

Program Information Report

Welding and Fabrication Principles (CTWLDS) Certificate

Program Effective Term: Fall 2016

High Demand Occupation High Wage Occupation

This certificate introduces students to safe welding and cutting practices and principles including, proper technique and position, weld quality requirements, destructive and non-destructive testing and examination methods, print reading and interpretation of welding symbols as well as basic metal fabrication. Students will use the foundation and working knowledge to weld in all processes, perform repair techniques using thermal cutting and gouging, apply the requirements to executive quality welds and apply CNC programming language that can be used to produce parts that can be assembled and welded. This certificate serves as a fundamental pathway into the Welding and Fabrication Advanced Applications certificate and Welding Technology degree. Students who successfully complete this certificate will have learned the skills sought by the workforce as an entry-level welder and fabricator.

Articulation:

Eastern Michigan University, several BS degrees.

Copies can be obtained from the Counseling Office, a program advisor or from the Curriculum and Assessment Office Web site:
<http://www.wccnet.edu/curriculum/articulation/levelone/colleges>.

Requirements		(24 credits)
NCT 120	Introduction to 2D CAD CAM Programming and Applications	2
WAF 106	Welding Print Reading	3
WAF 109	Welding Safety and OSHA Regulations	2
WAF 125	Introduction to Welding Processes I	2
WAF 126	Introduction to Welding Processes II	2
WAF 130	Shielded Metal Arc Welding (SMAW)	4
WAF 131	Thermal Cutting, Gouging and Weld Repair	3
WAF 139	Basic Metal Fabrication	3
WAF 140	Inspection and Testing	3
Minimum Credits Required for the Program:		24

PROGRAM CHANGE OR DISCONTINUATION FORM

Program Code: CTWLDS Program Name: Welding and Fabrication Principles
 Division Code: ATP Department: WAFD

Effective Term: Fall 2016

Directions:

1. Attach the current program listing from the WCC catalog or Web site and indicate any changes to be made.
2. Draw lines through any text that should be deleted and write in additions. Extensive narrative changes can be included on a separate sheet.
3. Check the boxes below for each type of change being proposed. Changes to courses, discontinuing a course, or adding new courses as part of the proposed program change, must be approved separately using a Master Syllabus form, but should be submitted at the same time as the program change form.

Requested Changes:

- | | |
|--|---|
| <input type="checkbox"/> Review | <input type="checkbox"/> Program admission requirements |
| <input type="checkbox"/> Remove course(s): _____ | <input type="checkbox"/> Continuing eligibility requirements |
| <input type="checkbox"/> Add course(s): _____ | <input type="checkbox"/> Program outcomes |
| <input type="checkbox"/> Program title (title was () | <input type="checkbox"/> Accreditation information |
| <input checked="" type="checkbox"/> Description attached | <input type="checkbox"/> Discontinuation (attach program discontinuation plan that includes transition of students and timetable for phasing out courses) |
| <input type="checkbox"/> Type of award | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Advisors | |
| <input type="checkbox"/> Articulation information | |

Show all changes on the attached page from the catalog.

Rationale for proposed changes or discontinuation:

Revise description to better reflect program changes.
recent

Financial/staffing/equipment/space implications:

None

List departments that have been consulted regarding their use of this program.

None

Signatures:

Reviewer	Print Name	Signature	Date
Initiator	Amanda Scheffler	<i>Amanda Scheffler</i>	3-11-16
Department Chair	Glenn Kay	<i>Glenn Kay</i>	3-11-16
Division Dean/Administrator	Brandon Tucker	<i>Brandon Tucker</i>	3/11/16
Vice President for Instruction	Michael Nealon	<i>Michael Nealon</i>	4/6/16
President	Rose Bellanca	<i>Rose Bellanca</i>	4/6/16

Do not write in shaded area. Entered in: Banner C&A Database Log File Board Approval

Please submit completed form to the Office of Curriculum and Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

Approved by BOT 4/26/16

ACADEMICS

Welding and Fabrication Principles (CTWLDS)

Certificate

2016 - 2017

Description

This program prepares students for entry-level jobs involving gas welding, brazing and various combinations of arc welding processes, where they work under the supervision of an experienced welding technician. The program also gives students a foundation for WCC's advanced certificate.

See attached.

Articulation

Eastern Michigan University, several BS degrees.

Copies can be obtained from the Counseling Office, a program advisor or from the Curriculum and Assessment Office Web site:
www4.wccnet.edu/departments/curriculum/articulation.php?levelone=colleges.

Contact Information

Division: Adv Tech/Public Serv Careers
Department: Welding and Fabrication Dept
Advisors: [Bradley Clink](#)
[Bradley Hoth](#)
[Glenn Kay II](#)
[Amanda Scheffler](#)

Requirements

(Items marked in orange are available online.)

Requirements

Class	Title	Credits
<u>NCT 120</u>	Introduction to 2D CAD CAM Programming and Applications	2
<u>WAF 106</u>	Welding Print Reading	3
<u>WAF 109</u>	Welding Safety and OSHA Regulations	2
<u>WAF 125</u>	Introduction to Welding Processes I	2
<u>WAF 126</u>	Introduction to Welding Processes II	2
<u>WAF 130</u>	Shielded Metal Arc Welding (SMAW)	4
<u>WAF 131</u>	Thermal Cutting, Gouging and Weld Repair	3
<u>WAF 139</u>	Basic Metal Fabrication	3
<u>WAF 140</u>	Inspection and Testing	3
Total		24
Total Credits Required:		24

Welding and Fabrication Principles CTWLDS

Description:

This certificate introduces students to safe welding and cutting practices and principles including, proper technique and position, weld quality requirements, destructive and non-destructive testing and examinations methods, print reading and interpretation of welding symbols as well as basic metal fabrication. Students will use the foundation and working knowledge to weld in all processes, perform repair techniques using thermal cutting and gouging, apply the requirements to execute quality welds and apply CNC programming language that can be used to produce parts that can be assembled and welded. This certificate serves as a fundamental pathway into the Welding Technology Advanced Applications Certificate and Welding Technology Degree. Students who successfully complete this certificate will have learned the skills sought by the workforce as an entry-level welder and fabricator.

