



**James Bowie
High School**
"Pride in Performance"

Career & Technical Education

The mission of the Bowie CTE Department is to provide opportunities for students to acquire 21st century academic and technical skills needed for entry into the global workforce in order to become contributing members of the community.

James Bowie High School - Career & Technical Education

Course offerings by Cluster Area:

Agriculture, Food and Natural Resources:

- *Principles of Agriculture, Food & Natural Resources*
[8100.RC0C.Y] (9-12)
- *Small Animal Management*
[8104.RC0C.Y] (10-12)
- *Veterinary Medical Applications*
[8108.RC0C.Y] (11-12)*
- *Advanced Animal Science*
[8110.HT1C.Y] (11-12)*
- *Energy & Natural Resources Technology*
[8118.RC0C.Y] (10-12)
- *Range Ecology & Management*
[8124.RC0C.Y] (10-12)
- *Advanced Plant & Soil Science*
[8136.RC0C.Y] (11-12)*

Arts, A/V Technology & Communications and Information Technology:

- *Principles of Information Technology*
[8526.HT1C.Y] (9-12)+
- *Digital Interactive Media*
[8548.HT0C.Y] (10-12)+
- *Graphic Design & Illustration*
[8280.HT0C.Y] (10-12)+
- *Animation*
[8252.HT1C.Y] (10-12)+
- *Web Technology*
[8550.HT0C.Y] (10-12)+
- *Computer Programming*
[8542.HT0C.Y] (10-12)+
- *Advanced Graphic Design & Illustration*
[8282.HT0C.Y] (11-12)+
- *Advanced Animation*
[8256.HT1C.Y] (11-12)+
- *Problems & Solutions in Technology*
[8920.RC0C.Y] (12)*

Course Information Key for following pages:

Course Title
(Former Course Title)
credits / weighted-articulated
grade levels
certifications available

Business, Management & Administration:

- *Business Information Management*
[8324.HT0C.Y] (9-12)+
- *Principles of Business, Marketing & Finance*
[8318.HT1C.Y] (9-12)
- *Business Ownership & Management*
[8340.HT1C.Y] (10-12)
- *Accounting 1*
[8370.HT1C.Y] (10-12)
- *Personal Finance (Money Matters)*
[8362.RC0C.Y] (10-12)
- *Banking & Financial Services**
[8364.HT1C.Y] (11-12)
- *Securities & Exchange (proposed 2011)*
[8366.RC0C.Y] (11-12)
- *Virtual Business (proposed 2011)*
[8338.RC0C.Y] (11-12)+

Education & Training:

- *Child Development*
[8488.HT0C.Y] (10-12)
- *Instructional Practice in Education (proposed 2011)*
(11-12)*
- *Practicum in Education & Training (proposed 2012)*
(12)*

Hospitality & Tourism:

- *Lifetime Nutrition & Wellness (Food & Nutrition)*
[8482.HT0C.Y] (9-12)
- *Hospitality Services (Hotel/Resort Management)*
[8462.HT0C.Y] (10-12)*
- *Practicum in Hospitality Services (Hotel/Resort 2)*
[8468.HT0C.Y] (11-12)*
- *Culinary Arts*
[8454.HT0C.Y] (11-12)*
- *Practicum in Culinary Arts (Culinary Arts 2)*
[8456.HT0C.Y] (12)*

Science, Technology, Engineering & Mathematics

- *Advanced Biotechnology*
[8686.HT0C.Y] (12)

All Cluster Areas:

- *Career Preparation (minimum age 16)*
[8900.RC0C.Y] (11-12)

*Marked course require a prerequisite, application and/or teacher approval for enrollment

+Marked course fulfills technology requirement

Recommended course sequences are provided on the following pages.

It is strongly recommended that all sequences be started with the suggested entry level course.

Further information regarding credit structure, articulation, certifications available, grade weighting and admission requirements may also be found in the sequence listings.

