## Washtenaw Community College

&

GASC Technology Center

**2017 - 2018 School Year** 

2018 - 2019 School Year 2019 - 2020 School Year

#### Secondary/Post Secondary Articulation Agreement Annual Reauthorization

The instructors convened and agree that the current articulation agreements for the courses and programs contained in this document meet agreed upon conditions and the outcomes have been updated. The articulation agreements for all programs contained in this document will be reauthorized for students for the 2017-18. The articulation agreements will be continued for the 2018-2019 and 2019-2020 school years following a review of course and/or program changes. An addendum will be attached to note any changes for subsequent academic years.

Participating teachers at the secondary level will provide the appropriate student performance record for each student which certifies areas and levels of task achievement. This record will serve as proof of competency for the recommended credit.

Eligible students will be informed of the opportunity to earn college credit.

#### Contained in this document are:

- List of specific parties in the 2+2 program alignment and articulation
- The secondary and post-secondary state approved CIP code
- The agreement start date for years one, two and three
- The H.S. graduation for years one, two and three
- Last date to post credit for graduates during years one, two and three
- The secondary program fulfills the corresponding course at the post-secondary program
- Specific courses that are the foundation of the aligned Tech Prep program articulation agreement. Include academic as well as technical course requirements
- Specific timeline to apply for the credit, or to take a competency test to qualify for the credit
- Specific requirements from the post-secondary institution that a student must meet before articulated credits are granted

This agreement remains effective for two additional years after expiration date to permit student access to the agreed upon credits. Please see effective dates.

Curriculum information contained in this document is subject to change at any time. Please consult with college advisor or college website for more current and up-to-date information.

Secondary – Post-secondary

**Curriculum Aligned Course List** 

Department.	Title CIP Code	Course #	Title CIP Code	
Automobile  1 Students will to Department.	Technician 47.0604			
<sup>1</sup> Students will the Department.	Technician 47.0604	-	No. 4 a . O a monta a a	
Department.			Auto Services	
Department.	Statewide Agreement	1		47.0604
Department.	Otatowide Agreement	ASV 130	Automotive Maintenance (4cr)	
Department.		ASV 132	Automotive Engines (4cr)	
	be required to pass a written test p	rior to the awar	rd of credit. Please contact the Automot	ive Services
	min., Mgmt. & Operations	E	Business	
	52.0299	BMG 140	Introduction to Pusinger (201)	52.0000
Callisian Bar	Statewide Agreement		Introduction to Business (3cr)	
Comsion Kep	pair Technician 47.0603	P	auto Body Repair	47.0603
	Statewide Agreement	ABR 111	Introduction to Auto Body Repair	(4cr)
	Statewide Agreement	ABR 112	Introduction to Automotive Refinis	hing <i>(4cr)</i>
Computer Sy	vs. Networking and Technolo	gy C	Computer Systems and Networking	ng 11.0901
	Statewide Agreement	CIS 100	Introduction to Computers and So Applications (3cr)	
	Statewide Agreement	CIS 110	Introduction to Computer Informat (3cr)	ion Systems
Computer Pr	ogramming 11.0201	I	nformation Systems	11.0103
	71.0201		Introduction to Computers and So	
		CIS 100	Applications (3cr)	
	Statewide Agreement	CIS 110	Introduction to Computer Informat (3cr)	•
		CPS 171 or CPS 161 *	Introduction to Programming with Introduction to Programming with	
* Students will I	be awarded credit for CPS 171. The	ey may reques		
Construction	Technology 46.000	C	Construction Technology	46.0000
	Statewide Agreement	CON 108	Introduction to Construction Techr	nology (2cr)
	Statewide Agreement	CON 104	Construction Framing I (3cr)	
Cosmetology	12.0400		Elective Credit	
	Statewide Agreement	TRI 300 <sup>1</sup>	Elective Credit (20cr)	
1 Students mus	t present their Michigan State Boa	rd of Cosmetolo	ogy License to be awarded credit.	
Cooking & R	elated Culinary Arts 12.0500	C	Culinary & Hospitality Manageme	nt 12.0504
		CUL 110 <sup>2</sup>	Sanitation and Hygiene (2cr)	
		CUL 145	Introduction to Dining Room Proto	col (3cr)
<sup>2</sup> Students mus hours in order t			edit for CUL 110. ACF requires a minim	
Digital Multin		V	leb Design and Development	11.0801
	Statewide Agreement	WEB 110	Web Development I (4cr)	
Finance	52.0800	<u> </u>	Accounting	52.0302