Program Information Report

Welding and Fabrication Principles (CTWLDS)

Certificate

Program Effective Term: Fall 2016

High Demand Occupation High Wage Occupation

This program prepares students for entry-level jobs involving gas welding, brazing and various combinations of arc welding processes, where they work under the supervision of an experienced welding technician. The program also gives students a foundation for WCC's advanced certificate.

Articulation:

Eastern Michigan University, several BS degrees.

Copies can be obtained from the Counseling Office, a program advisor or from the Curriculum and Assessment Office Web site: <http://www4.wccnet.edu/departments/curriculum/articulation.php?levelone=colleges>.

Requirements		(24 credits)
NCT 120	Introduction to 2D CAD CAM Programming and Applications	2
WAF 106	Welding Print Reading	3
WAF 109	Welding Safety and OSHA Regulations	2
WAF 125	Introduction to Welding Processes I	2
WAF 126	Introduction to Welding Processes II	2
WAF 130	Shielded Metal Arc Welding (SMAW)	4
WAF 131	Thermal Cutting, Gouging and Weld Repair	3
WAF 139	Basic Metal Fabrication	3
WAF 140	Inspection and Testing	3
Minimum Credits Required for the Program:		24

PROGRAM CHANGE OR DISCONTINUATION FORM

Program Code: ~~CTWLDC~~ **CTWLDS** Program Name: ~~Welding~~ **Welding and Fabrication Principles** Effective Term: Fall 2016
 Division Code: ATP Department: WAFD

Directions:

1. Attach the current program listing from the WCC catalog or Web site and indicate any changes to be made.
2. Draw lines through any text that should be deleted and write in additions. Extensive narrative changes can be included on a separate sheet.
3. Check the boxes below for each type of change being proposed. Changes to courses, discontinuing a course, or adding new courses as part of the proposed program change, must be approved separately using a Master Syllabus form, but should be submitted at the same time as the program change form.

Requested Changes:

<input type="checkbox"/> Review	<input type="checkbox"/> Program admission requirements
<input checked="" type="checkbox"/> Remove course(s): WAF 105, 111, 123, 112, 124	<input type="checkbox"/> Continuing eligibility requirements
<input checked="" type="checkbox"/> Add course(s): WAF 109, 125, 126, 130, 131, 139, NCT 120 ^{WAF 140}	<input checked="" type="checkbox"/> Program outcomes Listed on the Program Assessment Planning Form
<input checked="" type="checkbox"/> Program title: Basic Certificate in WAF (does not change) Welding and Fabrication Principles	<input type="checkbox"/> Accreditation information
<input type="checkbox"/> Description	<input type="checkbox"/> Discontinuation (attach program discontinuation plan that includes transition of students and timetable for phasing out courses)
<input type="checkbox"/> Type of award:	<input type="checkbox"/> Other _____
<input checked="" type="checkbox"/> Advisors Glenn Kay II, Amanda Scheffler, Brad Clink	
<input type="checkbox"/> Articulation information	

Show all changes on the attached page from the catalog.

Rationale for proposed changes or discontinuation:
 The changes for this program have been discussed and recommended by the WAF Advisory Committee. This is an update for the program due to the change in welding processes and applications in the local welding industry. The new classes will better prepare WCC students to provide updated welding skills to local employers.

Financial/staffing/equipment/space implications:
 The finances for the equipment is from a grant. Staffing does not need to change but will require some training on new equipment. There is space for all new equipment with the planned construction changes to the welding lab and due to newer equipment being smaller than it was 30 years ago.

List departments that have been consulted regarding their use of this program.
 United Association of Plumbers and Pipefitters
 Iron Workers Union

Signatures:

Reviewer	Print Name	Signature	Date
Initiator	Amanda Scheffler		11-13-15
Department Chair	Glenn Kay		11-16-15
Division Dean/Administrator	Brandon Tucker		11/17/15
Vice President for Instruction	Michael Deaton		12/14/15
President			

Do not write in shaded area. Entered in: Banner 2/4/16 C&A Database Log File Board Approval

Please submit completed form to the Office of Curriculum and Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

logged 11/16/15 sj
 Office of Curriculum & Assessment

ACADEMICS

Welding Certificate

Certificate

2013 - 2014 2014 - 2015 2015 - 2016

Description

This program prepares students for entry-level jobs involving gas welding, brazing, and various combinations of arc welding processes, where they work under the supervision of an experienced welding technician. The program also gives students a foundation for WCC's Advanced Certificate in Welding Mechanics.

Articulation

Eastern Michigan University, several BS degrees.

Copies can be obtained from the Counseling Office, a program advisor, or from the Curriculum and Assessment Office Web site:

www.wccnet.edu/departments/curriculum/articulation.php?levelone=colleges.

Contact Information

- Division:** Adv Tech/Public Serv Careers
- Department:** Welding and Fabrication Dept
- Advisors:** [Bradley Smith](#)
[Carmen Kozlowski](#)
[Annette Scheitler](#)

Requirements

(Items marked in are available online.)

Major/Area Requirements

Class	Title	Credits
 WAF 125	Introduction to Welding Processes I	2
 WAF 126	Blueprint Reading for Welders	3
 WAF 127	Oxy-fuel Welding	4
 WAF 130	Shielded Metal Arc Welding	4
 WAF 131	Advanced Oxy-fuel Welding	4
 WAF 139	Advanced Shielded Metal Arc Welding	4
Total		21
Total Credits Required:		21

Additional Requirements

Add

- WAF 109 Welding Safety & OSHA Regulations 2 cr
 - WAF 126 Introduction to Welding Processes II 2 cr
 - WAF 131 Thermal Cutting, Gouging & Weld Repair 3 cr
 - WAF 139 Basic Metal Fabrication 3 cr
 - NCT 120 2D CAD/CAM for Shape Cutting 2 cr
 - WAF 140 Welding Inspection and Testing I 3 cr
- 24 cr

Welding (CTWLDC) Certificate

Program Effective Term: Fall 2004

This program prepares you for entry-level jobs involving gas welding, brazing, and various combinations of arc welding processes, where you will work under the supervision of an experienced welding technician. The program also gives you a foundation for WCC's Advanced Certificate in Welding Mechanics.

