

CAREER AND LIFE SKILLS EDUCATION

RENTON SCHOOL DISTRICT #403

Renton, Washington



**INFORMATION TECHNOLOGY – ELECTRONIC MATH
APPLICATIONS**

Curriculum Guide

Approved by the Board: April 9, 2003

If you have special needs which require this document to be provided in an alternative format, please contact the school principal (or program director) or Kay Hermann, ADA/509 Compliance Coordinator, 425-204-2421, 300 S.W. 7th St., Renton, WA 98055-2307.

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A PHILOSOPHY OF EDUCATION FOR THE RENTON PUBLIC SCHOOLS

A basic function and duty of a free society is the education of its children, youth and adults.

It is the responsibility of the schools to provide each student with the opportunities necessary to develop the scholarship, skills and attitudes which will enable the student to achieve mental, physical, emotional and social maturity.

Further, each student should, as a result of the school experience, be able to make decisions and to accept responsibility for those decisions.

POLICY: 6001

ADOPTED: February 3, 1977

Renton School District No. 403

Renton, Washington

Renton School District #403 recognizes the need for every graduate to have acquired job entry skills or at least to possess a level of knowledge and skills permitting continued training after high school.

GENERAL INSTRUCTIONAL GOALS

Policy 6010

The Renton School District fosters an educational process that helps all students achieve at their highest potential.

The Renton School District:

LEARNING

- Offers a curriculum that prepares our students for the future.
- Emphasizes that diversity contributes positively to the individual and to the community.
- Provides learning experiences matched to the needs, interests and abilities of our diverse student population.
- Extends learning opportunities beyond the school.

INSTRUCTION

- Offers a variety of high quality instructional resources and services to students, staff and community.
- Supports multiple instructional strategies.
- Provides resources and opportunities for continuing professional development of our staff.
- Conducts ongoing evaluations of our instructional programs.
- Maintains safe and inviting facilities that are conducive to learning.

COMMUNITY

- Creates partnerships that involve students, parents, staff and other community members and organizations.
- Promotes effective communication.
- Values and encourages development of a spirit of community service.
- Respects the rights and responsibilities of all.

As a result of the educational process in Renton, students will understand and apply:

Language skills including reading, writing and communication, with opportunities to learn world languages.

Mathematics skills including concepts, procedures, problem solving, reasoning and mathematical language.

Science Skills including concepts, principles, and the scientific process.

Social studies skills, concepts, and processes - emphasizing history, geography, economics, international perspectives, multiculturalism and participatory democracy.

Arts and humanities skills, concepts, and processes to create, perform, and solve problems and respond effectively.

Health and physical education skills, concepts, and processes to promote lifelong physical, mental and social well being.

In order to strengthen the above curricular areas, Renton students will understand and apply:

Thinking skills including the ability to - gather and analyze information, think logically, critically and creatively, integrate experience and knowledge in making reasoned judgments, and solve problems.

Career and life skills necessary for successful and responsible participation in family, work and community.

Technological skills to support learning, problem solving and communication.

Skills necessary to be a lifelong learner and a contributor to the general welfare and the quality of life for all.

EVALUATION: The Renton School District regularly reviews, evaluates and modifies these General Instructional Goals to meet the changing needs of students, staff and community.

CAREER AND LIFE SKILLS EDUCATION GOALS

GOAL 1: PROVIDE HIGH QUALITY CAREER AND LIFE SKILLS EDUCATION PROGRAMS AND SERVICE

Objectives:

- A. Assure that students completing Career and Life Skills Education programs have technical and behavioral competencies and basic skills sufficient to succeed in the workplace or higher education.
- B. Establish course and/or program transferability and articulation processes among K-12, community and technical colleges, private schools, colleges and universities, industry, apprentice-related training, and military training.
- C. Establish and regularly review standards for all Career and Life Skills Education programs.
- D. Evaluate Career and Life Skills programs based on standards, objectives, placements, job performance, costs, and community/industry acceptance.
- E. Utilize global, national, state, regional, and local data and advisory committee recommendations to identify appropriate curriculum and course offerings, program standards which meet the need of families, communities, business and industry.
- F. Provide facilities, equipment and instructional programs which meet the needs of a changing workplace.
- G. Revise or discontinue these programs that no longer meet the needs of students, business, labor, industry, and/or the community.
- H. Provide qualified instructors and administrators for Career and Life Skills Education based on relevant certification standards.
- I. Develop and utilize competency-based curricula for Career and Life Skills Education programs.