		T		,
	Statewide Agreement	ACC 100	Accounting Practices for Business (3cr)	
	Otatewide Agreement	ACC 131	Accounting Information Systems (3cr)	
Graphic and Printing Technology 11.0301		G	Graphic Design	54.0409
		GDT 106	Illustrator Graphics (3cr)	
	Statewide Agreement	GDT 107	InDesign (3cr)	
		GDT 108	Photoshop Graphics (3cr)	
Health/Thera	peutic Services 51.0000	H	lealth Science	51.1601
		HSC 100 <sup>3</sup>	Basic Nursing Assistant Skills (4cr)	
	Statewide Agreement	HSC 101	Healthcare Terminology (1cr)	
	State wide Agreement	HSC 131 <sup>4</sup>	CPR/AED for the Professional Rescu Aid (1cr)	er and First
criteria to apply website at				

# Accounting/Finance HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9 Speech Art or Music or Graphics Biology Algebra Non Western Civilization Law P.E. / Fitness	English 10 Physical or Earth Science Geometry Western Civilization P.E. Elective	Literature Chemistry Algebra 3, 4 U.S. History Computer Accounting I	English Elective Physics Math Analysis U.S. Government Computer Accounting II

#### **WASHTENAW COMMUNITY COLLEGE**

#### **Accounting**

## **Associate in Applied Science Degree**

Semester 1		
ACC 111	Principles of Accounting I	3
BMG 140	Introduction to Business	3
BOS 184	Spreadsheet Software Applications I	3
CIS 110	Introduction to Computer Information Systems	3
Math	Select from MTH 125, 160, 176 or 181	4
Semester Total		16
Semester 2		
ACC 110	Payroll Accounting	2
TAX 101	Income Taxes for Individuals	3
ACC 122	Principles of Accounting II	3
ACC 131	Accounting Information Systems	3
BMG 111	Business Law I	3
COM 101	Fundamentals of Speaking	3
Semester Total		17
Semester 3		
Nat. Sci.	Elective(s)	3
Arts/Human.	Elective(s)	3
ACC 213	Intermediate Accounting	3
BMG 265	Business Statistics	3
ECO 211	Principles of Economics I	3
Semester Total		15
Semester 4		
ACC 214	Intermediate Accounting I	3
ACC 225	Managerial Cost Accounting	3
BMG 207	Business Communication	3
ECO 222	Principles of Economics II	3
ENG 111	Composition I	4
Semester Total		16
Program Totals		64

#### **Automotive Services**

## HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9 Algebra Science Social Studies Health/ Physical Ed Foreign Language	English 10 Math Science Social Studies Foreign Language	English 11 Math Social Studies Science Collision Repair & Refinishing I	English 12 Math Social Studies Collision Repair & Refinishing II
Choice of Electives: Visual/Performing/Applied Arts	Choice of Electives:		

#### **WASHTENAW COMMUNITY COLLEGE**

Auto Body Repair Certificate

Semester 1		
ABR 111	Introduction to Auto Body Repair	4
ABR 112	Introduction to Automotive Refinishing	4
Rest. Elect	Restricted Electives	4
Semester Total		12
Semester 2		
ABR 113 or 135	Estimating and Shop Operations or Collision-Related Mechanical & Electrical Repairs	4
ABR 123	Technical Auto Body Repair	4
Rest. Elect	Restricted Electives	4
Semester Total		12
Semester 3		
ABR 124	Technical Automotive Refinishing	4
Rest. Elect	Restricted Electives	2
Semester Total		6
Program Totals		30

## **Automotive Technologies**

#### HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9 Algebra Science I (311) Career Prep & Expo (905) Basic Phys Ed (612) World History (410)	American Experience (056) Public Speaking Geometry Science II (313) U.S. History (422) Business Service Tech I	Literature & Society (060) Composition (023) U.S. Government (445) Integrated Trigonometry (221) Applied Physics (331) Auto Tech I (937)	English Elective Sociology (435) Auto Tech II (945) Accounting I (524)

