

# Vocational Education



**Preparing Students for A Global Economy**

**Arlee Joint School District #8 - Arlee, Montana 59821**

# **Arlee School District 8J**

**Post Office Box 37 - Arlee, Montana 59821**

## **Curriculum Committee**

Earl Beck  
Russell Baker  
Joyce Auer  
Larry Cocchiarella  
Laree Harbour  
Donna McKinsey  
Elke Rice  
Patty Crist  
Jackie Beck  
Cathy Barrows

## **Board of Trustees**

Andrew Fisher  
Charlene Petet  
Ronald Ritter  
Gregg Willoughby  
Gary Wining

## **Superintendent**

Louis R. Headley

## **Principals**

Richard Bachmeier Secondary 7 - 12  
Nancy Terwilliger-Grube Elementary K - 6

February 2000



# Table of Contents

Philosophy .....	3
Content Standards .....	3
Supplemental Programs .....	4
Student Organizations .....	5
Arlee Chapter of Business Professionals of America (BPA) .....	5
Technology Student Association (TSA) .....	5
Family and Consumer Sciences .....	5
Summary of Assessment Tools .....	6
Business Curriculum .....	7
Course Outlines .....	7
Performance Standards .....	13
Industrial Technology Curriculum .....	18
Course Outlines .....	18
Performance Standards .....	23
Family and Consumer Sciences Curriculum .....	30
Course Outlines .....	30
Performance Standards .....	38



## Philosophy

The purpose of education in a democratic society is to provide educational services to all citizens to enhance their skills needed to survive in today's technical world.

The Arlee District's educational system focuses on the individual child and his/her achievements to meet individual educational needs of each child. The District focuses on student growth, by providing for each student, a variety of positive school experiences and activities. The Board also recognizes its obligation to provide and maintain a sound educational program, consistent with the legal requirements of the State of Montana, and the best interests of the Nation, State, and Community.

Within the curriculum of the Arlee School District is an active vocational education program offering classes in the areas of business, industrial technology, and family and consumer sciences.

The vocational departments offer classes at the junior high, high school, and adult education levels. With a variety of courses from introductory, to developmental, and mastery of a variety of skills, students have an opportunity to develop skills necessary for post secondary training and securing a job.

## Content Standards

1. Develop basic skills for the world of work
2. Develop basic skills for post-secondary education
3. Develop career awareness
4. Develop money management skills
5. Develop social/cultural skills
6. Develop citizenship skills
7. Develop time management skills
8. Develop safety standards
9. Develop awareness of technological advances
10. Develop problem solving skills
11. Develop linkage between specialist and classroom teachers
12. Develop an awareness of the value of student organizations





## Supplemental Programs

The Vocational Education Department includes the following programs across the curriculum:

### **Career Awareness**

Vocational educators have long recognized the importance of providing students with job and career training that complements the job specific skills needed for entry into a particular career field

### **Learn and Serve**

Learn and Serve is a form of experimental learning where students apply knowledge and critical thinking to address genuine needs in their own community.

### **School to Work**

This program addresses the changing workplace, encouraging formation of community partnerships in developing a system to ensure the employability of all students. It integrates occupational and academic learning and links secondary and post-secondary education (under development).

### **Student Populations**

All Vocational Education programs recognize the diversity of the students in Arlee. In accordance with Montana Board of Public Education 10.55.802, the District will not discriminate against any student in any area of the educational program.

### **Student Vocational Organizations**

These provide a program of career and leadership development, motivation, and recognition exclusively for students enrolled in vocational education programs.

### **Tech Prep**

Tech Prep concepts rest on a foundation of applied academics - courses incorporate real-life applications and hands-on experience into academic subjects. It is a carefully designed curriculum that engage high school students to gain the competencies required for technical careers. After completion in high school, Tech Prep students will be prepared to continue technical education at a post-secondary institution.

### **Technology**

The vocational programs in Arlee High School maintain an attitude to stay abreast with the advancing changes in technology as finances permit.



## Student Organizations

### Arlee Chapter of Business Professionals of America (BPA)

The Arlee business department is active in the Montana Business Professionals of America program. The local chapter's name is Jocko Valley Chapter of Business Professionals of America. The chapter was started in 1990. The business teacher is the advisor for this program. Membership is open to all high school students. The major function is to give students an opportunity to measure their skills in competition against other students from around the state. To date, the students from Arlee High School are not competing at the national level. The student's preparation for these competitions is integrated into the classroom. Evening sessions are held to help students prepare.

Financial support of this organization is derived from state funding of the business department through vocational funds and fund raising activities organized by the group. The strength of the organization continues to grow. A membership of 20-30 students is constant, and the performance of individual students in regional and state competitions is excellent.

### Technology Student Association (TSA)

The Technology Student Association (TSA) is the national organization for technology education/ industrial arts students. It is composed of over 70,000 high school, intermediate and elementary students in 1,500 chapters spanning forty-one (41) states. TSA includes educators, parents, and business leaders who believe in the need for a technologically literate society and who are working hard to achieve that goal. TSA promotes students to "grow through achievement" in various levels of opportunity such as community and service projects, developing leadership skills, state and national competitions and in the ability to organize as a group with a common mission. TSA is endorsed by the International Technology Education Association (ITEA) - the national professional association of technology educators. TSA's motto is *Learning to Live in a Technical World*. When students become members of a TSA Chapter, they are supplementing and enhancing their knowledge and exposure to the study of technology.

### Family and Consumer Sciences

The Arlee Chapter continues to be active both in and out of the classroom. FCS/HERO was founded to help youth assume active roles in society as wage earners, community leaders, and family members. FHA is the only in-school organization with the family as its central focus.

There are two kinds of chapters. FCS chapters emphasize consumer home economics, while HERO chapters emphasize home economics related occupations. Projects, developed by members in both kinds of chapters, focus on a variety of youth concerns, including teen pregnancy, parenting, family relationships, substance abuse, peer pressure, nutrition and fitness, intergenerational communication, career exploration and preparation for employment.

Involvement in Family and Consumer Sciences offers members opportunities to expand their leadership potential and develop skills for life - planning, goal setting, problem solving, decision making, and interpersonal communication - necessary in the world of work and the home.



## Summary of Assessment Tools

Listed below are assessment tools which may be used for any of the performance standards. It is up to each teacher to decide which assessment tools best fit the lesson of his/her vocational curriculum.