James Bowie High School - Career & Technical Education Course Descriptions

Agriculture, Food and Natural Resources:

Principles of Agriculture, Food & Natural Resources (9-12) 8100.RC0C.Y

This is a beginning course that combines the basic understanding of animal science, food science, natural resources, plant science, and soil science along with other basic agricultural concepts.

Small Animal Management (10-12)..... 8100.RC0C.Y

This course discusses the identification, care, production, behavior, and training of small animals such as dogs and cats. It also relates to veterinary care and disease prevention of small animals.

Veterinary Medical Applications (11-12)* 8108 RC0C.Y

This course develops knowledge of basic veterinary procedures, office procedures, and employability skills in the animal field. It also includes proper nutrition, surgery techniques, exam techniques, care, and health of small and large animals that relate to the veterinary field.

Advanced Animal Science (11-12)* 8108 RC0C.Y

Course combines prior knowledge of animal care and veterinary procedures to ensure proper production of animals.

Energy & Natural Resources Technology (10-12) 8118.RC0C.Y

This course develops an understanding of environmental stewardship and natural resources. Alternative energy, environmental pollution, conservation, government policy and population dynamics are all focused on as a way to increase students' knowledge of the environment. The class itself involves learning in the classroom as well as a healthy amount of field and lab work.

Range Ecology & Management (10-12) 8124.RC0C.Y

This course discusses rangeland in the U.S. and around the world. Rangeland makes up a huge percentage of all undeveloped land in the world and its proper care is very important to both people and animals. Primary subjects that will be covered in this course include the study of range plants, livestock carrying capacity, ecosystem dynamics, urbanization impacts on range, wildlife interactions and basic land conservation. This course involves learning in the classroom as well as a healthy amount of field and lab work.

Advanced Plant & Soil Science (11-12)* 8136.RC0C.Y

This course takes an in depth look at plants and soils and how they interact. Primary subjects that will be covered in this course include soil composition and distribution, soil and plant interactions, plant physiology, crop management and soil conservation. This course involves learning in the classroom as well as a healthy amount of field and lab work.

Arts, A/V Technology & Communications and Information Technology:

Principles of Information Technology (9-12) + Weighted 8526.HT1C.Y

This curriculum has four strands: foundations, information acquisition, work in solving problems, and communication. Students will demonstrate knowledge and appropriate use of operating systems, software applications, and communication and networking components. Curriculum covers operating systems, digital graphics, 3-D modeling, animation, GIS, and web design. Students will use foundation and enrichment curricula to animate and render multimedia products while creating and modifying solutions to business and industry problems.

Digital Interactive Media (formerly called BIMM) (10-12) + Weighted 8548.HT0C.Y

This exciting course teaches multimedia basics using Adobe industry standard software such as Photoshop, Flash, and InDesign. Students will master skills in digital graphic design, animation, image manipulation, digital photography, and video and audio production. College credit may be awarded upon successful completion.

**Marked course require a prerequisite, application and/or teacher approval for enrollment*

+Marked course fulfills technology requirement

James Bowie High School - Career & Technical Education Course Descriptions

Graphic Design & Illustration (10-12) + Weighted 8280.HT0C.Y

This course introduces media in the industry using standard Adobe software with the use of type, images, form, design layout, conceptual elements, and principles of design involving graphical projects such as logos, business cards, advertisements, posters, flyers, e-magazines, brochures, and more. Projects explore design processes in visual identity, communication, creative problem solving, and design practice using critiques and discussions. Gain experience with hardware such as SLR cameras, HD video cameras, and software such as Photoshop and Illustrator.

Animation (10-12) + Weighted 8252.HT1C.Y

This course introduces basic terminology, concepts, 2d and 3d animation, historical perspective, and optimization to the web. Students will gain experience with modern applications such as Flash, Premiere, and After Effects. Students create projects of various types such as classical cel, 2d, 3d, stop motion, and interactive techniques for the web. Students explore the fundamentals of animation to develop an understanding of character development used in movies and the gaming industry and performance emphasis placed on the analysis of actions and motion graphics.