GOAL 2: CONTRIBUTE TO THE ECONOMIC DEVELOPMENT OF THE STATE

Objectives:

- A. Facilitate cooperation between public and private sector entities.
- B. Establish new Career and Life Skills Education programs based on existing and projected employment needs/demands and entrepreneurial opportunities.
- C. Work cooperatively with the public and private sectors, economic development organizations, labor, and educational institutions to provide creative, targeted programs that meet the needs of youth in economically depressed areas.
- D. Provide family life education programs that serve to strengthen families and contribute to the effectiveness of workers in managing their consumer and family roles and in their careers.
- E. Strengthen management skills for those seeking employment in worker owned and managed businesses.
- F. Create a stronger working partnership with Team Washington and other economic agencies and the associate development organizations.

GOAL 3: ASSURE ALL INDIVIDUALS EQUAL ACCESS TO CAREER AND LIFE SKILLS EDUCATION PROGRAMS, SERVICES, AND ACTIVITIES

Objectives:

- A. Provide Career and Life Skills programs, services, and activities that are free from racial, socio-economic, age, ethnic or sex bias, discrimination or stereotyping.
- B. Provide access to barrier-free Career and Life Skills Education programs.
- C. Actively recruit under-represented groups to all aspects of Career and Life Skills Education.
- D. Provide supportive services that promote entrance and success in Career and Life Skills programs.

GOAL 4: PROVIDE/UTILIZE AN INTEGRATED STATE PLANNING PROCESS

Objectives:

- A. Involve business, industry, agriculture, labor and other governmental and educational agencies in the planning processes at the state and local levels to ensure that establishment of delivery objectives and budget priorities.
- B. Identify instructional area/programs based on demand, placements, training needs, program costs, and follow-up.
- C. Utilize local, regional, state, national and global employment data, trends and advisory committees/organizations in identifying program offerings.

GOAL 5: PROVIDE AND MARKET CAREER AND LIFE SKILLS EDUCATION

Objectives:

- A. Increase public awareness, understanding, and acceptance of Career and Life Skills Education.
- B. Actively involve students, parents, community leaders, legislators, labor representatives, business organizations, industry, representatives, and other decision-makers from state and local arenas in Career and Life Skills Education program events and issues.

GOAL 6: PROVIDE INDIVIDUALS WITH CAREER DEVELOPMENT PROGRAMS AND EXPERIENCES

Objectives:

- A. Provide career orientation, exploration, occupational information, self-appraisal, and educational planning.
- B. Provide instruction in job search, job retention and job change skills and further education pursuits.
- C. Assure that Career and Life Skills Education programs encompass demands of today's workplace and include attitudinal, employability, leadership, basic interpersonal, and job specific skills.

GOAL 7: ASSURE A QUALITY STAFF DEVELOPMENT PROGRAM

Objectives:

- A. Provide appropriate channels for advisory committee recommendations in the program and policy-making process.
- B. Provide in-service training opportunities for local advisory committee members.
- C. Provide in-service training for administrators and Career and Life Skills Education instructors regarding the effective use of advisory committees.

Renton, Washington

CAREER AND LIFE SKILLS EDUCATION

Renton School District #403 operates a comprehensive Career and Life Skills Education Program through its four comprehensive high schools and two alternative programs. The District also participates in two countywide Tech Prep consortia with local community and technical colleges. This partnership allows students to earn college credit while still enrolled in high school programs. Secondary and post-secondary curricula are coordinated and students master and achieve skills, concepts and technical competencies in high school that articulate with college programs. Students earn credit towards high school graduation and college technical programs at their home high schools.