#### **WASHTENAW COMMUNITY COLLEGE**

#### **Automotive Service Technology**

## **Associate in Applied Science Program**

Semester 1		
ASV 130	Automotive Maintenance	4
ASV 131	Automotive Electrical	4
Math	Elective	3
Writing	Elective	3
ASV Elect	ABR 116, ASV 135, MTT 102 or WAF 105	2
Semester Total		16
Semester 2		
ASV 132	Automotive Engines	4
ASV 133	Automotive Fuel	4
ASV 134	Automotive Transmission	4
Elective	Elective	3
Semester Total		15
Semester 3		
ASV 254	Suspension and Steering	2
ASV 255	Brakes	2
ASV 256	Electrical and Electronic Systems	4
ASV 258	Engine Drivability	2
Speech/Comp.	Elective	3
Arts/Hum	Elective	3
Semester Total		16
Semester 4		
Nat. Sci	Elective	3
Soc. Sci	Elective	3
Rest. Elect	ASV Restricted Elective	4
Elective	Minimum 60 credits	3
Semester Total		13
Program Totals		60

#### **Business**

#### HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9 Speech Art or Music or Graphics Biology Algebra Non Western Civilization Law P.E. Fitness	English 10 Physical or Earth Science Geometry Western Civilization P.E. Elective	Literature Chemistry or Elective Algebra 3/4 or Elective U.S. History Computer Applications 1	English Elective Physics or Elective Math Analysis or Elective U.S. Government Business

#### **WASHTENAW COMMUNITY COLLEGE**

#### **Business**

#### **Associate in Arts Degree**

Semester 1		
Nat. Sci.	Elective(s)	3
Math	Select one of MTH 125, MTH 160, MTH 176 or MTH 181	4
ENG 111	Composition I	4
BMG 140	Introduction to Business	3
Semester Total		14
Semester 2		
Arts/Human.	Elective(s)	3
Writing/Comm.	Elective(s)	3
ACC 111	Principles of Accounting I	3
BMG 207	Business Communication	3
CIS 110	Introduction to Computer Information Systems	3
Semester Total		15
Semester 3		
ACC 122	Principles of Accounting II	3
Soc. Sci.	Elective(s) *	3
BMG 265	Business Statistics	3
ECO 211	Principles of Economics I	3
BMG 111	Business Law I	3
Semester Total		15
Semester 4		
Bus Elective(s)	BMG 181, BMG 230 or BMG 250**	3
Arts/Human.	Elective(s)***	3
ECO 222	Principles of Economics II	3
Nat. Sci. Lab	Elective(s)	3
Elective(s)	Elective(s) to reach a minimum of 60 credits.	4
Semester Total		16
Program Totals		60

**Additional Program Opportunities:** Accounting Associate Degree, Culinary Arts and Management Associate Degree, Information Systems Transfer Associate Degree

## **Construction Technology**

#### HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9 Speech Art or Music or Graphics Algebra Biology Non Western Civilization Law P.E. Fitness	English 10 Physical or Earth Science Geometry Western Civilization P.E. Elective Computer Applications 1	Literature Chemistry or Elective Algebra 3/4 or Elective U.S. History Homebuilding I	English Elective Physics or Elective Math Analysis or Elective U.S. Government Homebuilding II

#### **WASHTENAW COMMUNITY COLLEGE**

## **Construction Technology**

## **Associate in Science Degree**

Semester 1		
ENG 111	Composition I	4
Arts/Human.	Elective(s)	3
CON 108	Introduction to Construction Technology	2
MTH 178	General Trigonometry	3
CON 104	Construction Framing I	3
Semester Total		15
Semester 2		
Speech/Comp.	Elective(s)	3
CMG 130	Construction Site Safety and MIOSHA Regulations	3
PLS 112	Introduction to American Government	3
CON 105	Construction Framing II	3
Nat. Sci. 1	Elective(s)	3
Semester Total		15
Semester 3		
Gen Ed	Gen Ed Elective(s) to reach minimum 30 credits	1
Arts/Human. 2	Elective(s)	3
PHY 105	Conceptual Physics	4
CON 204	Construction Finishes Interior	3
CON 205	Construction Finishes Exterior	3
Semester Total		14
Semester 4		
Electives(s)	Elective(s) to reach minimum 60 credits	4
Soc. Sci. 2	Elective(s)	3
CON 220	Construction Licensing, Contracts, and Start Up	3
CON 230	Construction Production	3
CON 255	Construction Concrete and Masonry	3
Semester Total		16
Program Totals		60

## **Computer Sys. Networking & Technology**

#### HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9 Algebra (211) or Integrated Algebra A (216) Science I (311) Career Prep & Expo (905) Basic Phys Ed (612) World History (410)	American Experience (056) Public Speaking Integrated Geometry or Integrated Algebra B (217) Science II (313) U.S. History (422) Public Speaking	Literature & Society (060) Composition (023) U.S. Government (445) Business Service Technology I (526) Basic Art (615) Graphic Communications (914)	English Elective Visual Imaging Technology (924) Web Authoring (522)