1. Teacher observation
2. Homework / written assignments
3. Activities and projects (individual and group)
4. Knowledge of and application of skills taught
5. Demonstration
6. Classroom performance and discussion
7. Portfolio - compilation of student work
8. Oral or written examination
9. Written or oral reports
10. Worksheets
11. Compliance with safety standards
12. Participation in lab activities
13. Self-evaluation by student and group
14. Student journal or notebook
15. Conferencing





# Business Curriculum

## Course Outlines

### WORD PROCESSING

This is a sequential class that consists of the following: One quarter during students' 7<sup>th</sup> and 8<sup>th</sup> grade years and a full semester during their 9<sup>th</sup> grade year.

The course consists of introductory keyboarding and keyboard production using WordPerfect 5.1 and 6.1. Throughout the class, students learn menu and quick tool commands necessary to produce the desired copy.

- I. Introduction to keyboard
  - A. Home row
  - B. First row
  - C. Third Row
  - D. Numbers
  - E. Symbols
  
- II. Drill work
  - A. Reinforcement of typing skills
  - B. Speed tests
  
- III. Keyboard production
  - A. Columnar
    - 1. Tabulation
    - 2. Tables
  - B. Letter styles
    - 1. Block
    - 2. Modified block
    - 3. Simplified
    - 4. AMS
    - 5. Form
  - C. Manuscripts
    - 1. Left-top bound
    - 2. Unbound
    - 3. Title page
    - 4. Bibliography
    - 5. Footnotes
  - D. Graphics
    - 1. Figures
    - 2. Text Art
  - E. Flyers/posters
    - 1. Text
    - 2. Graphics



## COMPUTER APPLICATIONS

This class is devoted to the study of a variety of software applications used in the business and personal world.

- I. Paintbrush programs (PCVPlus)
  - A. Student develops mouse dexterity
  - B. Student develops drawings of their choosing
  - C. Student takes pre-made graphics and changes those graphics
  - D. Student integrates these graphics into other programs
- II. PageMaker - desktop publishing
  - A. Student creates documents for multiple uses
    1. Text
    2. Graphics
  - B. Student integrates information and graphics from other programs
- III. Excel - spreadsheet
  - A. Constructing cell information
    1. Text
    2. Numbers
    3. Formulas
    4. Tables
    5. Graphics
  - B. Constructing graphs
  - C. Use of menu and quick tools
- IV. Access - database
  - A. Create data bases
  - B. Constructing base files
  - C. Constructing secondary files
  - D. Creating graphs
  - E. Integrating information from other programs
- V. 3-D Architect - home design program
  - A. Constructing traditional homes
  - B. Constructing modular homes
  - C. Constructing adjoining buildings and fixtures
    1. Decks
    2. Garages
    3. Barns
- VI. Corel 5 - desktop/multi-media publishing
  - A. Constructing documents with multiple uses
    1. Text
    2. Graphics
  - B. Creating sound tracks
  - C. Creating videos
  - D. Creating slide shows
- VII. MSDOS - operating system - student will learn basic MSDOS commands



- VIII. QBASIC - program language - student will write basic programs for introduction to programming
- IX. Windows 3.1 - Student will use basic functions of Windows 3.1 for computer operation
- X. Image Edit - Student will use scanner software to produce graphics.

## COMPUTER PRODUCTIONS

This class is non-traditional in that new material is not covered. It is the application of computer knowledge learned in other classes offered by the district. It is a learn-and-serve based idea. Students produce work for school, staff, and community. One major component is financing and producing the school yearbook.

- I. Annual projects produced - school, staff
  - A. School calendar notebook
  - B. Athletic schedules
  - C. WeñÇ
  - D. Superintendent's letter
  - E. Athletic programs
- II. School yearbook - Solicitation of funds for the yearbook
  - A. Annual Sales
  - B. Advertising
- III. Community projects — Any projects brought in that are reasonable
- IV. Staff projects - Any projects brought in that are reasonable
- V. Administration projects - Any projects brought in that are reasonable
- VI. Personal projects - Class members are allowed to work on personal projects if there are no others in the works (subject matter approved by the instructor)
- VII. Non-community projects - Any projects that are reasonable and approved by the instructor

## DATA PROCESSING

This course has the possibility of having first and second year students at the same time. The second year student has a more independent study environment.

- I. Introduction to basic principles of data processing
  - A. Classification of accounts
  - B. Debits/credits
  - C. Basic accounting formula
  - D. Single entry/double entry accounting
- II. Manual accounting practices
  - A. Book of original entry - journals



1. General journal
2. Sales journal
3. Purchases journal
4. Cash receipts journal
5. Cash payments journal
6. Combination journal
- B. Book of secondary entry - ledgers
  1. General ledger
  2. Accounts payable ledger
  3. Accounts receivable ledger
- C. End of fiscal period forms
  1. Work sheets
  2. Financial reports

### III. Automated accounted practices

- A. Building chart of accounts
- B. General ledger principles
- C. Building vendor list
- D. Accounts payable principles
- E. Building customer list
- F. Accounts receivable principles
- G. End of fiscal period work

Accounting simulations are used extensively for development and reinforcement of the knowledge of data processing.

## CONSUMER ECONOMICS

- I. Payroll - Study different methods of payments for work
  - A. Hourly
  - B. By the job
  - C. Commission
  - D. Bidding
  - E. Per contract
  - F. Incentive pay
  - G. Profit sharing/stock options
  - H. Fringe benefits
- II. Payroll deductions/contributions
  - A. Study employer contributions
    1. Social Security
    2. Federal Unemployment
    3. State Unemployment
    4. Workman's Compensation
    5. Retirement
    6. Insurances
  - B. Payroll register - construct a company payroll register
- II. Banking procedures
  - A. Basic banking concepts
    1. Opening checking account