The focus has changed in recent years from an emphasis on only job preparation to one of career exploration and exposure. While skill development and employment readiness is still a primary goal, emphasis has been placed on career exploration, career pathway preparation and post-secondary articulation.

The **Family and Consumer Science Education Program** is offered at Hazen, Lindbergh, Renton, and Black River High Schools. The program is comprised of the following: Careers in Education; Careers with Children; Child Development; Creative Foods/Nutrition; Family Health; Health Club; Independent Living; Interior Design/Living Environments; Personal Choices; Teen Parenting/GRADS; and American Sign Language. School District and community sites provide applied work-based learning opportunities for program students.

The **Business Education Program** is offered in the District's three comprehensive high schools and at the Sartori Learning Center. The program consists of technical business related classes sequentially arranged into a course of instruction leading to a Certificate of Proficiency or Mastery to facilitate job placement or post secondary articulation. These courses are as follows: Accounting 1-4, Business Communications; Business Connections 1-2; Business Connections Work Experience 1-2; Business Law; Computer Program Design 1-2; Electronic Math Applications; Introduction to Information Technology; Information Technology 1-2; Information Technology-Project Management; Information Technology-Multimedia; Principles of Business; Web Site Development 1; and Recordkeeping. The Business Connections Work-based Learning component provides actual related job experience through workstations in the community. Business programs are often arranged and blocked with language arts programs to support program integration and technology use in the writing process.

A comprehensive **Work-based Learning Program** is offered in all of the facilities in the Renton School District. This program couples on-the-job experience and related classroom training to prepare students for employment during and beyond high school. The **Marketing Education Program** which offers Introduction to Marketing, Advanced Marketing, Marketing-Entrepreneurship, Marketing Education Seminar 1-2, Exploration of Travel and Tourism and Introduction to Travel and Tourism/Hospitality, and **Diversified Occupations Programs** provide students the opportunity to combine related classroom instruction and paid work experience to earn

high school credit. These programs assist and support students as they make the transition from school to work. **Volunteer experiences**, **Internships**, **Job Shadows**, and **Service Learning** are also strong components of this community based applied experiences.

The community also plays a vital role in other programs offered through the Renton School District. The **Health Careers/ Sciences and Athletic Trainer/Sports Medicine Programs** are reliant on clinical training stations and coordinated work experiences for students through local convalescent centers, nursing facilities, community hospitals health clubs and sports teams. These programs are offered to all students in the Renton School District but operate only at Hazen High School.

Technology Education Programs are offered at all three comprehensive high school facilities, and the Sartori Education Center. These programs are often integrated with the Science and Math Departments to support applied learning and the development of technical skills and competencies for all students. Courses in this department are: Automotive Service Technician 1-2; Computer Aided Design and Drafting 1-6; Computer Graphics 1-8; Fundamentals of Networking Technology 1-4; Jewelry Manufacturing 1-2; Light Duty Mechanics and Related Careers 1-2; Construction Technology 1-2; Building Maintenance Technology 1-2; Power and Energy Technology 1-2; Principles of Technology/Robotics 3-4; and Video Production 1-2.

Integrated instruction has been the focus of the Career and Life Skills Education instructional team for the past several years and the results can be seen throughout the program in each of the secondary schools. Several programs have been launched and are operating very successfully in all of the secondary sites. While these programs qualify for vocational funding, the District has made the commitment to operate them in collaboratively with a related academic instructor.

These **Applied Vocationally Approved Programs** are titled: Applied Communications; Applied Mathematics; Material Science Technology 1-2; and Principles of Technology.