Web Technology (10-12) + 8550.HT0C.Y

This course is designed to introduce students to concepts and issues related to web design, and to provide a background on the Internet as a technological and social phenomenon. Students will develop the ability to analyze needs, recognize trends, gather information, locate resources and integrate media into web pages that are both functional and visually appealing. In the process, students will gain key essential skills necessary for anyone entering the job market.

Computer Programming (10-12) + 8542.HT0C.Y

This course is an introduction to HTML, XHTML, CSS and JavaScript. No previous programming experience is necessary, but knowledge of computer operations and use of the internet is preferred. Students use hyperlinks, images, lists, tables, frames, forms and Cascading Style Sheets to logically plan, write, test and debug web pages. Some C++, Visual Basic and PHP for gaming and dynamic web content will be introduced

Advanced Animation (11-12) + Weighted 8256.HT1C.Y

Building on principles learned in Animation I, students are introduced to additional tools, skills, and techniques needed to animate in 3d with an emphasis on character stylization, performance, and advanced animation principles. This course encompasses all major aspects of creating 3d modeling, effects, and lighting using developed characters to animate for personality. Students work with advanced concepts, techniques, and combine sequences with audio to create finished animated productions.

Problems & Solutions in Technology (12)* 8920.RC0C.Y

This is an independent study course in which students propose projects in their passionate area of interest and produce them in their entirety. This senior course focuses on student technology goals for after high school. Students may choose to specialize and further develop their skills in digital imaging, web design, 3d modeling, animation, stop motion, game development, or other areas of interest. This course focuses on the preparation of a personal, professional portfolio.

Business, Management & Administration:

Business Information Management (Integrated Software for College & Career) (9-12) + Weighted ... 8322.HT0C.Y

In this course, students will implement software skills required by postsecondary academic institutions and competitive work environments. Students will apply technical skills to address business management information, create professional documents, develop dynamic spreadsheets, formulate databases, and make electronic presentations using MS Office, Open Office and other Web 2.0 applications. College credit may be awarded upon completion.

Principles of Business, Marketing & Finance (9-12) Weighted 8318.HT1C.Y

Students develop a foundation in the economical, financial, technological, international, social and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

**Marked course require a prerequisite, application and/or teacher approval for enrollment*

+Marked course fulfills technology requirement

James Bowie High School - Career & Technical Education Course Descriptions

Business Ownership & Management (10-12) Weighted..... 8340.HT1C.Y
Course provides techniques for planning, organizing and operating a business. Topics include types of business, financial and legal responsibilities, writing a business plan, effective communication, entrepreneurial leadership skills and economic influences on business operations. Topics focus on financial management and analysis of a business, financing options, equity investments, credit and insurance, product planning, marketing and advertising. Projects will include ratio analysis, SWOT analysis, 4 Ps of Marketing and an Ad Campaign. Course utilizes web applications, outside speakers, community partners and group projects.

Accounting 1 (10-12) Weighted..... 8370.HT1C.Y
In this course students will investigate the field of accounting, including how it is impacted by industry standards as well as economic, financial, technological, international, social, legal, and ethical factors. Students will reflect on this knowledge as they engage in the process of recording, classifying, summarizing, analyzing, and communicating accounting information. Students will formulate and interpret financial information for use in management decision making and gain experience using QuickBooks.

Personal Finance (Money Matters) (10-12)*..... 8362.RC0C.Y
Personal Finance is designed to help students manage their resources and to make sound personal financial decisions. The course will introduce banking concepts, interest rates, credit cards, debt, loans and general financial concepts. You will also spend one six-weeks going through Dave Ramsey's "Financial Peace University."