- 2. Opening savings account
  - B. Bank reconciliation - Projects on balancing checkbooks
- IV. Investments
- A. Personal investments - homes, education, furnishings, automobiles, etc.
  - B. Guaranteed investments
    - 1. Savings accounts
    - 2. Money market accounts
    - 3. Certificates of deposit
    - 4. Bonds
  - C. Risk investments
    - 1. Stock market
    - 2. Get rich quick ideas
  - D. Speculative investments - collectibles such as coins, trading cards, art, stamps
- V. Installment buying
- A. Buying a home
    - 1. Traditional vs. mobile/capsule
    - 2. HUD approval
    - 3. Financing
    - 4. Interest rates
  - B. Buying an automobile
    - 1. New/used
    - 2. Financing
    - 3. Interest rates
  - C. Credit cards
    - 1. Obtaining
    - 2. Interest rates
  - D. Ninety days same as cash
- VI Insurance
- A. Life
    - 1. Whole life
    - 2. Term
  - B. Automobile
    - 1. Types of coverage
    - 2. Whole coverage
    - 3. Liability coverage
  - C. Homeowner
    - 1. Property damage
    - 2. Content damage
    - 3. Liability coverage
  - D. Medical/Optical/Dental
    - 1. Full coverage policies
    - 2. Catastrophic policies
- VII. Income Taxes
- A. W-4 forms
  - B. W-2 forms
  - C. Federal forms



1. 1040 EZ
  2. 1040A
  3. 1040
  4. Schedule A
- D. State forms - Montana

VII. Careers

- A. Build portfolio, resume, letter of application, letters of thank you
- B. Complete application forms
- C. Explore post-secondary education choices
- D. Explore military options
- E. Explore entrepreneurial options
- F. Explore steps for securing employment
- G. Expert visitations in the areas of personal relations and day-to-day occupational needs



# **Business Curriculum**

## **Performance Standards Assessment**

**See tables on following pages.**



## Keyboarding Skills

Content Std	Performance Standard Students will:	Assessment	Resources	Grade Taught
1, 2, 9	be able to operate keyboard with the touch system	20 wpm/1'	Keyboard	7
	be able to run Word Perfect as it applies to keyboarding	30 wpm/1'	Function within software	8
		40 wpm/3'		9
		Teacher will maintain contact with specialists regarding special needs students		

## Keyboarding Production Skills

Content Std	Performance Standard Students will:	Assessment	Resources	Grade Taught
1, 2, 3, 7, 9, 10, 12	produce mailable copies of all documents	Projects will be graded upon completion by the teacher	Tabulation problems	7 - 9
	differentiate between different letter styles, punctuation, and spacing	Teacher will maintain contact with specialists regarding special needs students	Letter styles	
	set up and produce tables and columns within documents as well as separate documents.		Manuscripts	
	learn to use graphic design to enhance documents		Tables	
	produce manuscript with footnotes, bibliography, and title page		Graphics	
	participate in student organizations			





## Software Applications

Content Std	Performance Standard Students will:	Assessment	Resources	Grade Taught
1, 2, 3, 7, 9, 10	learn a variety of software applications	teacher-made tests will be used as appropriate	Word Perfect 5.1/6.1	7 - 12
	be exposed to job related	Projects evaluated by teacher	Excel 4.0	
	apply appropriate applications to projects	Classroom performance will be evaluated by the teacher	Access 2.0	
	learn integration of software	Teacher-made worksheets will be used to measure daily progress when applicable	PageMaker 5.0	
		teacher will maintain contact with specialists regarding special needs students	DOS 6.2	
			Corel 5	
			3-d Architect	
			Q Basic	
			SouthWestern Accounting	

## Data Entry

Content Std	Performance Standard Students will:	Assessment	Resources	Grade Taught
1, 2, 3, 4, 9, 10, 12	learn manual data entry procedures	Teacher-made tests will evaluate student progress	SouthWestern Accounting	9 - 12
	learn automated data entry procedures	Teacher observation of classroom work	Glenco Accounting	
	understand information changes effects through data entry procedures	Teacher-made worksheets will measure daily progress when applicable	Accounting simulations	
	participate in student organizations	Teacher will maintain contact with specialists regarding special needs students.		
	visit career opportunities			



## Consumer Economics

<b>Content Standard (proficiency level)</b>	<b>Performance Standard Students will:</b>	<b>Assessment</b>	<b>Resources</b>	<b>Grade Taught</b>
1, 2, 3, 4, 5, 6, 8, 10	learn to work with personal financial affairs	Teacher- made tests will be used	Fed/St income tax documents	11 - 12
	develop financial concepts	Teacher observation of student performance	Fed/State payroll documents	
	work in groups to solve financial problems	Completed projects will be graded by teacher	Banking procedures	
	learn about career opportunities	Teacher-made worksheets will be used to measure daily progress	Credit cards, loans, investment, insurance, budget	
	participate in student organizations	Teacher will maintain contact with specialists regarding special needs students		
	develop basic eco concepts		Guest speakers	

## Computer Productions

<b>Content Standard (proficiency level)</b>	<b>Performance Standard Students will:</b>	<b>Assessment</b>	<b>Resources</b>	<b>Grade Taught</b>
1,2,3, 5, 6, 7, 8, 9, 10, 12	produce real projects for staff and community	Teacher evaluation of finished projects	PageMaker 5.0	11 - 12
	produce school yearbook	Community/staff evaluation of projects	Yeartech-Josten's	
	solicit advertising to finance yearbook	Teacher will maintain contact with specialists re special needs students	Excel	
	participate in student organizations		WordPerfect 5.1/6.1	
	produce multi-media videos		Corel 5	
	learn to construct multi-media documents			



## Hardware / Equipment

Content Std	Performance Standard Students will:	Assessment	Resources	Grade Taught
1, 2, 3, 7, 8, 9, 10	learn to operate computer hardware/ printers/scanner	Teacher observation of student usage of equipment	486 MSDOS PC's	7 - 12
	learn to operate production equipment	Teacher will maintain contact with specialists regarding special needs students	24 Pin Dotmatrix printers	
	learn occupation oriented skills		Laser printers	
	produce projects using computers and equipment		Bubble Jet printers	
	produce projects for post secondary use		Scanner	
	produce projects for community organizations/businesses		Typewriter	
			10 - Key calculators	
			Pentium 100 PC	
			VCR	
			Copiers	



# Industrial Technology Curriculum

## Course Outlines

### WOODS I AND II

- I. Planning the job
  - A. Introduction to woodworking
  - B. Measurement systems
  - C. Planning a project
  - D. Designing a project
  - E. Working drawing
  - F. General safety
  
- II. Materials
  - A. Wood science
  - B. Logging and sawmill industry
  - C. Grading lumber
  - D. Manufactured board
  
- III. Hand and power tools
  - A. Hand tool review
  - B. Machine tools
  - C. Portable power tools
  
- IV. Fastening techniques
  - A. Joints
  - B. Wood screws
  - C. Nails
  - D. Glues, adhesives, cement
  - E. Hardware
  