Renton School District has made a commitment to provide career and life skills training and job preparation opportunities for Special Needs students in addition to mainstreaming them, when appropriate. In order to have enough students to allow several offerings, the District has entered into interdistrict cooperative agreements with surrounding districts to accept students on a space available basis. There are four such **special programs**: **Building Maintenance** operates at the Sartori Learning Center and the **Career Ladders/Community Classroom** is offered at Valley Medical Center. The **Horticulture/Landscape Design 1-2 Program** is operated at Black River High School and **Health Careers** section is located at Hazen High School.

The District is also a partner in the Career and Life Skills/Special Education consortium of King County School Districts. The primary purpose of this participation is to make Career and Life Skills Education more accessible to persons with disabilities, provide additional inservice opportunities to all instructors and support to Career and Life Skills instructors as they provide applied learning opportunities to special needs students.

CAREER AND LIFE SKILLS EDUCATION

MISSION STATEMENT

The mission of career and life skills education in the Renton School District #403 is to prepare all learners for successful roles in families, careers and communities.

THREE BELIEFS

A. Beliefs about individual needs

1. All learners have unique gifts and talents and can be successful.
2. All learners must develop self-esteem and personal confidence for productive roles in society.
3. All learners need to have and attain personal and career goals, arising from a lifespan approach to personal growth and career development.

B. Beliefs about society's expectations

1. All learners must be prepared to become ethical, responsible and contributing world citizens.
2. All learners must adapt to change and participate in lifelong learning.
3. All learners must prepare for family roles and to balance work and family responsibilities.
4. All learners must develop essential creative/critical thinking, problem solving and communication skills.
5. All learners must value and have an appreciation for diversity in their schools, communities and workplaces.
6. All learners must recognize the impact of productive work on our economy.

C. Beliefs about systems that care for and support learners

1. All learners must have equitable access to a quality education.
2. All learners deserve to participate in learning systems where programs are mutually reinforcing and interdependent and where learning is related to life applications.
3. All learners must discover that school is part of a broader set of community resources they must access for learning and for achieving success in life.
4. All school programs must be developed in cooperative with family, business, labor and community representatives.
5. All staff must be accountable to ensure that all learners have the opportunity to establish and reach their goals.

INFORMATION TECHNOLOGY – ELECTRONIC MATH APPLICATIONS

Washington State Essential Academic Learning Requirements

ELECTRONIC MATH APPLICATIONS						
This Career and Life Skills class supports the Washington State Essential Academic Learning Requirements.	ART	COMMUNICATIONS	MATHEMATICS	SCIENCE	WRITING	READING
COURSE OBJECTIVES:						
Unit 1: Introduction to Spreadsheets	*	*	*	*		*
Unit 2: Intermediate Spreadsheet Applications	*	*	*	*		*
Unit 3: Advanced Spreadsheet Applications	*	*	*	*		*
Unit 4: Basic Math Applications	*	*	*	*		*
Unit 5: Intermediate and Applied Math Applications	*	*	*	*		*
Unit 6: Simulation (Business or Personal)	*	*	*	*		*
Unit 7: Business and Personal Math Applications	*	*	*	*		*
Unit 8: Software Integration	*	*	*	*	*	*
Unit 9: Worker/Personal Safety	*	*	*	*		*
Unit 10: Leadership Development	*	*	*	*	*	*

**INFORMATION TECHNOLOGY - ELECTRONIC
MATH APPLICATIONS
History**

This course was developed during the summer of 2002 for the Renton School District. It is included in the vocational education department. This program attracts students who are interested in utilizing a variety of materials in the creative development of projects. While expanding math skills; this course emphasizes fundamental computer applications, integration of different software packages, and exploration of elements of balance and design.

Students will receive instruction through lecture, small team assignments, and individual creation of publishable documents. Good attendance is mandatory as their participation contributes to the development of team projects and shared learning.

The future plan for this program includes keeping updated with current software applications; hardware developments; and needs as expressed by the students, community and industry.

