Engineering

**Grade Levels:** 9, 10, 11, 12

**Credit:** 1/2 unit - one semester

Beginning Cabinetmaking course provides students with experience in constructing cases, cabinets, counters, and other interior woodwork. Students learn how to use various woodworking machines and power tools for cutting and shaping wood. This course can cover the different methods of joining pieces of wood, how to use mechanical fasteners, and how to attach hardware.

## PRECISION WOOD PRODUCTION 1

**FEES:** \$15.00

**Prerequisite:** Successful completion of Foundation of Precision Wood Prod

**Grade Levels:** 10, 11, 12

**Credit:** 1/2 unit - one semester

This course introduces students to the basic design and fabrication of residential cabinetry and custom furniture. The course also exposes students to the millwork and millwright industry. Instruction includes safety practices in using hand tools and power equipment. In addition, there will be an added emphasis on Computer Numeric Control (CNC) systems and the manufacturing process.

## PRECISION WOOD PRODUCTION 2 (offered in odd # years 2021-2022)

**FEES:** \$30.00

**Prerequisite:** Successful completion of Precision Wood Prod. 1

**Grade Levels:** 11, 12

**Credit:** 1 unit - two semesters

This course provides learning experiences related to the erection, installation, and maintenance of commercial and residential cabinetry, and the repair and maintenance of stationary woodworking machinery. Advanced CNC project planning skills will be developed and other planned learning activities emphasize the development of more advanced knowledge and skills than those provided in Cabinetmaking and Millwork I. This course provides the student with the knowledge and skills necessary to perform basic cabinetry construction and how it relates to the manufacturing process. In addition, more advanced woodworking machine maintenance skills are introduced.



**ELECTRONICS TECHNOLOGY 1****FEES: \$10.00****Prerequisite:** Successful completion of Foundations of Tech & Engineering**Grade Levels:** 9, 10, 11, 12**Credit:** 1/2 unit - one semester

This course introduces students to the vocational fields of energy. In this class, students are introduced to basic direct current circuits, theory of electricity operations, power distribution, & the power of Ohm's Law. Students also develop the skills needed to service, repair, and replace a wide range of equipment associated with automated or instrument-controlled manufacturing processes. The class work involves a variety of hands on activities. Instruction also includes safety principles and practices, semi-conductors and transistor theory, electrical parameters and circuits, electronic component function and identification, and the use and care of related hand tools, power tools, and test equipment. In addition to the manipulative skills, students will use academic skills in math and reading along with safe work habits.

**ELECTRONICS TECHNOLOGY 2, ROBOTICS****FEES: \$10.00****Prerequisite:** Successful completion of Electronics Technology 1**Grade Levels:** 10, 11, 12**Credit:** 1/2 unit - one semester.

This course develops and expands students' skills and knowledge so that they can design and develop robotic devices. Topics covered in the course include mechanics, electrical and motor controls, pneumatics, computer basics, and programmable logic controllers.

**ELECTRONICS TECHNOLOGY 3, MECHATRONICS 3** (offered in even # years, 2022-2023)**FEES: \$10.00****Prerequisite:** Successful completion of Electronics Tech 2**Grade Levels:** 11, 12**Credit:** 1 unit - two semesters

This course provides planned learning activities designed to allow students to gain knowledge and skills in testing, maintaining, and repairing electronic equipment and systems used in the manufacturing industry. Learning activities in this course emphasize the development of more advanced knowledge and skills than those provided in Electronics Technology 1. Skills introduced in this course include instruction in the interpretation of technical sketches, schematics, and circuit diagrams. Additional units of instruction include Electro-Mechanical systems provide students with instruction and experience in components and equipment that use electricity and the power of physical forces. Students gain an understanding of the principles of electricity and mechanics and their application to gears, including hydraulic /pneumatic equipment, cams, levers, circuits, and other devices used in the manufacturing process or within manufactured goods.

**FOUNDATIONS OF DRAFTING COMMUNICATION TECHNOLOGY****FEES: \$10.00****Prerequisite:** Successful completion of Foundations of Tech & Engineering**Grade Levels:** 9, 10, 11, 12**Credit:** 1/2 unit - one semester

Beginning Drafting is an introductory level drafting course. During this course students will learn the basic fundamentals of drafting and /or computer aided drafting (CAD). The instruction will include the care and use of drafting equipment, freehand sketching, orthographic projection, lettering techniques, dimensioning standards, pictorial drawings, drawing reproduction, and an introduction to CAD. Students will also be exposed to industry standard software such as; AutoCAD, Inventor, and Revit.