- V. Construction techniques
  - A. Leg and rail
  - B. Carcass
  - C. Doors
  - D. Drawers
  - E. Plastic laminate
  
- VI. Finishing
  - A. Abrasives
  - B. Filling
  - C. Stains
  - D. Varnishes
  - E. Lacquers
  - F. Wipe-on finishes



## **METALS / WELDING TECHNOLOGY**

- I. Introduction to welding
  - A. History of welding
  - B. Development of the welding process
- II. Career opportunities in the welding industry
- III. Welding safety practices
  - A. Special equipment and clothing
  - B. Toxic metals and gases
  - C. Oxy-acetylene safety
  - D. Arc-welding safety
- IV. Gas welding, brazing, and cutting
  - A. Equipment set-up
  - B. Oxy-acetylene cutting
  - C. Stringer beads
  - D. Joint design and basic welds
  - E. Inspection and testing of welds
- V. Electric arc welding
  - A. Equipment and set-up
  - B. Electrode types
  - C. Stringer beads
  - D. Joint design and basic welds
  - E. Inspection and testing of welds
  - F. Arc cutting of metals (plasma arc cutting)
  - G. Gas metal arc welding and equipment
- VI. Basic metallurgy
  - A. Properties of metals
  - B. Heat-treating steel
- VII. Sheet-metal design and fabrication
  - A. Careers in sheet-metal industry
  - B. Sheet-metal safety
  - C. Introduction and overview
  - D. Straight line pattern development
  - E. Parallel and radial line development
  - F. Cutting methods
  - G. Drilling, forming and beading
  - H. Assembly and fastening



## **POWER FUNDAMENTALS**

- I. Energy sources
  - A. Renewable energy sources
  - B. Limited energy sources
  - C. Unlimited energy sources
  - D. Human and muscle power
  - E. Solar energy
  - F. Chemical energy
  - G. Gravitational energy
  - H. Geothermal energy
  - I. Nuclear energy
  
- II. Measuring mechanical force
  - A. Work and energy
  - B. Work and power
  - C. Horsepower
  
- III. Engines
  - A. External combustion
  - B. Internal combustion
    - 1. 2-stroke gasoline engines
    - 2. 4-stroke gasoline engines
    - 3. Diesel engines
  
- IV. Reaction Engines
  - A. Jet engines
  - B. Rocket engines (solid propellant and liquid propellant)
  
- V. Nuclear reactors
  
- VI. Electric motors
  
- VII. Transmissions
  - A. Mechanical
  - B. Hydraulic
  - C. Pneumatic
  - D. Electrical
  - E. Magnetic

## **MATERIAL PROCESSES**

- I. Wood processes
  - A. Identification
  - B. Lumbering and saw milling
  - C. Woodworking safety
  - D. Milling and machining of wood
  
- II. Plastic technology



- A. History and development of plastic
- B. Acrylic plastics
  - 1. External carvings
  - 2. Internal carvings
- C. Plastic resins
  - 1. Castings
  - 2. Plastic dipping
- D. Injection moldings
- E. Vacuum forming
- F. Expandable bead moldings
- G. Vinyl dispersions
  - 1. Slush moldings
  - 2. Rotational moldings

### III. Metal crafts

- A. Mining and milling of metals
- B. Metal tooling
- C. Metal repousse
- D. Basic foundry processes

### IV. Leather crafts

- A. History of leather
- B. Working and tooling leather

## **DRAFTING / CAD**

### I. Introduction to drafting

- A. Careers
- B. Drafting as an international communication
- C. Lettering and sheet layout
- D. Sketching techniques and practice
- E. Alphabet of lines

### II. Basic geometric construction

- A. Bisecting and dividing lines and arcs
- B. Polygon construction
- C. Drawing arcs, chamfers, and fillets
- D. Drawing tangents
- E. Constructing circles and ellipses

### III. Multi-view drawings

- A. Orthographic projections
- B. Working drawings
- C. Transferring points

### IV. Sectional views

- A. Pictorials
  - 1. Perspective drawings (parallel and angular)



- 2. Oblique drawings (general, cabinet, and cavalier)
- 3. Isometrics
- B. Architectural drafting
  - 1. Floor plans
  - 2. Window and door schedules
  - 3. Wall sections
  - 4. Elevations

## **SEVENTH AND EIGHTH TECHNOLOGY EDUCATION**

### **I. Technology in a changing world**

- A. Introduction
- B. What is technology?
- C. Where did technology begin and how does it affect our lives
- D. Exponential change

### **II. Resources for technology**

- A. The seven resources of a technological system (people, materials, tools, machines, energy, capital, and time)
- B. Natural resources
  - 1. Raw materials (renewable, nonrenewable, and recyclable)
  - 2. Careers associated with natural resources

### **III. Introduction to woodworking**

- A. Careers in woodworking
- B. General wood science
- C. General shop safety
- D. Handtool identification, safety, and use
- E. Fastening techniques
- F. Sandpapers and sanding techniques
- G. Finishing techniques

### **IV. Introduction to industrial plastics**

- A. Brief history of plastics
- B. Epoxy inlays
- C. Injection moldings





# **Industrial Technology Curriculum**

## **Performance Standards Assessment**

**See tables on following pages.**



## Safety Skills

<b>Content Standard (proficiency level)</b>	<b>Performance Standard Students will:</b>	<b>Assessment</b>	<b>Resources</b>	<b>Grade Taught</b>
5, 6, 8	recognize safety as a key element in industry	Teacher observation of students and safety tests	Textbooks, videos, tools, etc.	7 - 12
1 3, 4	understand the financial aspects of safety in relation to industry	Teacher administered tests and worksheets as needed	Industry and gov. agencies	7 - 12
1, 5, 6, 8, 11	understand how behavior affects co-worker safety	Teacher observation of student behavior	Specialists as needed	7 - 12
8	identify and use safety equipment appropriate for specific tasks and tools	Teacher administered safety tests and observation of behavior	Equipment: face-shields, glasses, welding helmets, gloves, etc.	7 - 12
8	develop specific safety habits for specific tasks, tools, and machines	Teacher administered safety tests / behavior observation	Tools, machines, safety equipment,	7 - 12