**INFORMATION TECHNOLOGY - ELECTRONIC
MATH APPLICATIONS
Course and Program Goals**

Course Goals:

Students will be able to:

1. Utilize the functions of a spreadsheet application and produce printed and on-screen output
2. Demonstrate competencies necessary for entry-level office work
3. Prepare for industry certification with spreadsheet software
4. Demonstrate an understanding of basic mathematical functions as needed by business and personal finance
5. Complete a practical application, such as a practice set, completing jobs typical of a business situation
6. Understand the importance of safety in a general sense and to demonstrate proper safety practices
7. Demonstrate an understanding of the functions and tools of a spreadsheet software application
8. Demonstrate an ability to utilize leadership skills
9. Utilize software applications to solve and display math equations and solutions

Program Goals:

Students completing the Information Technology sequence of classes will have a foundation of knowledge that will prepare them to be a successful, life-long learner in the rapidly expanding field of information technology.

Students will be able to:

- Develop and expand on existing computer experiences
- Demonstrate basic math skills, competencies, and fundamentals of business applications through the creation of classroom projects
- Apply the mathematic concepts and skills to situations outside of the classroom
- Explain and discuss basic computer concepts
- Generate a variety of projects utilizing their computer skills
- Integrate components of various computer programs within a single project
- Utilize various methods of data input including voice recognition where applicable
- See the possibilities of advancement or placement in other math courses including accounting, pre-algebra, and consumer math
- Achieve industry level certification, where applicable

The students are introduced to the concepts on a tiered approach.

- Step-by-step, screen-by-screen instructions
- In-depth problem solving assignments requiring students to apply their gained knowledge
- Unique case studies requiring students to apply their knowledge to real-world situations

**INFORMATION TECHNOLOGY - ELECTRONIC
MATH APPLICATIONS
Scope and Sequence**

Unit 1: Introduction to Spreadsheets

- Ten key practice
- Data input
- Math calculations using operands, percentages, and logical functions
- Creation and interpretation of tables
- Navigation through a virtual environment
- Saving and retrieval of documents
- Accuracy of input

Unit 2: Intermediate Spreadsheet Applications

- Formatting tables and data
- Creation of graphs and charts
- Use of Internet tools
- Sorting and organization of data

Unit 3: Advanced spreadsheet applications

- Software applications and tools
- Preparation for industry certification
- Printing documents in a variety of formats
- Use of hyperlink functions
- Multi-page formulas

Unit 4: Basic Math Applications

- Practice skills used throughout the course
- Input and arrange data for math calculations
- Setting up appropriate formulas and operands
- Determine place values and relationships
- Decimals and fractions
- Percentages
- Creation of tables and graphs

Unit 5: Intermediate and Applied Math Applications

May vary depending on text and materials available

- Discounts and mark-up percentages on merchandise
- Calculations with percentages for interest, principal, and payment schedules
- Area and measurements
- Creation of charts and tables
- Interpretation and understanding of graphical information, charts, and tables
- Conversions from metric to English and currency exchanges

Unit 6: Simulation (Business or Personal)

- Personal finance and record keeping
- Balancing a checkbook

Unit 7: Business and Personal Math Applications

May vary depending on materials and text available

- Calculate salaries based on various commission rates
- Use of whole numbers, constants, absolute values, and negative values
- Rounding of numbers for specific applications and needs
- Payroll calculations including deductions, tax rates, and base salaries
- Calculations for income from employment based on hourly, commission, or salaried positions
- Creation of home budgets based on projected income and expenses
- Using values on several spreadsheets for multi-page calculations
- Conduct survey, tabulate responses, and graph results
- Read and interpret ratios

Unit 8: Software Integration

- Display output within documents created with other software applications
- Display charts and graphs in a on-screen slide show (optional)

Unit 9: Worker/Personal Safety

- General safety precautions
 - Repetitive stress related injuries
 - Proper posture and techniques
- Care and maintenance of equipment

Unit 10: Leadership Development

- Organizational responsibility/skills
- Interpersonal relationships
- Business career familiarization
- F.B.L.A.