## ARCHITECTURAL DRAFTING 1 & 2

**FEES:** \$10.00

**Prerequisite:** Successful completion of Foundations of Drafting

**Grade Levels:** 10, 11, 12

**Credit:** 1 unit - two semesters.

**Architectural Drafting 1 (1 semester):** This course is designed to provide students interested in a career in Architecture with information and practical experience needed for the development of job-related competencies. Students are made aware of the career opportunities available in the Architectural Drafting and Architectural Drafting CAD - CADD field. Instruction is provided in the areas of planning and organizing activities, researching information, performing general office procedures, preparing of preliminary drawings, basic layout, detail drawings, reproduction techniques, producing working drawings, and computer aided drafting. Students are also provided with instruction in producing architectural drawings in the areas of presentation, floor plans, illustration of landscape features, sketching preliminary floor plans, drawing foundation plans and sections, exterior elevations, stair sections, chimney sections, roof sections, finish schedules, preparing plumbing, HVAC and electrical plans, and structural drawings.

**Architectural Drafting 2 (1 semester):** Instruction is provided in the areas of locating information using computer data files, determination of materials and availability, project conferences, checking plan dimensions, drawing schematic sketches, preparing scale sketches, producing drawings from written /verbal instructions, application of coordinate dimensioning standards, creating drawings using a plotter/printer, producing renderings and/or charts and graphs, and common plan features. Instruction is also provided in the areas of drawing framing plans, wall sections, fireplace sections, door sections, door and window schedules, dimensioning structural steel drawings, constructing column detail drawings, preparation of structural foundation, slab and floor plans, drawing electrical, block, schematic, and electrical connection drawings. Skills relating to CAD include preparation of a basic CAD drawing, building and editing a data base, developing a 3-dimensional drawing and selecting appropriate line work, line weight, and color.

## MECHANICAL DRAFTING 1 & 2

**FEES:** \$10.00

**Prerequisite:** Successful completion of Foundations of Drafting

**Grade Levels:** 10, 11, 12

**Credit:** 1 unit - two semesters.

**Mechanical Drafting 1 (1 semester):** This course introduces students to layout to scale using specified tolerances, preparing detail drawing for individual parts from drawings, layout and creating assembly drawings, and preparing mechanical orthographic subassembly drawings. This course also includes a sequence of CAD experiences in 2-dimensional and **3-dimensional** drawing generation to include vocabulary development, system operation, entity creation, dimensioning and text insertion, plotting, three dimensional coordinate system, 3-D parts detailing and assembly drawings, wire frame models, and system management relative to hard disk and tape storage systems. Primary focus will be using Autodesk Inventor.

**Mechanical Drafting 2 (1 semester):** Instruction is provided in the areas of identifying appropriate interfacing personnel (internal/external), producing renderings (**3D drawings**) and project time schedules, producing structural working drawings as structural steel plans, dimension structural steel drawings, and draw beam connections, and producing electrical and electronic working drawings as electrical and electronic schematic diagrams. Additional skills introduced in this program include determining the requirements of a specific drafting job, preparing preliminary drawings such as free-hand, isometric, orthographic, and oblique sketches; preparing detail drawings such as creating assembly drawings, orthographic projections, sectional views, auxiliary views, isometric views and letter drawings; producing mechanical working drawings such as detailing components of mechanical orthographic assembly and subassembly drawings; using CAD command processes as preparing a basic CAD drawing, start up, log on, retrieve, save, log off and shut down CAD system; creating disk files, copying disk files, and generating a grid on drawing. Advanced Autodesk Inventor will be the primary focus of this class. Other supplemental programs will also be used from time to time.

# FAMILY & CONSUMER SCIENCE

The mission of family and consumer science education is to prepare students for lifelong learning in a diverse global society by focusing on family life, work life and personal growth. The goals of these courses are to help students develop interests, knowledge and skills in areas of foods, textiles, child care, parenting, housing and interior design, and consumerism. All students are permitted to enroll in the course desired provided recommended prerequisites have been met.