#### **WASHTENAW COMMUNITY COLLEGE**

# Computer Systems and Networking - Computer and Network Security Concentration (CSEC) Associate in Applied Science Degree

Semester 1		
CST 118	MS Command Line Fundamentals	2
CST 160	Computer Technology I	4
CST 165	Computer Technology II	4
CST 225	PC Networking	3
Speech/Comp.	Elective(s)	3
Semester Total		16
Semester 2		
Writing	Elective(s)	3
Math	Elective(s)	3
CIS 121	Linus/UNIX I: Fundamentals	4
CNT 201	Administering Microsoft Windows Client Operating System	3
CNT 211	Installation, Storage and Compute Windows Server 2016	4
Semester Total		17
Semester 3		
Natural Science	Elective(s)	3
Soc. Sci.	Elective(s)	3
CNT 206	Introduction to Networks	4
CNT 216	Routing and Switching Essentials	4
CSS 200	Introduction to Network Security	4
Semester Total		18
Semester 4		
Arts/Human.	Elective(s)	3
CIS 161	Introduction to PowerShell	4
CSS 205	Essentials of Network Penetration Testing	4
CSS 210	Basic Network Perimeter Protection	4
Semester Total		15
Program Totals		66

**Additional Program Concentrations Include:** Computer Forensics (CSFC), Linux Network Operating System (LNOS). Local and Wide Area Networking (NETW), Microsoft Network Operating System (MNOS)

#### HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9 Algebra (211) or Integrated Algebra A (216) Science I (311) Career Prep & Expo (905) Basic Phys Ed (612) World History (410)	American Experience (056) Public Speaking Integrated Geometry or Integrated Algebra B (217) Science II (313) U.S. History (422) Public Speaking	Literature & Society (060) Composition (023) U.S. Government (445) Business Service Technology I (526) Basic Art (615) Computer Programming	English Elective Visual Imaging Technology (924) Computer Programming

#### **WASHTENAW COMMUNITY COLLEGE**

Information Systems: Programming in C++

#### **Associate in Science**

Semester 1		
Speech/Comp	Elective(s)	3
Nat. Sci	Elective(s)	3
CPS 171	Introduction to Programming with C++	4
ENG 111	Composition I	4
Semester Total		14
Semester 2		
Arts/Human.	Elective(s)	3
CIS 121	Linux/UNIX I: Fundamentals	4
CPS 271	Object Features of C++	4
Soc. Sci.	Elective(s)	3
Math	MTH 176 or higher 4 credit	4
Semester Total		17
Semester 3		
Nat. Sci. Lab	Elective(s)	3
CPS 276	Web Programming Using Apache, MySQL and PHP	4
CPS 272	Data Structures in C++	4
Soc. Sci.	Elective(s)	3
Semester Total		14
Semester 4		
Arts/Human.	Elective(s)	3
Elective	Students must complete 100-level or above transferrable course(s) to reach a minimum of 60 credits. Possible CIS/CPS electives include: CIS 282, CPS 161, CPS 251, CPS 261, CPS 278, CIS 221	6
CPS 298	Professional Team Programming	4
Gen Ed	Elective(s) to reach minimum 30 General Education (0-1)	1
Semester Total		14
Program Totals		60

## **Cooking and Related Culinary Arts**

## HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9 Math 9 History/Geography Science 9 PE/Health Elective	English 10 Math 10 History/Geography Science 10 PE/Health Elective	English 11 Math Elective Government Science Elective Hospitality & Food Services	English Elective Math Elective Social Studies Elective Hospitality & Food Services

#### **WASHTENAW COMMUNITY COLLEGE**

## **Culinary Arts and Management**

## **Associate in Applied Science**

Semester 1		
Writing	Elective(s)	3
CUL 110	Sanitation and Hygiene*	2
CUL 116	Culinary Principles	3
CUL 145	Dining Room Service	3
CUL 118	Culinary Nutrition	3
Math	Elective(s)	3
Semester Total		17
Semester 2		
Speech/Comp.	Elective(s)	3
Nat. Sci.	Elective(s)	3
CUL 104	Baking Science	2
CUL 120	Classical Kitchen	3
CUL 141	Principles of Cost Control	3
CUL 150	Management and Supervision	3
Semester Total		17
Semester 3		
Arts/Human.	Elective(s)	3
CUL 114	Fundamentals of Baking	3
CUL 121	Modern Kitchen	3
CUL 208	Menu Planning	3
CUL 221	Culinary Purchasing	3
CUL Elective	Choose 1: CUL 232, CUL 233, CUL 234, CUL 251	2
Semester Total		17
Semester 4		
CUL 115	Fundamentals of Pastry	3
CUL 210	Garde Manger	3
CUL 230	American Regional and Global Cuisine	3
CUL 245	Beverage Management	2
CUL Elective	Choose 1: CUL 232, CUL 233, CUL 234, CUL 251	2