**INFORMATION TECHNOLOGY – ELECTRONIC
MATH APPLICATIONS
Evaluation and Assessment**

The students will demonstrate proficiency through the following methods:

- By completing classroom projects
- Through classroom participation and interaction
- Self-evaluation
- Tests and quizzes over vocabulary and concepts
- Self-testing using industry certification practice test software

**INFORMATION TECHNOLOGY – ELECTRONIC
MATH APPLICATIONS
Instructional Materials**

Text:

- Basic or business math textbook

Software Requirements:

- Spreadsheet software
- Word processing
- Industry certification testing software
- On-screen slideshow application (Optional)

Materials:

- Practice sets
- Textbooks
- High speed printer
- Internet access
- Checkbook simulation

INFORMATION TECHNOLOGY – ELECTRONIC MATH APPLICATIONS
Leadership and Vocational Plan

LEADERSHIP AREAS	STUDENTS WILL:	VOCATIONAL ASPECTS	INTEGRATED INTO CURRICULUM
<p><u>Area 1: Introduction to Leadership</u> Students will develop an understanding and demonstrate the knowledge for the purpose of student leadership in vocational education.</p>	<p>*Discuss the purpose of developing personal and group leadership skills</p>	<p>*Guest speakers from industry *Internet research</p>	<p>*Projects completed for self and community</p>
<p><u>Area 2: Personal Qualities</u> Students will demonstrate personal qualities necessary to function in a family, community and work setting.</p>	<p>*Determine the importance of values and goals *Identify short and long term goals *Describe how personal values are reflected in work ethics *Share how they will personally act in certain situations</p>	<p>*Introduction to software development *Code of ethics *Working in a lab environment</p>	<p>*Utilizing materials from the Internet that may be covered by a copyright</p>
<p><u>Area 3: Interpersonal Skills</u> Students will become aware of and demonstrate interpersonal skills needed to function in a global society</p>	<p>*Demonstrate how to work cooperatively with community members and classmates *Develop goals from self evaluations *Manage and resolve positive stress and adversity during learning process *Work with fellow classmates in a lab environment</p>	<p>*Guest speakers from colleges and industry</p>	<p>*Utilizing a variety of resources including the Internet to obtain information to complete projects</p>
<p><u>Area 4: Communication Skills</u> Students will be able to communicate effectively.</p>	<p>*Will prepare formal and informational written materials *Utilize industry standard vocabulary</p>	<p>*Expand on Power Point skills where applicable *Creating publishable quality projects</p>	<p>*Integrated projects utilizing more than one resource and application</p>
<p><u>Area 5: Community</u> Students will develop an understanding and demonstrate a knowledge of how to work effectively in the community</p>	<p>*Recognize areas where software applications enhance community resources</p>	<p>*Participation in project requests from the community</p>	<p>*Case studies and simulations</p>
<p><u>Area 6: Personal and Tech Resources</u> Students will be able to utilize personal and technological resources</p>	<p>*Explain ethical conflict of sharing information from the Internet *Develop advanced computer literacy skills</p>	<p>*Demonstrate ability to successfully use a variety of software applications</p>	<p>*On-screen slide show software *Spreadsheet applications *Work processing software</p>

to make decisions for the family, community and workplace			
<u>Area 7: Group Dynamics</u> Students will demonstrate organizational skills in large and small group situations	<ul style="list-style-type: none"> *Understand team skills *Develop group facilitation skills *Project management 	*Discuss how companies and colleges are using teams to complete projects	*Variety of classroom projects completed through team cooperation
<u>Area 8: Employability Skills</u> Students will understand and demonstrate effective employability skills	<ul style="list-style-type: none"> *Identify behaviors to establish successful relationships in a working environment *Identify means of dealing with conflict resolution within team setting *Identify and demonstrate proper work ethics in the utilization of free and copy written materials from the Internet 	<ul style="list-style-type: none"> *Work within a lab environment *Shared learning opportunities *Active participation within the classroom *Demonstrating good attendance 	<ul style="list-style-type: none"> *Completed projects to industry standard *Meeting reasonable time lines