FLATHEAD VALLEY COMMUNITY COLLEGE

AGENDA ITEM *8

V. COLLEGE ISSUES

B. Academic Program Proposals

BACKGROUND:

On December 9th the Curriculum Committee approved the following program items:

- Agriculture and Food Systems AAS (deletion)
- Nondestructive Testing CAS (deletion)
- Welding and Inspection Technology AAS (deletion)
- Web Technology AAS name change to Web Development and Design AAS

Agriculture and Food Systems AAS
The Curriculum Committee voted to delete this program. After several years of struggling to retain enough students for viability, this program has transferred to a continuing education focus and no longer needs an AAS program in order to serve students.

Nondestructive Testing CAS
The Curriculum Committee voted to delete this program. The Trades Institute determined that lack of enrollment, limited space for instruction, and a lack of current industry need warranted closing this program.

Welding and Inspection Technology AAS
The Curriculum Committee voted to delete this program. The Trades Institute determined that lack of enrollment and lack of current local industry need warranted closing this program.

Web Technology
The Curriculum Committee voted to approve a name change for this program from Web Technology AAS to Web Development and Design AAS. The name change better reflects the content of the program as it has evolved in the dynamic technology industry.

Agriculture and Food Systems, AAS: (Moratorium)

This program is in moratorium and will not be accepting new students until further notice.

The Agriculture and Food Systems program prepares students to develop and manage a small farm or pursue careers in the agricultural and horticultural sciences, agronomy, or crop production. Students learn the fundamentals of crop production, soil management, and farm operations. The program focuses on the integration of food and farming in small-scale systems that enhance the well-being of the environment and communities. Through laboratory courses, field trips, and internships on the FVCC campus farm and in the community, the Agriculture and Food Systems program provides students with a fun, hands-on, multidisciplinary experience in agriculture and food systems.

Program Outcomes

Upon completion of this program, students will be able to

- Demonstrate knowledge of crop and soil management practices;
- Describe the components and complexities of our modern food system;
- Identify, diagnose, and manage pests and diseases of crop plants;
- Consider the whole-farm implications of their management decisions;
- Safely and effectively operate farm machinery and equipment;
- Describe various marketing opportunities in small and large-scale agriculture; and
- Identify the necessary steps to start and operate a small-scale business.

Required Courses

First Year

Fall Semester

- AGSC 2022 - Small Acreage Farm Production: Fall Credit(s): 4
- BIOB 110N - Plant Science Credit(s): 3
- SFBS 146 - Introduction to Sustainable Food and Bioenergy Systems Credit(s): 3
- Elective Credit(s): 5

First Semester Total: 15

Spring Semester

- AGSC 202y - Small Acreage Farm Production: Spring Credit(s): 4 [R]
- AGSC 298y - Internship: Campus Farm Credit(s): 3
- AGSC 298z - Internship: Agricultural Enterprise Credit(s): 3 *
- AGSC 265 - Building Community Food Systems Credit(s): 2

- BMGT 205C - Professional Business Communication Credit(s): 3 * [R]
  OR
- WRIT 101W - College Writing I Credit(s): 3 * [R]

Second Semester Total: 15

Second Year

Fall Semester

- AGSC 200 - Soil Nutrient Management Credit(s): 3 *
- AGSC 230 - Agricultural Pest Management Credit(s): 4
- COMX 115C - Introduction to Interpersonal Communication Credit(s): 3 [R]
- M 095~ - Intermediate Algebra Credit(s): 4 * [R]

First Semester Total: 14

Spring Semester

- AGSC 241 - Field Crop Production Credit(s): 3 *
- ANSC 100N - Introduction to Animal Science Credit(s): 3
- BMGT 210 - Small Business Entrepreneurship Credit(s): 3
- ENSC 245NL - Soils Credit(s): 4
- Elective Credit(s): 3

Second Semester Total: 16

Total Credits: 60

[R] Indicates Related Instruction requirement.

*Indicates prerequisite and/or corequisite needed. Check course description.

Program Information

- An internship is required for this program. Students must apply for internship placements for this program the prior semester. For more information and application deadlines, contact Cathy Allard, Career Advisor, at (406) 756-3803 or callard@fvcc.edu.

Opportunities after Graduation

- Graduates can expect to find employment in a variety of agricultural jobs, including as plant/soil/animal science technicians, in agricultural sales/marketing, or as farm managers. Small-scale farming is one of the fastest growing sectors in agriculture, which presents opportunities for graduates to be self-employed farmers.