**Earned credit in Family & Consumer Science meets the vocational-technical requirement for graduation. RTHS requires a minimum 1 earned credit in the vocational-technical area.**

## AVAILABLE 2021-2022 COURSES

<u>COURSE</u>	<u>CREDIT</u>	<u>PREREQUISITE</u>	<u>GRADE LEVELS</u>	<u>FEES</u>
Introduction to FCS	1/2 unit—one semester	No	9, 10	Yes
Foods 1/Culinary Arts 1	1/2 unit—one semester	Yes	9, 10, 11, 12	Yes
Foods 2/Culinary Arts 2	1/2 unit—one semester	Yes	10, 11, 12	Yes
Culinary Arts 3-Gourmet Foods	1/2 unit—one semester	Yes	11, 12	Yes
Hospitality	1/2 unit—one semester	Yes	11, 12	Yes
Clothing & Textiles 1	1/2 unit—one semester	Yes	9, 10, 11, 12	No
Clothing & Textiles 2	1/2 unit—one semester	Yes	10, 11, 12	No
Clothing & Textiles 3	1/2 unit—one semester	Yes	11, 12	No
Advanced Clothing & Textiles	1/2 unit—one semester	Yes	11, 12	No
Child Development 1/Human Growth & Development	1/2 unit—one semester	Yes	9, 10, 11, 12	No
Child Development 2/Early Childhood Education	1 unit—two semesters	Yes	10, 11, 12	No
Foundations of Teaching	1/2 unit—one semester	Yes	11, 12	No
Parenting	1/2 unit—one semester	Yes	11, 12	No
Housing & Interior Design	1/2 unit—one semester	Yes	10, 11, 12	No
Independent Living	1/2 unit—one semester	No	12	Yes





# FAMILY & CONSUMER SCIENCE

## INTRODUCTION TO FAMILY & CONSUMER SCIENCES

**FEES:** TBD

**Prerequisite:** None

**Grade Levels:** 9, 10

**Credit:** 1/2 unit - one semester

Students will be introduced to the Family and Consumer Science pathways with units of instruction in food preparation and nutrition, fashion and interior design concepts, personal finance, healthy relationships and child care practices. Instruction and learning activities are provided in a laboratory setting using hands-on experiences with the equipment, materials, and technology appropriate to the course content and in accordance with current practices.

## FOODS 1/CULINARY ARTS 1

**FEES:** \$10.00

**Prerequisite:** Successful completion of Intro to Family & Consumer Sciences

**Grade Levels:** 9, 10, 11, 12

**Credit:** 1/2 unit - one semester

Students will learn basic nutrition principles; explore the kitchen workplace and understand basic cooking principles and techniques. Students will interpret nutritional information and its effects on health as well as prepare basic food items using the proper measuring techniques and use proper tools.

## FOODS 2/CULINARY ARTS 2

**FEES:** \$10.00

**Prerequisite:** Successful completion of Foods 1/Culinary Arts 1

**Grade Levels:** 10, 11, 12

**Credit:** 1/2 unit - one semester

Students will expand nutrition principles; increase kitchen workplace knowledge and increase knowledge of cooking principles and techniques. Students will continue to develop their practice in use of kitchen equipment, measurements and cooking items.

## CULINARY ARTS 3/GOURMET FOODS

**FEES:** \$10.00

**Prerequisite:** Successful completion of Foods 2/Culinary Arts 2

**Grade Levels:** 11, 12

**Credit:** 1/2 unit - one semester

Students will explore and use advanced cooking principles and techniques applicable to home and the food service industry. Students will experiment with herbs, spices, and additives in foods and cooking. Students will gain hands-on experience by planning and organizing catering and food service projects.

## HOSPITALITY

**FEES:** \$10.00

**Prerequisite:** Successful completion of Foods 2/Culinary Arts 2

**Grade Levels:** 11, 12

**Credit:** 1/2 unit - one semester

Students will explore the hospitality, tourism, and event planning industries. Lab experiences will focus on workplace skills in the food service/banquet industry including, but not limited to, planning seasonal events, catering functions, and quantity food production.