Banking & Financial Services (11-12)* Weighted..... 8364.HT1C.Y
Students focus on domestic stock markets, how they work/operate, different investment vehicles, and develop a portfolio of various investments. Students develop a foundation in the economical, financial, and technological aspects of the banking world, stock markets, and options markets. You will also computer trade stocks and options and develop model portfolios for certain conditions.

Education & Training:

Child Development (10-12) Weighted..... 8488.HT0C.Y
Prepares students to understand the physical, social, emotional, and intellectual growth and development of children. The course is designed to help young people acquire knowledge and skills essential to the care and guidance of children as a parent or caregiver, and ultimately the occupation of teacher (if desired). Emphasis is on helping students create an environment for children that will promote optimum development.

Hospitality & Tourism:

Lifetime Nutrition & Wellness (Foods, Nutrition and Wellness) (9-12) Weighted..... 8482.HT0C.Y
This is a classroom and cooking laboratory class that emphasizes nutrition, food choices, and decision-making for good health throughout your life. The course explores career opportunities in nutrition, wellness, and food science. Instruction also addresses food safety and sanitation, labeling, technology, food handling and storage, purchasing, and preparation procedures.

**Hospitality Services (Hotel/Resort Management) (10-12)* Weighted..... 1st (8462.HT0C.Y)
..... 2nd (8468.HT0C.Y)**
This is a two hour block class with a professional emphasis. It is an internship program which actually has its classroom at Barton Creek Resort and Spa and the Omni Hotel Downtown four days per week! You will receive hands on training in 7 different departments throughout the year. Transportation and Lunch are provided. You may earn 3 hours of college credit for this class. (Interview Required)

**Marked course require a prerequisite, application and/or teacher approval for enrollment*

+Marked course fulfills technology requirement

James Bowie High School - Career & Technical Education Course Descriptions

Culinary Arts 1 (11-12)* Weighted (8454.HT0C.Y)
Culinary Arts 2 (12) Weighted (8456.HT0C.Y)

Culinary Arts is a two hour block class with a strong professional focus. This class is designed to teach and develop the skills needed for entry into the fast-paced food service industry or to prepare students for further training in a post-secondary culinary school. The Bowie Culinary program offers articulated credit with multiple culinary schools, professional sanitation certification and weighted GPA credit. Admission requires both a prerequisite (Nutrition) and an application/interview.

Science, Technology, Engineering & Mathematics

Advanced Biotechnology (12) Weighted 8686.HT0C.Y

This is an introduction to biotechnology including career exploration, history and applications of DNA/RNA technology, molecular biology, bioethics, and laboratory safe practices.

All Cluster Areas:

Career Preparation (11-12) Minimum 16 years of age 8900.RC0C.Y

Career Prep (CP) offers instruction in workplace related topics such as human relations, safety, money management, communication, entrepreneurship, and career awareness for the 21st century. Classroom curriculum is aligned with on-the-job experiences. Two course options are available-the 10 hour work week-2 credits per year option or the 15 hour work week-3 credits per year option.

**Marked course require a prerequisite, application and/or teacher approval for enrollment*

+Marked course fulfills technology requirement

Agriculture, Food & Natural Resources

Veterinary/Animal Science

Environmental & Natural Resources

Principles of Agriculture, Food & Natural Resources
(Introduction to Agriculture)
1 credit
Grades 9-12

Small Animal Management
(Pet Companion Management)
1 credit
Grades 10-12

Energy & Natural Resources Technology
(Energy & Environmental Technology)
1 credit
Grades 10-12

Veterinary Medical Applications
(Introduction to Veterinary Medicine)
1 credit
Grades 11-12
Veterinary Assistant Certification

Range Ecology & Management
(Range Management & Ecology)
1 credit
Grades 10-12

Advanced Animal Science
1 credit / weighted-articulated
Grades 11-12
4th Year Science Credit (pending cert.)