Advising Information:

For more information about this program, contact an advisor.

Academic Advisor

Russ Lamson

LRC 129

(406) 756-3885

rlamson@fvcc.edu

Nondestructive Testing, CAS

The Nondestructive Testing program is designed to provide students experience in nondestructive test methods, visual inspection, liquid penetrant, magnetic particle, eddy current, and ultrasonic and radiographic testing.

Flathead County, MT

Search new location

Salary Range

50th Percentile (Median)

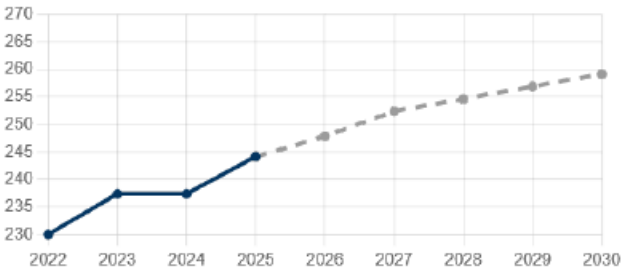
Overview

238
Currently Employed

$55,927
Average Salary

Employment Trends

7.4%	8.1%
Past Growth	Projected Growth
2022-2025	2025-2030



Annual Employment Numbers

Top Occupations by Income

- Engineering Technologists and Technicians, Except Drafters, All Other
- Welders, Cutters, Solderers, and Brazers

About this data

Program Outcomes

Upon completion of this program, students will be able to

- Demonstrate safe practices for nondestructive testing;
- Summarize the rules and regulations of radiation safety and characteristics of x-ray and gamma radiation;
- Illustrate electromagnetic principles and use the equipment;
- Discuss ultrasonic theory and apply ultrasonic techniques;
- Summarize magnetic particle testing formulas, methods, applications, limitations, material sensitivity, and equipment calibration;
- Summarize liquid penetrant formulas, methods, applications, and limitations; and
- Follow a written procedure that has been created from a code or standard.

Required Courses

Fall Semester

- M 114 - Extended Technical Mathematics Credit(s): 3 * R.
- WLDG 111 - Welding Theory I Practical Credit(s): 3

First Semester Total: 16

Spring Semester

- BMGT 205C - Professional Business Communication Credit(s): 3 * R.
- EWLD 125 - AWS D1.1 Code Book Credit(s): 2 *

Second Semester Total: 14

Total Credits 30

R. Indicates Related Instruction Requirement

*Indicates prerequisite and/or corequisite needed. Check course description.

Recommended Course Offering:

Students receiving financial aid or veteran's benefits should check with the Financial Aid Office before registering for recommended courses.

- WLDG 185 - Welding Qualification Test Preparation Credit(s): 3 *

Admission Guidelines

- Visual acuity should be correctable to 20-20 with capability of differentiating contrast among colors and shades.

Program Information

- Students who successfully complete the Certificate of Applied Science program will have achieved the educational requirements necessary to take the ASNT Level II National Certification exam. ASNT also requires documented work experience as part of the application for the Level II exam.

Opportunities After Graduation

- Career opportunities offer a wide range of possibilities as an inspector in the fabrication and manufacturing industries, steel construction, mining, energy, petroleum, aviation, bridge construction, and other production areas.

Advising Information:

For more information about this program, contact the advisor.

Academic Advisor

Gabe Dillon

OT 131

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Welding and Inspection Technology, AAS

The Welding and Inspection Technology curriculum provides students experience in welding and inspection technology as it pertains to assembly, manufacturing, energy, structural construction, and nondestructive testing. Nondestructive testing involves the inspection of material or a welding object in a manner that will not impair its future usefulness using one of the NDT test methods: visual inspection, liquid penetrant, magnetic particle, eddy current, ultrasonic, and radiographic testing. This program provides education and training in common cutting and welding processes; AWS welding standards; and OXYFUEL, SMAW, GMAW, GTAW, and FCAW processes. Structural, pipe and plate welding; nondestructive testing and inspection; blueprint reading and communications; and math competencies are also emphasized.