Social Science	Elective(s)	3
Semester Total		16
Program Totals		67

#### **Graphic & Printing Technology**

#### HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9	English 10	English 11	English 12
Algebra I	Geometry	Algebra II	Math Credit
World History/Geography	U.S. History/Geography	Civics/Economics	Science Credit
Biology	Physics or Chemistry	Visual Imaging Technology	Visual Imaging Technology
World Language	World Language	I Elective	III Elective
Phys Ed/Health	Visual/Performing/Applied	Visual Imaging Technology	
	Arts	II Elective	

## WASHTENAW COMMUNITY COLLEGE Program Layout by Semester

## **Graphic Design**

#### **Associate in Applied Science**

Semester 1		
ENG 111	Composition I	4
GDT 101	History of Graphic Design	3
GDT 104	Introduction to Graphic Design	4
WEB 115	Introduction to Interface Design	4
Soc. Sci.	Elective(s)	3
Semester Total		18
Semester 2		·
Speech	Elective(s)	3
Restricted Elect	Elective(s)	3
GDT 100	Typography I	4
GDT 112	Principles and Problem Solving in Graphic Design	4
Semester Total		14
Semester 3		·
GDT 215	Typography II	4
GDT 220	Publication Design	4
GDT 239	Imaging and Illustration	4
WEB 215	Intermediate Interface Design	4
Semester Total		16
Semester 4		
GDT 252	Advanced Digital Studio	4
GDT 290	Professional Practices	4
Nat. Sci.	Elective(s)	3
COM 101	Fundamentals of Speaking	3
Restricted Elect	Elective(s)	3
Semester Total		17
Program Totals		65

#### Radio & TV Broadcasting Technology

#### HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9 Algebra I World History/Geography Biology World Language Phys Ed/Health	English 10 Geometry U.S. History/Geography Physics or Chemistry World Language Visual/Performing/Applied Arts	English 11 Algebra II Civics/Economics Radio & TV Broadcasting	English 12 Math Credit Science Credit Radio & TV Broadcasting

#### **WASHTENAW COMMUNITY COLLEGE Program Layout by Semester**

## **Digital Video Production**

#### **Associate in Arts**

Semester 1		
Nat. Sci.	Elective(s)*	3
ENG 111	Composition I	4
HUM 120, HUM		3
150 or HUM 185	Introduction to Film, International Cinema or The Horror Film	
VID 105	Foundations in Digital Video I	4
Semester Total		14
Semester 2		
HUM 160	American Film	3
VID 125	Foundations in Digital Video II	4
VID 270	Documentary Video Production I	3
VID 255	Green Screen I	3
Math	Elective(s)	3
Semester Total		16
Semester 3		
Speech/Comp.	Elective(s)	3
VID 210 or VID 240	Screenplays or Digital Cinematography	3
VID 276	Video Graphics I	3
VID	Elective(s)	3
Soc. Sci.	Elective(s)	3
Semester Total		15
Semester 4		
Nat. Sci. Lab	Elective(s)	3
Soc. Sci.	Elective(s)	3
VID 203	Web Video	3
VID 295	Portfolio and Project Seminar	3
Arts/Human.	Elective(s)	3
Semester Total		15
Program Totals		60

#### **DIGITAL MEDIA ARTS**

#### HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9 Algebra I World History/Geography Biology World Language Phys Ed/Health	English 10 Geometry U.S. History/Geography Physics or Chemistry World Language Visual/Performing/Applied Arts	English 11 Algebra II Civics/Economics Web I Elective	English 12 Math Credit Science Credit Web II Elective