## CLOTHING & TEXTILES 1

**Prerequisite:** Successful completion of Intro to Family & Consumer Sciences

**Grade Levels:** 9, 10, 11, 12

**Credit:** 1/2 unit - one semester

In this course students will explore careers in the fashion industry as well as gain hands on experience with textiles and textile tools and equipment. Students examine the technical side of the fashion business. They must know exactly how a bolt of fabric is transformed into a finished garment.

## CLOTHING & TEXTILES 2

**Prerequisite:** Successful completion of Clothing & Textiles 1

**Grade Levels:** 10, 11, 12

**Credit:** 1/2 unit - one semester

In this course, students will gain advanced hands-on experience with textiles and textile tools and equipment. Students will construct 2 to 3 garments, while participating in a community service project.

## CLOTHING & TEXTILES 3

**Prerequisite:** Successful completion of Clothing & Textiles 1 and 2 or consent of instructor

**Grade Levels:** 11, 12

**Credit:** 1/2 unit - one semester

In this course students will spend more time with hands-on projects and working with the tools and equipment involved in producing garments. They will apply their skills in constructing garments as well participating in a community service project.



## ADVANCED CLOTHING & TEXTILES

**Prerequisite:** Successful completion of Clothing & Textiles 1, 2, & 3 or consent of instructor

**Grade Levels:** 11, 12

**Credit:** 1/2 unit - one semester

In this course students will gain experience in the textile industry by participating in real-world hands-on projects. Students will apply their skills and utilize industry specific tools and equipment for the production of garments and other textile projects.

## CHILD DEVELOPMENT 1/HUMAN GROWTH & CHILD DEVELOPMENT

**Prerequisite:** Successful completion of Intro to Family & Consumer Sciences

**Grade Levels:** 9, 10, 11, 12

**Credit:** 1/2 unit - one semester

This course focuses on the developmental theories and best practices in early care and education focusing on prenatal development and the physical, cognitive, social, and emotional growth of children ages birth to three. Students will be introduced to the Illinois Early Learning Guidelines and career opportunities in the early care and education field. The career focus will be on working with children and families in the early stages of human development.

## CHILD DEVELOPMENT 2/EARLY CHILDHOOD EDUCATION

**Prerequisite:** Successful completion of Child Development 1/Human Growth. Successful completion of 1st semester Child Development 2/Early Childhood Education to enter 2nd semester.

**Grade Levels:** 10, 11, 12

**Credit:** 1 unit - two semesters

Early Childhood Education prepares students to enter the world of work or post-secondary opportunities in the field of early care and education. Students will have the opportunity to participate in lab practical experiences working with children in a child care/school setting. Students enrolled in this course will also have the opportunity to earn certification that meets Illinois Department of Children and Family Services required licensing standards in the field of early care and education.

## FOUNDATIONS OF TEACHING

**Prerequisite:** Successful completion of Child Development 1

**Grade Levels:** 11, 12

**Credit:** 1/2 unit - one semester

This course introduces students to the principles underlying teaching and learning, responsibilities and duties of teachers, and strategies and techniques to deliver knowledge and information. A combination of classroom and field experiences will enable students to gain skilled knowledge and understanding of the education profession. Course content includes projects to develop an understanding of the learner and the learning process, instructional planning, the learning environment, assessment and instructional strategies, career opportunities in the field of education, and Illinois regulations and licensing requirements.

## PARENTING

**Prerequisite:** Successful completion of Child Development 1/Human Growth & Child Dev

**Grade Levels:** 11, 12

**Credit:** 1/2 unit - one semester

Students will comprehend the importance of parenting, including responsibilities and skills needed. Students will examine parenthood and family structures, decision-making as it applies to parenting, and explore the various health and safety practices applicable to parenthood.

## HOUSING AND INTERIOR DESIGN

**Prerequisite:** Successful completion of Intro to Family & Consumer Sciences

**Grade Levels:** 10, 11, 12

**Credit:** 1/2 unit - one semester

Students will explore housing as a need and design implications. Students will use technology to assist in floor planning, learn the common trends in housing and implement design principles.

## INDEPENDENT LIVING

**FEES:** \$10.00

**Prerequisite:** None

**Grade Levels:** 12

**Credit:** 1/2 unit - one semester

Students will explore a variety of areas to facilitate independent living. Students will complete the budgeting process, learn to apply basic sewing, and cooking procedures,