## Construction Skills

<b>Content Standard</b>	<b>Performance Standard Students will:</b>	<b>Assessment</b>	<b>Resource</b>	<b>Grade Taught</b>
1, 2, 3, 4, 7, 9, 10	become aware of building techniques used in construction industry	Teacher evaluation of tests and projects	Textbooks, tools, field trips, speakers and videos	7 - 12
1, 2, 3, 4, 7, 9, 10	become acquainted with principles of "Super Good Sense" construction	Teacher evaluation of tests, tasks and projects	Textbooks, field trips, pamphlets, speakers, videos	9 - 12
1, 4, 9, 10	become familiar with mechanical fastening devices used in industry	Teacher evaluation of tests and projects	Screws, nails, bolts, and other fasteners	7 - 12
1, 4, 10	become familiar with joints used in industry	Teacher evaluation of tests and projects	Joint preparations for diverse media	7 - 12
1, 2, 3, 4, 9, 10	learn to modify materials to take advantage of their properties	Teacher evaluation of tests and projects	Experiments in metallurgy: heat, combination, soaks, steam, other	9 - 12



## Manufacturing Skills

<b>Content Standard</b>	<b>Performance Standard Students will:</b>	<b>Assessment</b>	<b>Resource</b>	<b>Grade Taught</b>
1, 2, 8, 10	correctly and safely use a variety of hand tools used in industry	Teacher evaluation of student behavior, projects, tasks, tests	Numerous hand tools, tests, videos,	7 - 12
1, 2, 8, 10	correctly and safely use a variety of power tools used by the woods industry	Teacher evaluation of student behavior, projects, tasks, tests, etc.	Power tools including but not limited to: sanders, routers, jitters, saws, and planers	8 - 12
1, 2, 8, 10	correctly and safely use a variety of welders used in industry	Teacher evaluation of student behavior, projects, tasks, tests, etc.	Shielded metal-arc welders, wire-feed welders, gas metal-arc welders, plasma arc cutter, electric spot welder, gas welders and cutters	9 - 12
1, 2, 8, 10	correctly and safely use a variety of power tools used in the metals industry	Teacher evaluation of student behavior, projects, tasks, tests, etc.	Power tools including but not limited to: chop-saws, band saws, lathes, grinders, sanders, mills, and cutters	9 - 12
1, 2, 8, 10	correctly and safely use a variety of tools used in the sheet-metal industry	Teacher evaluation of student behavior, projects, tasks, tests, etc.	Hand tools and shears, box and pan breaks, squaring shears, slip rollers, etc.	9 - 12
1, 2, 8, 10	correctly and safely use a variety of tools used by the automotive industry	Teacher evaluation of student behavior, projects, tasks, tests, etc.	Taps and dies, micrometers, presses, various grinders, engine stands and pullers, etc.	9 - 12
1, 2, 8, 10	correctly and safely use a variety of tools used by the plastics industry	Teacher evaluation of student behavior, projects, tasks, tests, etc.	Molds: casting, rotational, injection, slush, and expandable bead; inlays, vacuum forming machines, carving drills and others	7 - 12



## Career Skills

<b>Content Std</b>	<b>Performance Standard Students will:</b>	<b>Assessment</b>	<b>Resources</b>	<b>Grade Taught</b>
1, 3, 9, 11, 12	explore variety of career opportunities in industrial world	Tests, worksheets, field trip observations, student reports	Text, field trips, media presentations	7 - 12
3, 5	compile reports on industrial occupations	Teacher evaluation of presentation skills	Multimedia, field trips	9 - 12
1, 2, 3, 11	understand entry level requirements for industrial occupations	Teacher administered tests, worksheets, field trips	Multimedia, guest speakers	7 - 12
1, 2, 3, 9, 11, 12	understand apprenticeship	Teacher administered tests, worksheets, and observations	Text, field trips, multimedia, guests	7 - 12
1, 2, 3, 9, 11	work toward "license" is various industry jobs	Sample "certification tests"	Job certification standards	9 - 12
1, 3, 11	learn difference between jobs requiring "advanced degrees" and "on the job training"	Teacher made tests when appropriate	Textbooks, field trips, videos, guest speakers	7 - 12
1, 2, 3, 7, 11, 12	recognize different levels of post-secondary education as related to careers in Industry	Teacher-made tests when appropriate	Textbooks, guest speakers, videos, etc.	7 - 12
2, 3, 4, 11	investigate salary levels of industrial related jobs	Teacher evaluation of student reports	Texts, guest speakers, videos	7 - 12
3, 4	examine costs related to obtaining entry level requirements for industry	Teacher evaluation of student reports	Texts, speakers, videos etc.	9 - 12
3, 6, 9	recognize the role of natural resources in an economy	Teacher-made tests and worksheets when appropriate	Textbooks, videos etc.	7 - 12
3, 6, 9	recognize how technological advances affect an economy	Teacher-made tests and worksheets when appropriate	Textbooks, videos etc.	7 - 12



## Communication and Planning Skills

<b>Content Standard</b>	<b>Performance Standard Students will:</b>	<b>Assessment</b>	<b>Resources</b>	<b>Grade Taught</b>
1, 2, 3, 9, 10	develop problem-solving skills	Teacher administered worksheets, tests, drawings	Drafting equipment CAD programs	9 - 12
1, 2	develop proper lettering techniques	Teacher will assess lettering techniques in assignments	Drafting equipment CAD Programs	9 - 12
1, 2	gain proficiency in the use of drafting equipment	Teacher observation and assessment of assignments	Drafting equipment	7 - 12
1, 2, 10	develop the power of visualization	Teacher assessment of projects/ drawings	appropriate equipment	7 - 12
1, 2, 10	increase measuring skills	Teacher assessment of assignments	Arch. engineering, and metric scales, CAD programs, micrometers,	7 - 12
1, 2, 10	gain knowledge of orthographic projects	Teacher assessment of drawings and assignments	Drafting equipment and CAD programs	9 - 12
1, 2, 10	gain knowledge of pictorial drawings (perspective, oblique, and isometrics)	Teacher assessment of assignments, projects	Drafting equipment and CAD programs	8 - 12
1, 5, 6, 7, 11	develop responsibility and citizenship skills	Teacher assessment of behavior and progress where appropriate	Specialists, and others when needed (Resource Room, school psychologist, counselors, etc.)	7 - 12
5	gain personal satisfaction	Teacher observation of student behavior where appropriate	I. A. shows and fairs, and opportunities for students to display their work	7 - 12
1, 2, 3, 9, 12	become familiar with current and emerging drafting technologies (CAD, CAM, etc.)	Teacher administered tests and assignments	Texts, videos, CAD, robotic arms, CNC milling machine	9 - 12
1, 2, 9	gain added knowledge of construction and construction techniques	Teacher assessment of assignments	Texts, videos, CAD, robotic arms, CNC milling machine	9 - 12
1, 2, 10	gain an understanding of the "International Graphic Language" (symbols, line types, etc.)	Teacher evaluation of assignments	Texts, drafting equipment, Cad programs (Auto-Cad)	7 - 12