#### **WASHTENAW COMMUNITY COLLEGE**

## Web Design and Development - Web Design Concentration Associate in Applied Science

Semester 1		
ENG 111	Composition I	4
WEB 110	Web Development I	4
WEB 113	Web User Experience I	4
WEB 115	Introduction to Interface Design	4
Semester Total		16
Semester 2		
WEB 210	Web Development II	4
WEB 213	Web User Experience II	4
WEB 215	Intermediate Interface Design	4
COM 101	Fundamentals of Speaking	3
Semester Total		15
Semester 3		
Arts/Human.	Elective(s)*	3
Social Science	Elective(s)*	3
WEB 235	Advanced Interface Design	4
Elective	Any course from ANI, GDT, PHO, VID or WEB	3
Elective	WEB 233 or any GDT Course	3
Semester Total		16
Semester 4		
Nat. Sci.	Elective(s)	3
Math	Elective(s)	3
	Any 100 level ANI, GDT, PHO, VID or WEB to meet minimum of 60	3
Elective	credit hours	
WEB 255	Interaction Design	4
Semester Total		13
Program Totals		60

## **Health Science Technology**

#### HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9 Speech Art or Music or Graphics Biology* Algebra * Non Western Civilization Law P.E. / Fitness	English 10 Physical or Earth Science Geometry Western Civilization P.E. Elective Computer Applications 1	Literature Chemistry* Algebra 3/4 or Elective U.S. History Health Sciences Technology Health Sciences Internship	English Elective Physics or Elective Math Analysis or Elective U.S. Government Health Sciences Technology Health Sciences Internship

#### **WASHTENAW COMMUNITY COLLEGE**

#### **Health Care Foundations \***

#### Certificate

Semester 1		
HCFELEC1	Required Elective 1: BIO 101, BIO 102, 109, 111	4
HCFELEC2	Required Elective 2: COM 101, COM 102 or COM 200	3
ENG 111	Composition I	4
HSC 101	Healthcare Terminology	1
HSC 131	CPR/AED for the Professional Rescuer and First Aid	1
Semester Total		13
Semester 2		
HCFELEC3	Required Elective 3: MTH, 125, MTH 160 or MTH 167, MTH 169 or Math Level 4 or higher course	3
HCFELEC4	Required Elective 4: HSC 100, HSC 103 or RAD 100 for 1-4 credits	1-4
PHL 244	Ethical and Legal Issues in Health Care	3
HCFELEC5	PSY 100, PSY 206 or SOC 100	3
Semester Total		10 -13
Program Totals		23 - 26

<sup>\*</sup> Please see the WCC website for current program and detailed admissions requirements and course information. www.wccnet.edu/health

Additional Program Opportunities: Dental Assisting Certificate, Health Program Preparations Associate in Science Degree, Nursing Associate in Applied Science Degree, Pharmacy Technology Certificate, Physical Therapist Assistant Associate in Applied Science Degree. Radiography Associate in Applied Science Degree, Surgical Technology Associate in Applied Science Degree

## **Mechatronics**

#### HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9	English 10	English 11	English 12
Algebra I	Geometry	Algebra II	Math Credit
World History/Geography	U.S. History/Geography	Civics/Economics	Science Credit
Biology	Physics or Chemistry	Mechatronics	Mechatronics
World Language	World Language		
Phys Ed/Health	Visual/Performing/Applied		
	Arts		