Advanced Plant & Soil Science
1 credit
Grades 11-12

*Small Animal Management and student application are prerequisite for Veterinary Med. Applications.
Energy & Natural Resources or Range Ecology & Mgmt. are prerequisite for Advanced Plant & Soil Science*

Career Preparation (formerly Diversified Career Prep) is available as a capstone to any CTE sequence.
2-3 credits / 11-12 grade (minimum 16 yrs. old)
OSHA certification available

Arts, A/V Technology & Communications

Graphic Design

Digital Media

Principles of Information Technology
(Computer Applications)
1 Credit / weighted-articulated ♦ TC
Grades 9-12

OR

Digital Interactive Media
(BIMM)
1 credit / weighted-articulated ♦ TC
Grades 9-12
Photoshop Certification

Graphic Design & Illustration
Formerly Communication Systems
1 credit / weighted ♦ TC
Grades 10-12

Animation
(Multimedia & Animation)
1 credit / weighted ♦ TC
Grades 10-12

Advanced Graphic Design & Illustration
1 credit / weighted ♦ TC
Grades 11-12

Advanced Animation
1 credit / weighted-articulated ♦ TC
Grades 11-12
Flash Certification

Problems & Solutions in Technology
1 credit / weighted
Grade 12

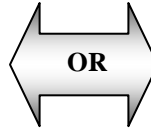
Courses denoted TC fulfill the technology requirement for graduation
Animation is prerequisite for Advanced Animation, Graphic Design is prerequisite for Advanced Graphic Design
Problems and Solutions requires completion of Level 3 course

Career Preparation (formerly Diversified Career Prep) is available as a capstone to any CTE sequence.
2-3 credits / 11-12 grade (minimum 16 yrs. old)
OSHA certification available

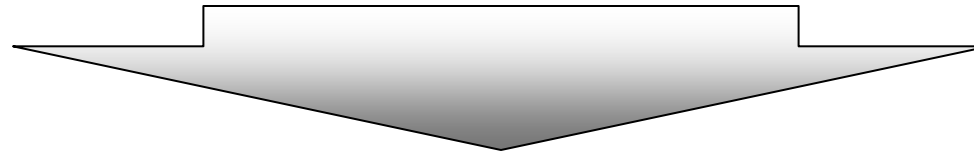
Business, Management & Administration

Business & Finance

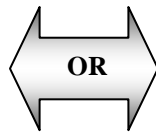
**Business Information Management
(BCIS)**
1 credit/weighted-articulated♦TC
Grades 9-12



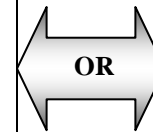
**Principles of Business, Marketing &
Finance (Intro. To Business)**
1 credit/weighted-articulated
Grades 9-12



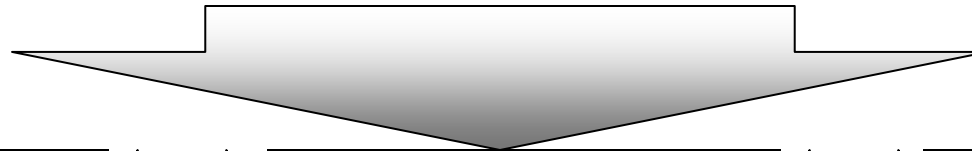
**Money Matters
(Personal Finance)**
1 credit
Grades 10-12



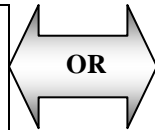
**Business Ownership &
Management**
1 credit/weighted-articulated
Grades 10-12



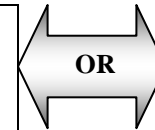
Accounting 1
1 credit/weighted-articulated
Grades 10-12



Virtual Business
1 credits/weighted-articulated♦TC
Grades 11-12
PROPOSED FOR FUTURE



Banking & Financial Services
1 credits/weighted
Grades 11-12
Pre-req or concurrent – Alg. 2



Securities & Exchange
1 credit
Grades 11-12
PROPOSED FOR FUTURE

Courses denoted TC fulfill the technology requirement for graduation
It is recommended that all students begin with a level one courses. Upper level courses may be selected according to student interest.