Major/Area Requirements		(21 credits)
WAF 105	Welding for Art & Engineering	2
WAF 106	Blueprint Reading for Welders	3
WAF 111	Welding I Oxy-Acetylene	4
WAF 112	Welding II Basic ARC	4
WAF 123	Welding III Advanced Oxy-Acetylene (OAW)	4
WAF 124	Welding IV Advanced ARC (SMAW)	4

Minimum Credits Required for the Program: 21

**Washtenaw Community College
Program Change Request Form**

Program Code: WLDC Program Title: Welding

Effective Year: F2000

1. Course Related Program Changes:

Course	Course Title	Elective Group (if applicable)	Credit	Sem	Change(s)
	See Attached Sheet For Changes				Remove <input type="checkbox"/> Add <input type="checkbox"/> Change Title <input type="checkbox"/> <input type="checkbox"/> Change Credit (was: _____) <input type="checkbox"/> Shift in Sequence (was: _____)
WAF105	Welding for Art & Engineering		2		Remove <input type="checkbox"/> Add <input checked="" type="checkbox"/> Change Title <input type="checkbox"/> <input type="checkbox"/> Change Credit (was: _____) <input type="checkbox"/> Shift in Sequence (was: _____)
WAF106	Blueprint Reading for Weld		3		Remove <input type="checkbox"/> Add <input checked="" type="checkbox"/> Change Title <input type="checkbox"/> <input type="checkbox"/> Change Credit (was: _____) <input type="checkbox"/> Shift in Sequence (was: _____)
WAF215	Welding V		4		Remove <input checked="" type="checkbox"/> Add <input type="checkbox"/> Change Title <input type="checkbox"/> <input type="checkbox"/> Change Credit (was: _____) <input type="checkbox"/> Shift in Sequence (was: _____)
					Remove <input type="checkbox"/> Add <input type="checkbox"/> Change Title <input type="checkbox"/> <input type="checkbox"/> Change Credit (was: _____) <input type="checkbox"/> Shift in Sequence (was: _____)
					Remove <input type="checkbox"/> Add <input type="checkbox"/> Change Title <input type="checkbox"/> <input type="checkbox"/> Change Credit (was: _____) <input type="checkbox"/> Shift in Sequence (was: _____)
					Remove <input type="checkbox"/> Add <input type="checkbox"/> Change Title <input type="checkbox"/> <input type="checkbox"/> Change Credit (was: _____) <input type="checkbox"/> Shift in Sequence (was: _____)
					Remove <input type="checkbox"/> Add <input type="checkbox"/> Change Title <input type="checkbox"/> <input type="checkbox"/> Change Credit (was: _____) <input type="checkbox"/> Shift in Sequence (was: _____)

2. Total Credit Hours for Program: Before Proposed Changes: 20 After Proposed Changes: 21

Non-Course Related Program Changes: (description, advisors, admission criteria, title, etc.)

4. Rationale for Proposed Changes: Vice President's Office - ISS

5. Financial/Staffing/Equipment/Space Implications: MAY 08 2000
Received

6. Has the department consulted with all departments that may be impacted? Yes No NA

7. Signatures:

Reviewer	Print Name	Signature	Date
Program Change Initiator:	William Figg	<i>William H. Figg</i>	5-8-00
Department Chair:	William Figg	<i>William H. Figg</i>	5-8-00
Division Dean:	Roger Bertoia	<i>Roger Bertoia</i>	5/8/00
VP, Instruction/Student Services:	Dr. Guy Altieri		

If significant changes are proposed, please attach a copy of the most recent program listing from the College Bulletin with changes marked on it. If courses are being changed as part of this proposal, course changes must be approved using the Course/Syllabus Approval Form.

discontinue WLDM

Data File _____ Curriculum File _____ Catalog 5/18/00

Welding Certificate (WLOC)

WAF 105	Welding for Art-Engineering	2 credits
WAF 111	Welding I Oxy-Acetylene (OAW)	4 credits
WAF 112	Welding II Basic ARC (SMAW)	4 credits
WAF 123	Welding III Advanced Oxy-Acetylene (OAW)	4 credits
WAF 124	Welding IV Advanced Arc (SMAW)	4 credits
WAF 106	Blueprint Reading for Welders	3 credits

Total: 21 credits

Program Approval Document
Achievement Certificate
In
WELDING TECHNOLOGY

Prepared by
William Figg
Welding and Fabrication Department
Washtenaw Community College

April 14, 1999

**WASHTENAW COMMUNITY COLLEGE
PROGRAM AUTHORIZATION FORM**

1. Program Title: Welding Technology Program Code: WLDC
 2. Division: TEC 3. Department: W/F CIP Code: _____
 4. Type of Program: A.A. A.S. A.A.S. A.T.S.
 Advanced Certificate Mastery Certificate Achievement Certificate Certificate of Completion
 5. Will this program be Perkins funded? yes no 6. Effective Year: Fall 1999

7. Program Description (for Catalog, brochures, etc.):
 This program prepares you to begin a career in the field of welding technology and fabrication or to update your skills if already employed in this field. The Welding Technology Achievement Certificate provides you with entry-level skills in gas welding, brazing, and various combinations of arc-welding processes. Upon completion, you will be prepared to work in an entry-level position, under the supervision of an experienced welding technician. All of the courses in this program may be applied toward the Welding Technology Mastery Certificate and Associate in Technical Studies Degree.