## WASHTENAW COMMUNITY COLLEGE Program Layout by Semester

## Mechatronics - Numerical Control Programming Concentration\* Associate in Applied Science

\*One of 3 possible concentrations

FLP 110		One of a possible concentrations	
FLP 110	Semester 1		
NCT 101	FLP 101	Fluid Power Fundamentals - I	
NCT 110         Introduction to Computerized Machining (CNC) - II**         2           ROB 101         Robotics I - II         2           ROB 110         Robotics I - II         2           Math         Elective(s)         3           Semester Total         15           Semester 2           ELE 111         Electrical Fundamentals         4           MEC 100         Materials and Processes         3           MEC 101         3D Modeling and Blueprint Reading         2           MTT 102         Machining for Auto Applications         2           NCT 120         Introduction to 2D CAD CAM Programming and Applications         2           Semester Total         13           Semester 3         MEC 201         Mechanisms         2           NCT 121         Manual Programming and NC Tool Operation         4           ROB 212         Robotics II         4           Arts/Human.         Elective(s)         3           Semester Total         16           Semester Total         16           Semester 4         Advanced Manual Programming and NC Tool Operation         4           NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 22	FLP 110	Fluid Power Fundamentals - II	
ROB 101         Robotics I - II         2           ROB 110         Robotics I - II         2           Math         Elective(s)         3           Semester Total         15           Semester 2           ELE 111         Electrical Fundamentals         4           MEC 100         Materials and Processes         3           MEC 101         3D Modeling and Blueprint Reading         2           MTT 102         Machining for Auto Applications         2           NCT 120         Introduction to 2D CAD CAM Programming and Applications         2           Semester Total         3           Semester 3         Mechanisms         2           NCT 121         Manual Programming and NC Tool Operation         4           ROB 212         Robotics II         4           Arts/Human.         Elective(s)         3           Semester Total         3           Semester 4         16           NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2	NCT 101	Introduction to Computerized Machining (CNC) - I	2
ROB 110         Robotics I - II         2           Math         Elective(s)         3           Semester Total         15           Semester 2           ELE 111         Electrical Fundamentals         4           MEC 100         Materials and Processes         3           MEC 101         3D Modeling and Blueprint Reading         2           MTT 102         Machining for Auto Applications         2           NCT 120         Introduction to 2D CAD CAM Programming and Applications         2           Semester Total           Semester 3           MEC 201         Mechanisms         2           NCT 121         Manual Programming and NC Tool Operation         4           ROB 212         Robotics II         4           Arts/Human         Elective(s)         3           Semester Total         16           Semester Total           NCT 221         Advanced Manual Programming and NC Tool Operation         4           RCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223 </td <td>NCT 110</td> <td>Introduction to Computerized Machining (CNC) - II**</td> <td>2</td>	NCT 110	Introduction to Computerized Machining (CNC) - II**	2
Math         Elective(s)         3           Semester Total         15           Semester 2         15           ELE 111         Electrical Fundamentals         4           MEC 100         Materials and Processes         3           MEC 101         3D Modeling and Blueprint Reading         2           MTT 102         Machining for Auto Applications         2           NCT 120         Introduction to 2D CAD CAM Programming and Applications         2           Semester 3         Semester 3         3           MEC 201         Mechanisms         2           NCT 121         Manual Programming and NC Tool Operation         4           ROB 212         Robotics II         4           Arts/Human.         Elective(s)         3           Semester Total         16           Semester 4         4           NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	ROB 101	Robotics I - I	
Semester Total         15           Semester 2           ELE 111         Electrical Fundamentals         4           MEC 100         Materials and Processes         3           MEC 101         3D Modeling and Blueprint Reading         2           MTT 102         Machining for Auto Applications         2           NCT 120         Introduction to 2D CAD CAM Programming and Applications         2           Semester Total         13           Semester 3           MEC 201         Mechanisms         2           NCT 121         Manual Programming and NC Tool Operation         4           ROB 212         Robotics II         4           Arts/Human.         Elective(s)         3           Semester Total         16           Semester Total           NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	ROB 110	Robotics I - II	2
Semester 2           ELE 111         Electrical Fundamentals         4           MEC 100         Materials and Processes         3           MEC 101         3D Modeling and Blueprint Reading         2           MTT 102         Machining for Auto Applications         2           NCT 120         Introduction to 2D CAD CAM Programming and Applications         2           Semester Total         13           Semester 3         MEC 201         Mechanisms         2           NCT 121         Manual Programming and NC Tool Operation         4           ROB 212         Robotics II         4           Arts/Human.         Elective(s)         3           Semester Total         16           Semester Total         16           Semester 4         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	Math	Elective(s)	3