Career Preparation (formerly Diversified Career Prep) is available as a capstone to any CTE sequence.
2-3 credits / 11-12 grade (minimum 16 yrs. old)
OSHA certification available

Hospitality & Tourism

Hospitality Management

Culinary Arts

Any Level One
Business Course

Lifetime Nutrition and Wellness
(Nutrition / Food Science)
1 credit / weighted-articulated
10-12

Hospitality Services
(Hotel/Resort Management)
2 credits / weighted-articulated
10-12
AHLA certification

Practicum in Hospitality and Tourism
(Hotel Resort Mgmt. 2)
2 credits/weighted-articulated
11-12
AHLA certification

Culinary Arts
2 credits / weighted-articulated
11-12
ServSafe certification

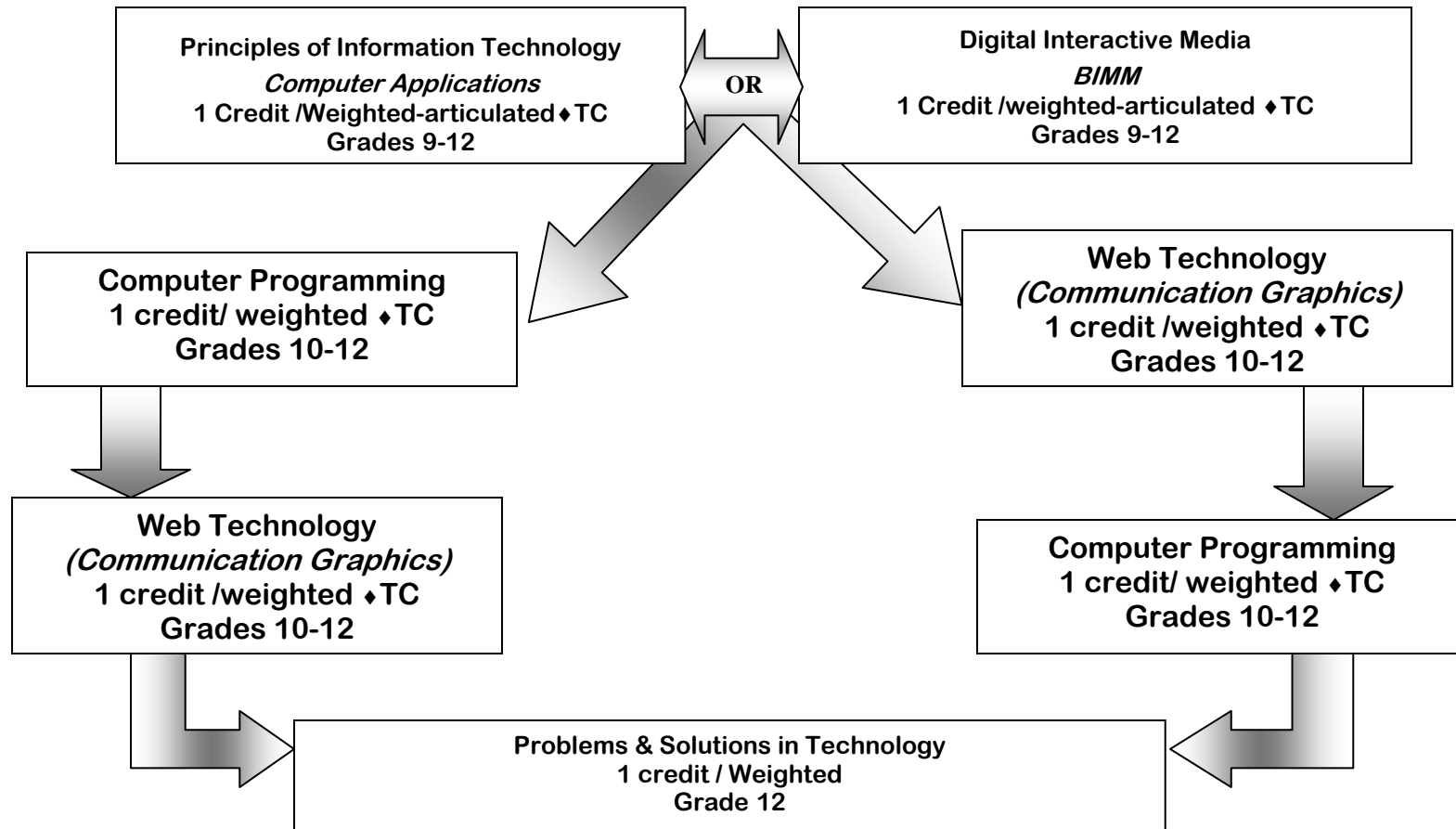
Practicum in Culinary Arts
(Culinary Arts 2)
2 credits / weighted-articulated
12