8. Advisors: William Figg, Clyde Hall

9. Admissions Criteria:	10. Criteria for Continuing Program Eligibility:
None	

11. Attach a Program Approval Document [PAD], which includes the following:
- A. Program Description
 - B. Program Goals
 - C. Needs Assessment
 - D. Enrollment Projections
 - E. Program Cost Analysis
 - F. Course Descriptions
 - G. Analysis of Affected Instructional Units
 - H. Articulations
 - I. Licensure/Accreditation

Approval Recommended:	Print Name	Signature	Date
Program Initiator:	<u>William Figg</u>	<u>William H. Figg</u>	<u>5-15-99</u>
Department Chair/Director:	<u>William Figg</u>	<u>William H. Figg</u>	<u>5-19-99</u>
Dean:	<u>Roger Bertola</u>	<u>Roger R. Bertola</u>	<u>4/23/99</u>
VP, Instruction/Student Services:	<u>Guy Altieri</u>	<u>Guy Altieri</u>	
President:	<u>Larry Whitworth</u>	<u>Larry Whitworth</u>	<u>6/3/99</u>
Date of Board Approval:	<u>May 25, 1999</u>		

Available on disk

COURSE REQUIREMENTS FOR PROGRAM

Course	Title	Credit	Pre-requisites/Co-requisites
WAF 111	Welding I Oxy-Acetylene	4	
WAF 112	Welding II Basic ARC	4	
WAF 123	Welding III Adv. OAW	4	WAF 111
WAF 124	Welding IV Adv. SMAW	4	WAF 112
WAF 215	Welding V Adv. GTAW & GMAW	4	
Minimum Credits Required:		20	

A. PROGRAM DESCRIPTION

This program prepares you to begin a career in the field of welding technology and fabrication or to update your skills if already employed in this field. The Welding Technology Achievement Certificate provides you with entry-level skills in gas welding, brazing, and various combinations of arc-welding processes. Frame cutting, grinding, repairing metal parts, and using layouts, blueprints, and work orders to weld metal parts together are all covered in this program. Upon completion, you will be prepared to work in an entry-level position, under the supervision of an experienced welding technician. All of the courses in this program may be applied toward the Welding Technology Mastery Certificate and Associate in Technical Studies Degree.

B. PROGRAM GOALS

- Provide short term career training as a welding and fabrication technician;
- Provide entry-level skills in gas welding, brazing, arc-welding processes, frame cutting, grinding, and repairing metal parts.
- Provide the basis for further study toward a Master Certificate or Associate's Degree.

C. NEEDS ASSESSMENT

This certificate is in response to the president's emphasis on short programs with specific entry-level job skills. It is made up of a subset of the existing Mastery Certificate and in that respect is merely a repackaging of existing courses to give students an option of a short-term certificate.

Employment Outlook:

The following information was taken from the Michigan Occupational Information System (MOIS, 1999).

- Michigan: According to the Michigan occupational Information System, (MOIS), employment of welders is expected to increase about as fast as the average for all occupations through the year 2005. The demand for welders will be affected by technological changes such as advances in robotics, visual and other machine-sensing capabilities, and computer-aided manufacturing all of which decrease production time and costs.
- Ann Arbor and Surrounding Area: Feedback from area employers and advisory committee members indicate a shortage of welders and lack of training.

Estimated Earnings:

- Information from MOIS suggests that graduates of this program can expect to earn between \$12.28 and \$19.55 per hour, depending on experience and level of responsibility. Welders employed by one Michigan utility company earned base rates between \$20.08 and \$24.29 an hour in 1997. The hourly rates for welders in Michigan were between \$14.19 and \$18.92.

D. ENROLLMENT PROJECTIONS

Enrollment Projections:

We expect to enroll between 20-30 students the first semester and expect increased enrollments once this program gets established.

Program Longevity:

The need for this program is expected to remain at the current level indefinitely.

E. PROGRAM COST ANALYSIS

Start-up costs: \$0

Existing courses, labs and staff will be used.

There will be no new cost to the department, the division, or the college. These courses are already being offered. It is expected that students enrolling in this program will fit into the sections already being offered.

Ongoing costs: (above current costs): \$0

No additional ongoing expenses above the department's normal budget.

F. COURSE DESCRIPTIONS

WAF 111 Welding I Oxy-Acetylene

This course focuses on the use of oxy-acetylene equipment to perform such operations as butt, lap, and fillet welds using filler rods; flame cutting, brazing and silver soldering. Safety procedures and practices of gas welding are emphasized.

WAF 112 Welding II Basic ARC

This course involves the use of arc welding equipment both A.C. and D.C. to perform such operations as butt, lap and fillet welds using bare and shielded electrodes, all-purpose and special electrodes. Study of electrical welding power supplies and electrodes is included. Safety procedures stressed.

WAF 123 Welding III Adv. OAW

Advanced instruction is provided in oxy-acetylene welding with emphasis on out of position welded joints. Procedures are covered and put in practice for fabricative welding joints on steel plate and pipe. Related theory included.

WAF 124 Welding IV Adv. SMAW

Advanced instruction is provided in arc welding using both A.C. and D.C. arc welding equipment. Emphasis is on out of position welded joints in mild steel, alloy steels and procedures covered for cutting, beveling and fabricating various welded joints. Related theory, codes and standards are included.

WAF 215 Welding V Adv. GTAW & GMAW

This course involved tungsten-inert gas shield arc welding with manually operated torch on such metals as aluminum, mild steel and stainless steel. Technical theory directly related to T.I.G. welding including the composition and properties of metals.

G. ANALYSIS OF AFFECTED INSTRUCTIONAL UNITS

No other instructional units will be affected.

H. ARTICULATIONS

This program is a career entry program and no articulations are expected.

I. LICENSURE/ACCREDITATION (IF APPLICABLE)

Not applicable

Automotive Technology

ACHIEVEMENT CERTIFICATE: AUTOMOTIVE SERVICE (AUTC)

ASV 141	Automotive Mechanics I.....	4
ASV 142	Automotive Mechanics II.....	4
ASV 143	Automotive Mechanics III.....	4
ASV 144	Automotive Mechanics IV.....	4
ASV 145	Automotive Mechanics V.....	4

Minimum Credits Required:20

MASTERY CERTIFICATE: AUTOMOTIVE MECHANICS (ASC)

ASV 124	Wheel Balance and Alignment.....	2
ASV 125	Brake Systems.....	2
ASV 141	Automotive Mechanics I.....	4
ASV 142	Automotive Mechanics II.....	4
ASV 143	Automotive Mechanics III.....	4
ASV 144	Automotive Mechanics IV.....	4
ASV 145	Automotive Mechanics V.....	4
ASV 212	Automatic Transmissions.....	2
ASV 218	Engine Performance Diagnosis, or ASV 160 Sm Eng Repair.....	2
ASV 227	Heating and Air Conditioning.....	2
ENG 107	Technical Communications or ENG 111 Composition I.....	3