1, 2, 4	gain an understanding of material and project costs	Teacher evaluation of student "Bill of Materials"	Texts, field trips, etc.	7 - 12
9	be introduced to "Fiber Optics"	Teacher evaluation of appropriate assignments	Texts, worksheets, tests	9 - 12
7, 10	develop organizational and planning skills	Teacher evaluation of student "Plan of Procedure" and student progress		7 - 12



## Transportation Skills

<b>Content Standard (proficiency level)</b>	<b>Performance Standard Students will:</b>	<b>Assessment</b>	<b>Resources</b>	<b>Grade Taught</b>
1, 2	develop problem-solving skills	Teacher evaluation by observation	Mechanic tools/machines	9 - 12
9, 10	distinguish between 3 categories of energy (renewable, limited, unlimited)	Teacher administered tests/worksheets	Texts, handouts, and field trips	9 - 12
1, 2, 9, 10	become familiar with different types of engines	Teacher evaluation of tests / projects	Texts, engines (wind, solar, gasoline, diesel, electric, etc.	9 - 12
3, 9	identify types of potential energy	Worksheets, tests, and hands-on activities	Muscle power, solar, chemical, gravitational, geothermal, and nuclear energy	9 - 12
1, 2, 7, 10	develop time management for project completion	Teacher evaluation of progress	Hands-on activities: rebuild electric motor, small engine over-haul, model rocket construction	9 - 12
1, 9	understand relationship of power and energy	Teacher developed tests, worksheets, and activities	texts and equipment	9 - 12
1, 9, 10	understand relationship between work and power	Teacher administered tests, activities, and worksheets	Texts and shop equipment	9 - 12
1, 9, 10	understand difference between external and internal combustion engines	Teacher evaluation of student worksheets, and projects	Texts and hands-on learning activities	9 - 12
1, 9, 10	understand principles/parts of a small gas engine	Teacher evaluation of projects / tests	Small gas engines and tools	9 - 12
1, 9, 10	understand transmission systems	Teacher evaluation of student worksheets, tests, and tasks	Texts and shop equipment/tools	9 - 12
1, 9, 10	understand and apply principles of Newton's Third Law	Teacher administered tests, worksheets, and activities	Rocket kits, small engines, etc.	9 - 12



# Family and Consumer Sciences Curriculum

## Course Outlines

### SEVENTH GRADE

I. Introduction to family and consumer sciences

- A. Different areas
- B. Classroom
- C. Grading procedure
- D. Course syllabus

II. Child care

- A. Responsibilities of sitters
- B. Responsibilities of parents
- C. Child safety
- D. Toy safety
- E. Job market
- F. Extra care

III. Textiles and clothing

- A. Sewing construction
- B. Sewing safety
- C. Proper cutting
- D. Sewing terms
- E. Following directions
- F. Quality construction
- G. Factory simulation

IV. Foods and nutrition

- A. Safety and sanitation
- B. Small equipment
- C. Large equipment
- D. Measuring and management
- E. Equivalentents
- F. Terms
- G. Reading a recipe
- H. Basic baking
- I. Breakfast
- J. Food guide pyramid

### EIGHTH GRADE

I. Introduction to family and consumer sciences (review of Seventh Grade course material)

- A. Different areas
- B. Classroom
- C. Grading procedure





- D. Course syllabus
  
- II. Design
  - A. Color
  - B. Principles of design
  - C. Relationship to housing and textiles
  
- III. Textiles and clothing
  - A. Project selection
  - B. Sewing safety
  - C. Proper cutting
  - D. Sewing terms
  - E. Following directions
  - F. Quality construction
  - G. Use of serger sewing machine
  - H. Pattern information
  - I. Sewing machine and its parts
  
- IV. Foods and nutrition
  - A. Safety and sanitation
  - B. Measuring and management
  - C. Equivalents
  - D. Terms
  - E. Ingredients and purposes
  - F. Basic nutrition
  - G. Lunch

## **INTRODUCTION TO FAMILY & CONSUMER SCIENCES**

- I. Personal development
  - A. Direction
    - 1. Concept of direction
    - 2. Dream list
    - 3. Goal setting and decision making
  - B. Belief
    - 1. Belief is internally based
    - 2. Influences in belief or doubt
    - 3. Strengthen belief
  - C. Discipline
    - 1. Effort and persistence
    - 2. Stumbling blocks
    - 3. Stepping stones
  - D. Conclusion
  
- II. Child development
  - A. Areas of development
  - B. Developmental stages
    - 1. Infants



- 2. Toddlers
- C. Child development laboratory
  - 1. Observations
  - 2. Learning experience
  - 3. Student responsibilities

III. Food and nutrition

- A. Food preparation
  - 1. Meats
  - 2. Grains
  - 3. Dairy products
  - 4. Fruits and vegetables
- B. Nutrition
  - 1. Nutrients
  - 2. Dietary information
- C. Service
  - 1. Etiquette
  - 2. Table setting

IV. Housing and home furnishing

- A. Principles of design
- B. Floor plans
- C. Managing space

**INTERMEDIATE FAMILY AND CONSUMER SCIENCES**

I. Food and nutrition

- A. Food preservation
  - 1. Dehydration
  - 2. Freezing
  - 3. Canning and pickling
  - 4. Jams and jellies
- B. Foreign foods
  - 1. Food habits
  - 2. Ethnic background
  - 3. Influences on food choices
  - 4. Demonstrations and techniques
- C. Meal planning

II. Housing and home furnishing

- A. Personal living space
  - 1. Low cost decoration
  - 2. Interior furnishings
- B. Interior design
  - 1. Room arrangements
  - 2. Structural features
  - 3. Actual home model
- C. Home furnishings
  - 1. Furniture selection
  - 2. Treatments