*Culinary Arts admission requires application, interview and teacher approval.
Students may also enter Hospitality program from Level 1 Business courses.
Hospitality Services admission requires application, interview and teacher approval.*

Career Preparation (formerly Diversified Career Prep) is available as a capstone to any CTE sequence.
2-3 credits / 11-12 grade (minimum 16 yrs. old)
OSHA certification available

Information Technology

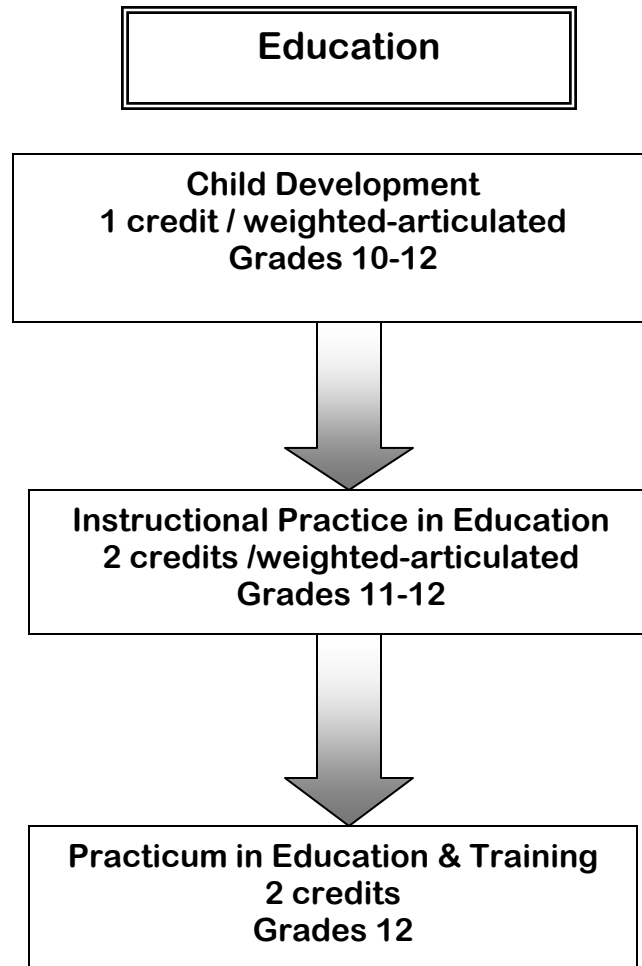
Web Design & Programming



Courses denoted TC fulfill the technology requirement for graduation
Problems and Solutions requires completion of Level 3 course

Career Preparation (formerly Diversified Career Prep) is available as a capstone to any CTE sequence.
2-3 credits / 11-12 grade (minimum 16 yrs. old)
OSHA certification available

Education & Training



PROPOSED FOR FUTURE

Career Preparation (formerly Diversified Career Prep) is available as a capstone to any CTE sequence.
2-3 credits / 11-12 grade (minimum 16 yrs. old)
OSHA certification available