Minimum Credits Required:33

ASSOCIATE IN APPLIED SCIENCE DEGREE: AUTOMOTIVE TECHNOLOGY (ASD)

General Requirements (18 credits)

CIS 100	Introduction to Computers.....	3
ENG 107	Technical Communication (or ENG 111).....	3
Elective*	Humanities Core Elements.....	1
MTH 090	Occupational Math.....	3
PHY 110	Applied Physics.....	4
PLS 112	Introduction to American Government.....	3
SCI 100	Intro to Natural Sciences (or BIO 101 or 102).....	1

Major Courses (39 Credits)

ASV 124	Wheel Balance and Alignment.....	2
ASV 125	Brake Systems.....	2
ASV 141	Automotive Mechanics I.....	4
ASV 142	Automotive Mechanics II.....	4
ASV 143	Automotive Mechanics III.....	4
ASV 144	Automotive Mechanics IV.....	4
ASV 145	Automotive Mechanics V.....	4
ASV 174	Automotive Co-op I or ASV 199 OJT.....	3
ASV 160	Small Engine Repair or ASV 218 Engine Perf Diagnosis.....	2
ASV 212	Automatic Transmissions - Mechanical.....	2
ASV 216	Electrical Circuits.....	2
ASV 222	Automatic Transmissions - Hydraulic.....	2
ASV 227	Heating and Air Conditioning.....	2
ASV 228	Driveability.....	2

Related Courses (3 Credits)

Elective	BMG 109, 140, PSY 100, 150, ELE 137, FLP 111, 226, MTT 100, 111, ROB 111, or WAF 100.....	3
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Minimum Credits Required:60

AUTOMOTIVE TECHNOLOGY PROGRAMS

Program Advisors:

Thomas Hemsteger, John Mann,
Bill Schuster

This program prepares students to begin careers in the field of automotive technology or to update their skills if already employed in this field.

The Automotive Service Achievement Certificate provides students with entry-level skills in the areas of brakes, suspensions, engine repair, electrical performance, and drive trains. Upon completion, students are prepared to work in entry-level positions, under the supervision of an experienced mechanic. All of the courses in this certificate may be applied toward a mastery certificate.

With the addition of 13 credit hours, students specialize in two or more skill areas to earn the Automotive Mechanics Mastery Certificate. This certificate prepares students for positions as specialists in their selected skill areas.

The associate degree provides an additional 27 credit hours in which students prepare for careers as automotive technicians. The associate degree program also prepares students to take state and national exams to become certified Master Automotive Technicians in engine repair, automotive transmission/transaxle, manual drive trains and axles, suspension and steering, brakes, electrical systems, heating and air conditioning, and engine performance.

Program Admission Requirements:

To enroll in these programs, students must have passing scores on the College's basic skills placement tests or be exempted from the tests.

WASHTENAW COMMUNITY COLLEGE
COURSE/SYLLABUS APPROVAL FORM (CSAF)

For help screens, select a field and press F1
SECTION I. COURSE SUBMISSION INFORMATION

4 credits

1. Course: (For an existing course enter the existing discipline, number, and title. For a new course enter the proposed number & title.)
 Discipline/No: WAF 111 Title: WELDING I OXY-ACETYLENE
 Division Code: TEC Department Code: WAFD Requested Start Term: F 99

2. Type of Approval: (applies to both new courses and changes)
 Full Approval
 Conditional Approval
 This proposal has received conditional approval previously.
 Term Offered: _____

3. Reason for Submission: This Course is being submitted for: (check all that apply)
 New Course Approval (Skip the rest of Section I and go directly to Section II.)
 Five-year Syllabus Review No changes to course
 Major Change(s)
 Minor Change(s) (If not due for review, submit sections I, II, and revised parts of Section III.)
 Reactivation of Inactive Course
 Termination (Submit Sections I and II only.)

4. Change Information: (Check all that apply. Make proposed changes in Section III, Course Syllabus.)

Minor Changes

Course Discipline/Number
 Course Title (was Welding (Basic Oxy-Acetylene))
 Course Description
 Capacity (capacity was: _____)
 Pre or Corequisites within Department
 Course Objectives (minor changes)
 Distribution of Contact Hours (contact hours were: lect: _____ lab _____ clin _____ exp _____)
 Distance Learning - minor (Attach Preliminary Approval Form for Distance Learning & the Section Handout.)
 Other _____

Major Changes (Major changes will be reviewed by Curriculum Committee.)

Credit hours (credits were: _____)
 Core Element Approval first time add additional elements
 Core Element Removal (Elements to be removed _____)
 Grading
 Pre or Corequisites outside Department
 Course Objectives (major changes)
 Total Contact Hours (total contact hours were: _____)
 Honors (Complete Part G of Section III, Honors Addendum.)
 Distance Learning - major (Attach Preliminary Approval Form for Distance Learning & the Student Handout for the Distance Section.)
 Other _____

5. Rationale for changes: PRESIDENT REQUEST

SECTION II. COURSE REVIEW INFORMATION AND SIGNATURES

1. Department Review (To be completed by department chair, if recommendation is no, initial and return to preparer with rationale attached.)

Will additional resources be required? yes no (If yes, explain _____)
 Have departments which may be affected by this course been consulted? yes no (Explain _____)
 Does the department support approval of this course? yes no

Print: William H. Filak Signature: William H. Filak Date: 3/1/99
Faculty/Preparer

Print: William H. Filak Signature: William H. Filak Date: 3/1/99
Department Chair

2. Division Review (To be completed by division dean, if recommendation is no, initial and return with rationale attached.)