3. Accessories

III. Textiles and clothing

- A. Fabric production
  - 1. Fiber identification
  - 2. Fiber production
  - 3. Construction of yarn
  - 4. Construction of fiber
  - 5. Dyeing and printing
  - 6. Finishes
- B. Fabric selection
- C. Wardrobe planning
- D. Construction
  - 1. Pattern
  - 2. Alterations
  - 3. Sizing
  - 4. Selection
  - 5. Techniques

IV. Family development

- A. Readiness of parenting
  - 1. Level of personal development
  - 2. Economic considerations
- B. Responsibilities of parents
  - 1. Special children
  - 2. Needs
- C. Pre-school experience - plan and carry out a pre-school

**ADVANCED FAMILY AND CONSUMER SCIENCES**

I. Child development

- A. Theories
- B. Stages
- C. Responsibilities of parents
- D. Development of parenting skills
- E. Career opportunities
  - 1. Working with children
  - 2. Working with adults

II. Clothing and textiles

- A. Textiles
  - 1. Special fabrics
  - 2. Dyeing and printing
- B. Fashion history and apparel
- C. Advanced construction
- D. Clothing for the family
- E. Recycling and designing garments
- F. Clothing and textile careers

III. Consumer economics



- A. Personal decisions
  - B. Consumer skills
  - C. Transportation selection
  - D. Financial services selection
  - E. Investing
  - F. Credit selection
  - G. Budgeting
  - H. Health services selection
  - I. Consumer education careers
- IV. Family life and life management
- A. Mate selection
  - B. Marriage preparation
  - C. Factors affecting marriage
  - D. Alternatives to marriage
  - E. Dissolution of marriage
  - F. Domestic violence
  - G. Continuing life cycle
  - H. Death and dying
  - I. Family life careers
- V. Housing and environmental design
- A. Influence on community housing
  - B. Housing selection
  - C. Housing interiors
  - D. Housing exteriors
  - E. CAD program evaluations
  - F. Housing and home furnishing careers
- VI. Food and nutrition
- A. Advanced food preparation
  - B. Food supply
  - C. Kitchen facilities
  - D. Vocational foods
  - E. Restaurant management
  - F. Food and nutrition careers



## CONSUMER ECONOMICS

### I. Family economics and housing

- A. Housing selection
  - 1. Needs
  - 2. Moving
  - 3. Renting
  - 4. Home ownership
  - 5. Alternative housing
  - 6. Utilities and maintenance costs
- B. Budgeting
  - 1. Values / life style
  - 2. Family life cycle
  - 3. Establishing priorities
  - 4. Income/expenses
- C. Housing and home furnishing careers
  - 1. Design
  - 2. Structural
  - 3. Technical
  - 4. Local job opportunities

### II. Clothing and textiles

- A. Clothing care
  - 1. Maintenance
  - 2. Simple repairs
- B. Buying and selecting ready-to-wear
  - 1. Wearability in relation to economic value
  - 2. Aspects of clothing
  - 3. Wardrobe planning
  - 4. Shopping skills
  - 5. Consumer rights and responsibilities
- C. Clothing and textile careers
  - 1. Career opportunities
  - 2. Local job opportunities

### III. Food and nutrition

- A. Meal planning
  - 1. Food habits / special needs
  - 2. Food additives
  - 3. Food and health - eating disorders
  - 4. Menu planning
  - 5. Shopping skills
    - a. Food budget
    - b. Shopping awareness
  - 6. Management

### IV. Family development

- A. Readiness for parenting
  - 1. Level of personal development
  - 2. Economic considerations
- B. Birth process
  - 1. Pregnancy



2. Prenatal concerns
  3. Postpartum care
  4. Birth defects
    - a. Genetic causes
    - b. Environmental causes
  - C. Responsibilities of parents
    1. Special children
    2. Basic needs
    3. Developing skills
    4. Changes within the family life cycle
- V. Career exploration
- A. Job readiness
  - B. Resume
  - C. Interview
  - D. Speakers from various careers
  - E. Letters

## TEXTILE DESIGN

- I. Design
- A. Observation
    1. Seeing
    2. Inspiration
    3. Visualization
  - B. Color
    1. Design principles
    2. Fabric dyes
      - a. Marbleizing
      - b. Natural dyes
      - c. Others
  - C. Texture
    1. Sewing techniques
    2. Fabric manipulation
- II. Fashion
- A. History
  - B. Trends
  - C. Future
  - D. Careers / entrepreneurship
- III. Sewing skills
- A. Pattern making
    1. Flat pattern
    2. Draping
  - B. Sewing skills
  - C. Computer aided design
    1. Sewing machines
    2. Designing
    3. Pattern making
- IV. Individual projects



- A. Contract and time line
- B. Portfolio
- C. Evaluation



# **Family & Consumer Sciences Curriculum**

## **Performance Standards Assessment**

**See tables on following pages.**





## Child Development

<b>Content Standards</b>	<b>Performance Standards Student will:</b>	<b>Assessment</b>	<b>Concepts</b>	<b>Grade Taught</b>
1, 3, 8, 10	Acquire child care skills needed for child care and child care careers	Work sheets, lab participation observation, teacher made test	child care	7 - 12
5, 7, 8, 10	Assess personal readiness and responsibilities of parenting	Written questionnaires over material covered, Baby Think It Over experience	Parenting	11 - 12
4, 5, 9	Investigate and summarize the developmental stages of pregnancy and prenatal concerns	Written questionnaires over material, teacher made tests	Pregnancy	10 - 12
3, 5, 6, 8, 10, 12	Identify and describe the stages of development of a child birth to six years	teacher made tests, worksheets, lab participation in pre-school	Child	7 - 12
3, 4, 5, 7, 8, 11	Categorize areas of special needs of children and appropriate sources of help	Oral report evaluation presented to class, research conducted, teacher made tests, written questions of material covered	Special children	10 - 12
3, 4, 5, 7, 8, 11	Examine the causes of birth defects and possible changes within family relations	Oral discussion over films, teacher made tests, written questionnaires	Birth defects	11 - 12
1, 3, 4, 5, 7, 8, 10	Prepare a plan for organizing and operating a child care facility	Actual pre-school activities, participation in pre-school, student written evaluations of pre-school	Child development laboratory	10 - 12