Flathead County, MT

Search new location

Salary Range

50th Percentile (Median)

Overview

209

Currently Employed

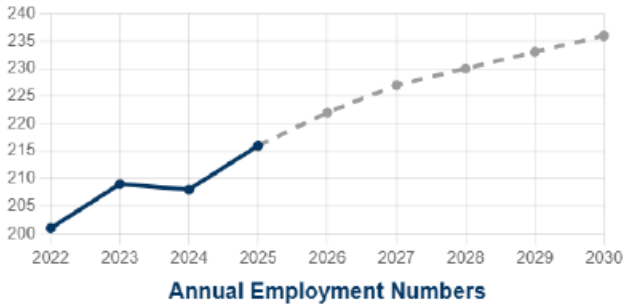
$43,181

Average Salary

Employment Trends

7.5%
Past Growth
2022-2025

9.3%
Projected Growth
2025-2030



Annual Employment Numbers

Top Occupations by Income

- Welders, Cutters, Solderers, and Brazers
- Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders

About this data

At FVCC, your success is our priority. Click to Apply

Program Outcomes

Upon completion of this program, students will be able to

- Describe and demonstrate safe and proper use of each type of welding equipment;
- Select and demonstrate various joining processes;
- Read and interpret welding blueprints using a systemic process;
- Estimate type, quantity, cost, and weight of a welded fabrication from information on a blueprint;
- Demonstrate proper transport, setup, adjustment, and use of all cutting and welding equipment;
- Use current industry technology to test and repair welding related equipment;
- Demonstrate proficiency in OXYFUEL, SMAW, GMAW, GTAW, and FCAW processes;
- Recognize, inspect, and document proper applications of welding processes;
- Demonstrate techniques and devices for controlling heat effects during welding;
- Consistently use equipment safely in the performance of nondestructive testing;
- Demonstrate proficiency in the use of nondestructive testing equipment and processes; and
- Use current AWS, ASME, and ASNT codes, welding procedures, and recommended practices.

First Year

Fall Semester

- M 114 - Extended Technical Mathematics Credit(s): 3 * [R.]
- WLDG 100 - Introduction to Welding Fundamentals Credit(s): 2
- WLDG 111 - Welding Theory I Practical Credit(s): 3
- WLDG 117 - Blueprint Reading and Welding Symbols Credit(s): 3
- WLDG 145 - Fabrication Basics I Credit(s): 3 *

First Semester Total: 17

Spring Semester

- COMX 115C - Introduction to Interpersonal Communication Credit(s): 3 [R.]
- DDSN 114 - Introduction to CAD Credit(s): 3
  OR
- DDSN 135 - Solidworks Credit(s): 3
- WLDG 122 - Welding Theory III Practical Credit(s): 3 *
- WLDG 185 - Welding Qualification Test Preparation Credit(s): 3 *

Second Semester Total: 15

Second Year - Fall Semester

- COLS 115 - Workforce Preparation for Occupational Trades Credit(s): 1 [R.]
- WLDG 123 - Welding Certification II Credit(s): 2 *
- WLDG 210 - Pipe Welding Credit(s): 4 *
- WRIT 104W - Workplace Communications Credit(s): 3 * [R.1]

First Semester Total: 17

Spring Semester

- EWLD 125 - AWS D1.1 Code Book Credit(s): 2 *
- WLDG 136 - GTAW Welding and Certification Credit(s): 4 *
- WLDG 280 - Weld Testing Certification Credit(s): 4 *

Second Semester Total: 16

Total Credits: 65

[R.] Indicates Related Instruction requirement.

*Indicates prerequisite and/or corequisite needed. Check course description.

[1] BMGT 205 and WRIT 101 are pre-approved substitutions.

Recommended Course:

Students receiving financial aid or veteran's benefits should check with the Financial Aid Office before registering for recommended courses.

- MCH 122 - Introduction to CAM Credit(s): 3

Program Information

- After completing the program, students should be qualified for the following certifications:
    1. AWS D 1.1 in 3/8" Plate Certification
    2. AWS D 1.1 in Unlimited Thickness Certification
    3. AWS D 1.1 Pipe Certification
    4. ASNT Level II Education Requirements for Certification. ASNT also requires documented work experience.
    5. First Aid/CPR Certification
- Fees for this program are higher than average. See the program director for more details.

Opportunities after Graduation

- Career opportunities offer a wide range of possibilities for welding technicians in fabrication and manufacturing, steel construction, nondestructive testing and inspection, mining, energy, petroleum, bridge construction, and other production areas.

Advising Information:

For more information about this program, contact the advisor.