If additional resources are needed, have they been secured? yes no No new resources are needed.
 Is this a curricular priority for your division? yes no (Comment _____)
 What is your estimate of projected enrollment? 20

Recommendation Yes No Roger R. Burton Date: 3/1/99
Division Dean's Signature

3. Curriculum Committee Review (Attach additional comments if necessary.)

Recommendation Yes No _____ Date _____
Curriculum Committee Chair's Signature

4. Vice President for Instruction and Student Services Approval (Attach additional comments if necessary.)

Recommendation Yes No Mary Oberlin Date: 3/3/99
Vice President's Signature

Date Filed: 3/1/99 ACS Code: _____ Catalog File Date: EMD 3/5/99 CIF File Date: 3/1/99
 Core Elements Approved: 2 New Syllabus Date: _____

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MAR 16 1999

MELISSA L. HASLER

WASHTENAW COMMUNITY COLLEGE
COURSE/SYLLABUS APPROVAL FORM (CSAF)

For help screens, select a field and press F1
SECTION I. COURSE SUBMISSION INFORMATION

1. Course: (For an existing course enter the existing discipline, number, and title. For a new course enter the proposed number & title.)
 Discipline/No: WAF 117 Title: WELDING II BASIC ARC
 Division Code: TEC Department Code: WAFD Requested Start Term: _____

2. Type of Approval: (applies to both new courses and changes)
 Full Approval
 Conditional Approval
 This proposal has received conditional approval previously.
 Term Offered: _____

3. Reason for Submission: This Course is being submitted for: (check all that apply)
 New Course Approval (Skip the rest of Section I and go directly to Section II.)
 Five-year Syllabus Review No changes to course
 Major Change(s)
 Minor Change(s) (If not due for review, submit sections I, II, and revised parts of Section III.)
 Reactivation of Inactive Course
 Termination (Submit Sections I and II only.)

4. Change Information: (Check all that apply. Make proposed changes in Section III, Course Syllabus.)

<p>Minor Changes</p> <input type="checkbox"/> Course Discipline/Number <input checked="" type="checkbox"/> Course Title (was: <u>Welding (Basic ARC)</u>) <input type="checkbox"/> Course Description <input type="checkbox"/> Capacity (capacity was: _____) <input type="checkbox"/> Pre or Corequisites within Department <input type="checkbox"/> Course Objectives (minor changes) <input type="checkbox"/> Distribution of Contact Hours (contact hours were: lect: _____ lab _____ clin _____ exp _____) <input type="checkbox"/> Distance Learning - minor (Attach Preliminary Approval Form for Distance Learning & the Section Handout.) <input type="checkbox"/> Other _____	<p>Major Changes (Major changes will be reviewed by Curriculum Committee.)</p> <input type="checkbox"/> Credit hours (credits were: _____) <input type="checkbox"/> Core Element Approval <input type="checkbox"/> first time <input type="checkbox"/> add additional elements <input type="checkbox"/> Core Element Removal (Elements to be removed _____) <input type="checkbox"/> Grading <input type="checkbox"/> Pre or Corequisites outside Department <input type="checkbox"/> Course Objectives (major changes) <input type="checkbox"/> Total Contact Hours (total contact hours were: _____) <input type="checkbox"/> Honors (Complete Part G of Section III, Honors Addendum.) <input type="checkbox"/> Distance Learning - major (Attach Preliminary Approval Form for Distance Learning & the Student Handout for the Distance Section.) <input type="checkbox"/> Other _____
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5. Rationale for changes: PRESIDENT REQUEST

SECTION II. COURSE REVIEW INFORMATION AND SIGNATURES

1. Department Review (To be completed by department chair, if recommendation is no, initial and return to preparer with rationale attached.)
 Will additional resources be required? yes no (If yes, explain _____)
 Have departments which may be affected by this course been consulted? yes no (Explain _____)
 Does the department support approval of this course? yes no

Print: William H. Ekala Faculty/Preparer Signature: William H. Ekala Date: 3/1/99
 Print: William H. Ekala Department Chair Signature: William H. Ekala Date: 3/1/99

2. Division Review (To be completed by division dean; if recommendation is no, initial and return with rationale attached.)
 If additional resources are needed, have they been secured? yes no No new resources are needed.
 Is this a curricular priority for your division? yes no (Comment _____)
 What is your estimate of projected enrollment? 30

Recommendation Yes No Regina R. Butera Division Dean's Signature Date: 3/1/99

3. Curriculum Committee Review (Attach additional comments if necessary.)
 Recommendation Yes No _____ Curriculum Committee Chair's Signature Date _____

4. Vice President for Instruction and Student Services Approval (Attach additional comments if necessary.)
 Recommendation Yes No Gay Attari Vice President's Signature Date: 3/3/99

Date Filed: 3/1/99 ACS Code _____ Catalog File Date: AND-3/8/99 CIF File Date: 3/1/99
 Core Elements Approved _____ New Syllabus Date _____

WASHTENAW COMMUNITY COLLEGE
COURSE/SYLLABUS APPROVAL FORM (CSAF)

For help screens, select a field and press F1

SECTION I. COURSE SUBMISSION INFORMATION

1. Course: (For an existing course enter the existing discipline, number, and title. For a new course enter the proposed number & title.)

Discipline/No: WAF123 Title: WELDING III ADV. OAW 4

Division Code: TEC Department Code: WAFD Requested Start Term: E 99

2. Type of Approval: (applies to both new courses and changes)

- Full Approval
 Conditional Approval
 This proposal has received conditional approval previously.

Term Offered:

3. Reason for Submission: This Course is being submitted for: (check all that apply)

- New Course Approval (Skip the rest of Section I and go directly to Section II.)
 Five-year Syllabus Review No changes to course
 Major Change(s)
 Minor Change(s) (If not due for review, submit sections I, II, and revised parts of Section III.)
 Reactivation of Inactive Course
 Termination (Submit Sections I and II only.)

4. Change Information: (Check all that apply. Make proposed changes in Section III, Course Syllabus.)

Minor Changes

- Course Discipline/Number
 Course Title (was: Welding (Adv. Oxy-Acetylene))
 Course Description
 Capacity (capacity was: _____)
 Pre or Corequisites within Department
 Course Objectives (minor changes)
 Distribution of Contact Hours (contact hours were: lect: _____ lab _____ clin _____ exp _____)
 Distance Learning - minor (Attach Preliminary Approval Form for Distance Learning & the Section Handout.)
 Other

Major Changes (Major changes will be reviewed by Curriculum Committee.)