## Clothing / Technology

Content Standards	Performance Standards Student will:	Assessment	Concepts	Grade Taught
4, 5, 6, 10	Examine factors influencing selection of ready-to-wear	Style selection and comparison worksheets	Ready-to-wear, design	8, 11
1, 3, 4, 8, 9, 10	Create a garment with the use of a pattern applying pattern selection and construction skills	Student evaluation, sewing standards, daily participation, teacher made tests	Construction	7 - 12
3, 4, 7, 8, 10	Demonstrate clothing care techniques	Worksheet, mending samples, teacher made test	Clothing care	11
3, 4, 7, 9, 10	Relate fiber and fabric qualities to product design/function	Lab results, identification, teacher made tests, product evaluation	Textiles	9 - 12
1, 3, 4, 7, 9, 10	Apply advanced techniques to clothing construction/fit	Student evaluation, sewing standards, daily participation, teacher made tests	Construction	11-12
1, 3, 4, 5, 6, 10	Recycle a garment by redesign or other modification	Student evaluation, sewing standards, daily participation	Design	9 - 12
2, 3, 9, 11, 12	Explore and evaluate careers in clothing and textile	Teacher made tests, student evaluations	Careers	7 - 12

## Consumer Education

Content Standards	Performance Standards Student will:	Assessment	Concepts	Grade Taught
4, 5, 6, 7, 10,12	Apply management and decision making to a task	Keeping to a schedule, worksheets, teacher made tests, group participation	Problem solving, decision making	7 - 12
5, 6, 10 12	Apply creative and critical thinking to individual needs	Worksheets, participation, product evaluations	Problem solving	7 - 12
1, 4, 5, 10, 12	Assume responsibility for personal finance decisions	Worksheets, group participation	Problem solving, finance	11
4, 5, 6, 7, 10, 12	Integrate consumer skills into personal life by combining information with integrity, self-management, responsibility, self esteem, and sociability	Worksheets, financial simulations, teacher made tests, shopping trips, and comparison shopping	Consumer skills	7 - 12



## Family Life

<b>Content Standards</b>	<b>Performance Standards Student will:</b>	<b>Assessment</b>	<b>Concepts</b>	<b>Grade Taught</b>
1, 5, 6, 10	Assess factors affecting personal self-concept	Worksheets, self evaluation	Self	9
1, 5, 6, 7, 10, 11, 12	Examine goals and values in understanding self	Worksheets, self evaluation, Teacher made tests	Values, standards, goals	9, 11
1, 5, 6, 7, 10, 11, 12	Develop positive strategies for coping with peer pressures	Worksheets, self evaluation, teacher made tests	Pressures	9, 11
5, 6, 8, 11	Utilize sources of intervention and help in cases of abuse for self or others	Worksheets, self evaluation	Violence and abuse	11
3, 4, 5, 6, 9, 10	Examine and analyze issues and concerns of teenagers	Discussion participation, reports, worksheets	Issues	9 - 12
1 - 12	Investigate career opportunities, aptitudes, and skills in family life occupations	Reports, presentations, interviews	Career	11 - 12
1, 2, 5, 6, 10	Analyze communication styles and their effect on relationships with others	Class projects, student evaluation	Communication	9, 11
3, 4, 5, 6, 7, 10, 11, 12	Analyze factors related to readiness for establishing long-term relationships and marriage	Class projects, student evaluation, teacher made tests	Marriage	11, 12



## Food and Nutrition

Content Standards	Performance Standards Student will:	Assessment	Concepts	Grade Taught
1, 8, 10	Apply safety and sanitation practices in the kitchen	Lab observation, teacher made quizzes, tests	Safety and sanitation	7 - 12
1, 2, 3, 7, 8, 9, 10	Interpret recipes and demonstrate proper use of kitchen equipment	Lab observation, student/teacher evaluations	Recipes	7 - 12
2, 3, 4, 5, 11	Select a balanced diet to meet one's individual body needs	Diet planning sheets, computer programs analysis, student evaluation, teacher made tests	Diet	7 - 12
1, 4, 7, 8, 9, 10	Incorporate management of time, money, energy, skills, space, and food choices in planning a meal	Lab observation, teacher made tests, student/teacher evaluations	Meal planning	7 - 12
5, 8, 10, 11	Identify the multiple factors which are related to eating disorders, food choices, and general good health	Teacher made tests	Nutrition	11
1, 3, 5, 7, 10, 12	Practice food preparation skills	Food Lab Evaluations Assessment	Food labs	7 - 12
1, 2, 3, 4, 9, 11, 12	Investigate entrepreneurship opportunities in foods and nutrition	Worksheets, interviews, reports	Careers	10 - 12

## Life Management

Content Standards	Performance Standards Student will:	Assessment	Concepts	Grade Taught
5, 6, 10, 12	Manage resources by using goals and decision making	Goals established, worksheets	Finances	9, 11, 12
1, 3, 4, 5, 10	Evaluate work site, benefits, and choices on family	Notebooks, handouts, worksheets, questions & evaluations	Career	11, 12
1, 2, 3, 9, 11, 12	Examine career choices in light of interests & aptitudes	Reports, speak evaluations, notebooks	Career	9 - 12
1, 3, 4, 6, 12	Apply financial management principles to financial planning for individual and family	Worksheets, teacher made tests	Finance	11, 12



## Housing and Environmental Design

<b>Content Standards</b>	<b>Performance Standards Student will:</b>	<b>Assessment</b>	<b>Concepts</b>	<b>Grade Taught</b>
4, 5, 8, 10, 11	Develop an appreciation for personal living space needs / wants for all family members	Worksheets, teacher made tests, student evaluations	Personal space	9 - 12
3, 4, 7, 8, 10, 11	Identify home care and maintenance related to all family members	Worksheets, teacher made tests	Home care	11
4, 5, 7, 8, 10	Evaluate influences on family housing selection	Worksheets, teacher made tests	Housing selection	11
1, 3, 4, 5, 7, 9	Plan an interior area using art principles and design elements related to furnishings and interior design	Evaluations of plans, lab evaluations, worksheets	Design	9, 10, 12
4, 6, 8, 10, 11	Examine the local standards and codes for building and interior renovation	Reports, teacher made tests	Community housing	11, 12
3, 4, 9, 10	Analyze housing exteriors with respect to architectural style, construction materials used, and landscaping	Examples (pictures & field trips), teacher made tests	Housing exteriors	11, 12
1, 2, 3, 8, 9, 10, 12	Explore housing and environmental design careers by assessing opportunities, aptitudes, and skills needed	Reports, field trips, speaker summaries	Careers	11, 12