Academic Advisor

OT 204

(406)756-3893

OT@fvcc.edu

Web Development and Design, AAS

Students learn the creative and technical skills necessary to design and develop professional websites. This program is ideal for individuals interested in website production and management.

Flathead County, MT

Search new location

Salary Range

50th Percentile (Median)

Overview

45

Currently Employed

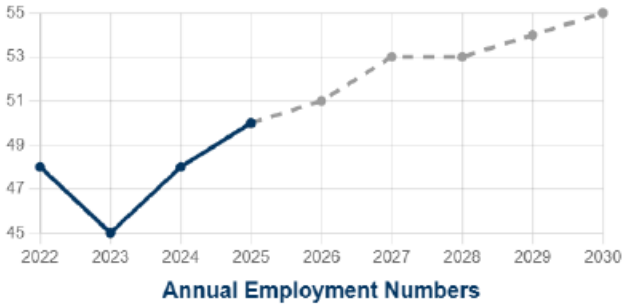
$50,459

Average Salary

Employment Trends

4.2%
Past Growth
2022-2025

10%
Projected Growth
2025-2030



Annual Employment Numbers

Top Occupations by Income

- Web and Digital Interface Designers
- Web Developers

About this data

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Program Outcomes

Upon completion of this program, students will be able to

- Identify qualities of good web page design by evaluating color, layout, navigation, and content;
- Create quality websites using a mix of HTML, CSS, and Wordpress;
- Design and develop interactive media using HTML5;
- Create interactive web documents using JavaScript, a client-side scripting language;
- Gain knowledge of network protocols and operating systems found within a network structure;
- Gain the knowledge and skills to design and build databases for web applications;
- Integrate server-side programming and database technologies to create dynamic web applications; and
- Demonstrate marketing and managing techniques while working in a team environment to analyze, design, develop, and evaluate a website.

Required Courses

First Year

Fall Semester

- BMGT 205C - Professional Business Communication Credit(s): 3 *R.
  OR
- WRIT 104W - Workplace Communications Credit(s): 3 *R.

- CSCI 127 - Joy and Beauty of Data Credit(s): 4
- ITS 164 - Networking Fundamentals Credit(s): 3
- MART 231 - Interactive Web I Credit(s): 4

First Semester Total: 17

Spring Semester

- BMKT 139 - Search Engine Marketing Credit(s): 3
- CSCI 211 - Client Side Programming Credit(s): 4
- CSCI 240 - Databases and SQL Credit(s): 3
- M 105M - Contemporary Mathematics Credit(s): 3 * R.
- MART 232 - Interactive Web II Credit(s): 4 *

Second Semester Total: 17

Second Year

Fall Semester

- BMKT 131 - Introduction to Social Media Marketing Credit(s): 3

- COMX 111C - Introduction to Public Speaking Credit(s): 3 R.
  OR
- COMX 115C - Introduction to Interpersonal Communication Credit(s): 3 R.

- CSCI 210 - Web Programming Credit(s): 4 *
- CSCI 238 - Standards-based Mobile Applications Credit(s): 4 *
- GDSN 149 - Digital Imaging I Credit(s): 3

First Semester Total: 17

Spring Semester

- CSCI 299 - Programming Capstone Credit(s): 3 *
- GDSN 247 - Digital Portfolio Preparation Credit(s): 4 [R]
- ITS 221 - Project Management Credit(s): 3

- ITS 298 - Internship Credit(s): 3 *
  OR
- Approved Elective Credit(s): 3

Second Semester Total: 13

Total Credits: 61

[R] Indicates Related Instruction requirement.

*Indicates prerequisite and/or corequisite needed. Check course description.

Admission Guidelines

- Students are expected to have strong computer skills.

Program Information

- Program emphasis is on developing skills in three areas of website responsibilities: content development, business management, and technical operations.
- All required courses within this degree program must be taken for a letter grade.
- An internship is optional for this program. Students must apply for internship placements the prior semester. For more information, contact Cathy Allard, Career Advisor, at (406) 756-3803 or callard@fvcc.edu.

Opportunities After Graduation

- Designing, developing, and maintaining websites.
- Managing web technology projects or businesses.
- Continuing education in the areas of computer science, graphic design, business, or information technology.

Advising Information:

For more information about this program, contact an advisor.

Academic Advisor	Faculty Advisor	Faculty Advisor
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