- Credit hours (credits were: _____)
 Core Element Approval first time add additional elements
 Core Element Removal (Elements to be removed _____)
 Grading
 Pre or Corequisites outside Department
 Course Objectives (major changes)
 Total Contact Hours (total contact hours were: _____)
 Honors (Complete Part G of Section III, Honors Addendum.)
 Distance Learning - major (Attach Preliminary Approval Form for Distance Learning & the Student Handout for the Distance Section.)
 Other

5. Rationale for changes:

PRESIDENT REQUEST

SECTION II. COURSE REVIEW INFORMATION AND SIGNATURES

1. Department Review (To be completed by department chair, if recommendation is no, initial and return to preparer with rationale attached.)

Will additional resources be required? yes no (If yes, explain _____)
Have departments which may be affected by this course been consulted? yes no (Explain _____)
Does the department support approval of this course? yes no

Print: William H. Fible Faculty/Preparer Signature William H. Fible Date: 3/1/99

Print: William H. Fible Department Chair Signature William H. Fible Date: 3/1/99

2. Division Review (To be completed by division dean; if recommendation is no, initial and return with rationale attached.)

If additional resources are needed, have they been secured? yes no No new resources are needed.
Is this a curricular priority for your division? yes no (Comment _____)

What is your estimate of projected enrollment? 20
Recommendation Yes No Ronald Butcher Division Dean's Signature Date: 3/1/99

3. Curriculum Committee Review (Attach additional comments if necessary.)

Recommendation Yes No _____ Curriculum Committee Chair's Signature Date

4. Vice President for Instruction and Student Services Approval (Attach additional comments if necessary.)

Recommendation Yes No Ray Altieri Vice President's Signature Date: 3/3/99

Data File 3/1/99 ACS Code _____ Catalog File Date 3/9/99 CIP File Date 3/1/99
Core Elements Approved _____ New Syllabus Date _____

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MELISSA L. HASLER

**WASHTENAW COMMUNITY COLLEGE
COURSE/SYLLABUS APPROVAL FORM (CSAF)**

For help screens, select a field and press F1

SECTION I. COURSE SUBMISSION INFORMATION

1. Course: (For an existing course enter the existing discipline, number, and title. For a new course enter the proposed number & title.)
 Discipline/No: WAF 124 Title: WELDING IV ADV. SMAW 4
 Division Code: TEC Department Code: WAFD Requested Start Term: F 99

2. Type of Approval: (applies to both new courses and changes)
 Full Approval
 Conditional Approval
 This proposal has received conditional approval previously.
 Term Offered: _____

3. Reason for Submission: This Course is being submitted for: (check all that apply)
 New Course Approval (Skip the rest of Section I and go directly to Section II.)
 Five-year Syllabus Review No changes to course
 Major Change(s)
 Minor Change(s) (If not due for review, submit sections I, II, and revised parts of Section III.)
 Reactivation of Inactive Course
 Termination (Submit Sections I and II only.)

4. Change Information: (Check all that apply. Make proposed changes in Section III. Course Syllabus.)

<p>Minor Changes</p> <input type="checkbox"/> Course Discipline/Number <input checked="" type="checkbox"/> Course Title (was: <u>Advanced ARC Welding</u>) <input type="checkbox"/> Course Description <input type="checkbox"/> Capacity (capacity was: _____) <input type="checkbox"/> Pre or Corequisites within Department <input type="checkbox"/> Course Objectives (minor changes) <input type="checkbox"/> Distribution of Contact Hours (contact hours were: lect: _____ lab _____ clin _____ exp _____) <input type="checkbox"/> Distance Learning - minor (Attach Preliminary Approval Form for Distance Learning & the Section Handout.) <input type="checkbox"/> Other	<p>Major Changes (Major changes will be reviewed by Curriculum Committee.)</p> <input type="checkbox"/> Credit hours (credits were: _____) <input type="checkbox"/> Core Element Approval <input type="checkbox"/> first time <input type="checkbox"/> add additional elements <input type="checkbox"/> Core Element Removal (Elements to be removed _____) <input type="checkbox"/> Grading <input type="checkbox"/> Pre or Corequisites outside Department <input type="checkbox"/> Course Objectives (major changes) <input type="checkbox"/> Total Contact Hours (total contact hours were: _____) <input type="checkbox"/> Honors (Complete Part G of Section III, Honors Addendum.) <input type="checkbox"/> Distance Learning - major (Attach Preliminary Approval Form for Distance Learning & the Student Handout for the Distance Section.) <input type="checkbox"/> Other
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5. Rationale for changes: PRESIDENT REQUEST

SECTION II. COURSE REVIEW INFORMATION AND SIGNATURES

1. Department Review (To be completed by department chair, if recommendation is no, initial and return to preparer with rationale attached.)
 Will additional resources be required? yes no (If yes, explain _____)
 Have departments which may be affected by this course been consulted? yes no (Explain _____)
 Does the department support approval of this course? yes no

Print: William H. Fible Faculty/Preparer Signature: William H. Fible Date: 3/1/99
 Print: William H. Fible Department Chair Signature: William H. Fible Date: 3/1/99

2. Division Review (To be completed by division dean, if recommendation is no, initial and return with rationale attached.)
 If additional resources are needed, have they been secured? yes no No new resources are needed.
 Is this a curricular priority for your division? yes no (Comment _____)
 What is your estimate of projected enrollment? 20

Recommendation Yes No Reginald Burtis Division Dean's Signature Date: 3/1/99

3. Curriculum Committee Review (Attach additional comments if necessary.)
 Recommendation Yes No _____ Curriculum Committee Chair's Signature Date: _____

4. Vice President for Instruction and Student Services Approval (Attach additional comments if necessary.)
 Recommendation Yes No Key Allen Vice President's Signature Date: 3/3/99

Date File: 3/1/99 ACS Code: _____ Catalog File Date: CMO-3/8/99 CTF File Date: 3/1/99
 Core Elements Approved: _____ New Syllabus Date: _____

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MAR 16 1999

MELISSA L. HASLER

WASHTENAW COMMUNITY COLLEGE
COURSE/SYLLABUS APPROVAL FORM (CSAF)

For help screens, select a field and press F1
SECTION I. COURSE SUBMISSION INFORMATION

4

1. Course: (For an existing course enter the existing discipline, number, and title. For a new course enter the proposed number & title.)
Discipline/No: WAF 215 Title: WELDING II ADV. GTAW & SMAW

Division Code: TEC Department Code: WAFD Requested Start Term: FALL 99

2. Type of Approval: (applies to both new courses and changes)
 Full Approval
 Conditional Approval
 This proposal has received conditional approval previously.
Term Offered: _____

3. Reason for Submission: This Course is being submitted for: (check all that apply)
 New Course Approval (Skip the rest of Section I and go directly to Section II.)
 Five-year Syllabus Review No changes to course
 Major Change(s)
 Minor Change(s) (If not due for review, submit sections I, II, and revised parts of Section III.)
 Reactivation of Inactive Course
 Termination (Submit Sections I and II only.)

4. Change Information: (Check all that apply. Make proposed changes in Section III, Course Syllabus.)

<p>Minor Changes</p> <input type="checkbox"/> Course Discipline/Number <input checked="" type="checkbox"/> Course Title (was: <u>Adv. TIG and MIG Welding</u>) <input type="checkbox"/> Course Description <input type="checkbox"/> Capacity (capacity was: _____) <input type="checkbox"/> Pre or Corequisites within Department <input type="checkbox"/> Course Objectives (minor changes) <input type="checkbox"/> Distribution of Contact Hours (contact hours were: lect: _____ lab _____ clin _____ exp _____) <input type="checkbox"/> Distance Learning - minor (Attach Preliminary Approval Form for Distance Learning & the Section Handout.) <input type="checkbox"/> Other _____	<p>Major Changes (Major changes will be reviewed by Curriculum Committee.)</p> <input type="checkbox"/> Credit hours (credits were: _____) <input type="checkbox"/> Core Element Approval <input type="checkbox"/> first time <input type="checkbox"/> add additional elements <input type="checkbox"/> Core Element Removal (Elements to be removed _____) <input type="checkbox"/> Grading <input type="checkbox"/> Pre or Corequisites outside Department <input type="checkbox"/> Course Objectives (major changes) <input type="checkbox"/> Total Contact Hours (total contact hours were: _____) <input type="checkbox"/> Honors (Complete Part G of Section III, Honors Addendum.) <input type="checkbox"/> Distance Learning - major (Attach Preliminary Approval Form for Distance Learning & the Student Handout for the Distance Section.) <input type="checkbox"/> Other _____
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5. Rationale for changes: PRESIDENT REQUEST

SECTION II. COURSE REVIEW INFORMATION AND SIGNATURES

1. Department Review (To be completed by department chair, if recommendation is no, initial and return to preparer with rationale attached.)
Will additional resources be required? yes no (If yes, explain _____)
Have departments which may be affected by this course been consulted? yes no (Explain _____)
Does the department support approval of this course? yes no

Print: William H. Fiala Faculty/Preparer Signature: William H. Fiala Date: 3/4/99
Print: William H. Fiala Department Chair Signature: William H. Fiala Date: 3/1/99

2. Division Review (To be completed by division dean; if recommendation is no, initial and return with rationale attached.)
If additional resources are needed, have they been secured? yes no No new resources are needed.
Is this a curricular priority for your division? yes no (Comment _____)
What is your estimate of projected enrollment? 20

Recommendation Yes No Regan R. Burton Division Dean's Signature Date: 3/1/99

3. Curriculum Committee Review (Attach additional comments if necessary.)
Recommendation Yes No _____ Curriculum Committee Chair's Signature Date: _____

4. Vice President for Instruction and Student Services Approval (Attach additional comments if necessary.)
Recommendation Yes No _____ Vice President's Signature Date: 3-3-99

Date File 3/11/99 ACS Code _____ Catalog File Date CM 10 - 3/8/99 CIF File Date 3/11/99
Core Elements Approved _____ New Syllabus Date _____

**Welding (WLDC)
Achievement Certificate**

Division(s): Technology
Department(s): Welding and Fabrication

This program prepares you for entry-level jobs involving gas welding, brazing, and various combinations of arc welding processes, where you'll work under the supervision of an experienced welding technician. The program also gives you courses that may be applied toward WCC's Mastery Certificate and Associate in Technical Studies Degree in Welding.

Advisors: William Figg, Clyde Hall

Articulation:

All of the courses in this program may be applied toward the achievement certificate and associate's degree in Welding.

Program Admission Requirements:

None

Required Courses (20 Credits)

WAF 111	Welding I Oxy-Acetylene	4
WAF 112	Welding II Basic ARC	4
WAF 123	Welding III Advanced OAW	4
WAF 124	Welding IV Advanced SMAW	4
WAF 215	Welding V Advanced GTAW & GMAW	4

Minimum Credits Required:

20

Washtenaw Community College
Curriculum and Articulation Services

Effective Term: Fall 1999

Washtenaw Community College EEO / Title IX / Section 504 Statement 97

Washtenaw Community College does not discriminate on the basis of race, sex, color, religion, national origin, age, disability, height, weight, marital status, or veteran status in provision of its educational programs and services or in employment opportunities and benefits. WCC is committed to compliance in all of its activities and services with the requirements of Title IX of the Educational Amendments of 1972, Public Act 453, Section 504 of the Rehabilitation Act of 1973, Title VII of the Civil Rights Act of 1964 as amended, Public Act 220, and the Americans with Disabilities Act of 1990.

Inquiries concerning programs and services under Title IX and Section 504, and the Americans with Disabilities Act should be directed to the Office of the Dean of Student Services; Room 225A, Student Center Building, 734- 973-3536. Inquiries regarding compliance in employment should be directed to the College Affirmative Action Officer in the Office of Human Resource Management, Room 120, Business Education Building, 934- 973-3497. Inquiries concerning access to facilities should be directed to the Director of Plant Operations, Plant Operations Building, 734- 677-5300.