ELE 111       Electrical Fundamentals       4         MEC 100       Materials and Processes       3         MEC 101       3D Modeling and Blueprint Reading       2         MTT 102       Machining for Auto Applications       2         NCT 120       Introduction to 2D CAD CAM Programming and Applications       2         Semester Total       13         Semester 3         MEC 201       Mechanisms       2         NCT 121       Manual Programming and NC Tool Operation       4         ROB 212       Robotics II       4         Arts/Human.       Elective(s)       3         Semester Total       16         Semester Total       16         Semester 4       16         NCT 221       Advanced Manual Programming and NC Tool Operation       4         ELE 224       Programmable Controllers (PLCs) I       4         ROB 222       Robotics Simulation       2         ROB 223       Robotics III       2         Soc. Sci.       Elective(s)       3         Semester Total       15	Semester Total		15
MEC 100       Materials and Processes       3         MEC 101       3D Modeling and Blueprint Reading       2         MTT 102       Machining for Auto Applications       2         NCT 120       Introduction to 2D CAD CAM Programming and Applications       2         Semester Total       13         Semester 3         MEC 201       Mechanisms       2         NCT 121       Manual Programming and NC Tool Operation       4         ROB 212       Robotics II       4         Arts/Human.       Elective(s)       3         Semester Total       16         Semester Total       16         Semester 4       4         NCT 221       Advanced Manual Programming and NC Tool Operation       4         ELE 224       Programmable Controllers (PLCs) I       4         ROB 222       Robotics Simulation       2         ROB 223       Robotics III       2         Soc. Sci.       Elective(s)       3         Semester Total       15	Semester 2		
MEC 101         3D Modeling and Blueprint Reading         2           MTT 102         Machining for Auto Applications         2           NCT 120         Introduction to 2D CAD CAM Programming and Applications         2           Semester Total         13           Semester 3           MEC 201         Mechanisms         2           NCT 121         Manual Programming and NC Tool Operation         4           ROB 212         Robotics II         4           Arts/Human.         Elective(s)         3           Semester Total         16           Semester Total         16           Semester 4         NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         3         3	ELE 111	Electrical Fundamentals	4
MTT 102         Machining for Auto Applications         2           NCT 120         Introduction to 2D CAD CAM Programming and Applications         2           Semester Total         13           Semester 3           MEC 201         Mechanisms         2           NCT 121         Manual Programming and NC Tool Operation         4           ROB 212         Robotics II         4           Arts/Human.         Elective(s)         3           Semester Total         16           Semester Total           NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	MEC 100	Materials and Processes	3
NCT 120	MEC 101	3D Modeling and Blueprint Reading	2
Semester Total         13           Semester 3           MEC 201         Mechanisms         2           NCT 121         Manual Programming and NC Tool Operation         4           ROB 212         Robotics II         4           Arts/Human.         Elective(s)         3           Writing         Elective(s)         3           Semester Total         16           Semester 4           NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	MTT 102	Machining for Auto Applications	2
Semester 3         MEC 201         Mechanisms         2           NCT 121         Manual Programming and NC Tool Operation         4           ROB 212         Robotics II         4           Arts/Human.         Elective(s)         3           Writing         Elective(s)         3           Semester Total         16           Semester 4         NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	NCT 120	Introduction to 2D CAD CAM Programming and Applications	2
MEC 201         Mechanisms         2           NCT 121         Manual Programming and NC Tool Operation         4           ROB 212         Robotics II         4           Arts/Human.         Elective(s)         3           Writing         Elective(s)         3           Semester Total         16           Semester 4           NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	Semester Total		13
NCT 121 Manual Programming and NC Tool Operation 4  ROB 212 Robotics II 4  Arts/Human. Elective(s) 3  Writing Elective(s) 3  Semester Total 16  Semester 4  NCT 221 Advanced Manual Programming and NC Tool Operation 4  ELE 224 Programmable Controllers (PLCs) I 4  ROB 222 Robotics Simulation 2  ROB 223 Robotics III 2  Soc. Sci. Elective(s) 3  Semester Total 15	Semester 3		
ROB 212       Robotics II       4         Arts/Human.       Elective(s)       3         Writing       Elective(s)       3         Semester Total       16         Semester 4         NCT 221       Advanced Manual Programming and NC Tool Operation       4         ELE 224       Programmable Controllers (PLCs) I       4         ROB 222       Robotics Simulation       2         ROB 223       Robotics III       2         Soc. Sci.       Elective(s)       3         Semester Total       15	MEC 201	Mechanisms	2
Arts/Human.         Elective(s)         3           Writing         Elective(s)         3           Semester Total         16           Semester 4           NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	NCT 121	Manual Programming and NC Tool Operation	4
Writing         Elective(s)         3           Semester Total         16           Semester 4         16           NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	ROB 212	Robotics II	4
Semester Total  Semester 4  NCT 221 Advanced Manual Programming and NC Tool Operation  ELE 224 Programmable Controllers (PLCs) I  ROB 222 Robotics Simulation  ROB 223 Robotics III  Soc. Sci. Elective(s)  Semester Total  16  2  4  2  3  5  5  5  5  5  5  5  5  5  5  5  5	Arts/Human.	Elective(s)	3
Semester 4           NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	Writing	Elective(s)	3
NCT 221         Advanced Manual Programming and NC Tool Operation         4           ELE 224         Programmable Controllers (PLCs) I         4           ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	Semester Total		16
Advanced Manual Programming and NC Tool Operation	Semester 4		
ROB 222         Robotics Simulation         2           ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	NCT 221	Advanced Manual Programming and NC Tool Operation	4
ROB 223         Robotics III         2           Soc. Sci.         Elective(s)         3           Semester Total         15	ELE 224	Programmable Controllers (PLCs) I	4
Soc. Sci. Elective(s) 3 Semester Total 15	ROB 222	Robotics Simulation	2
Semester Total 15	ROB 223	Robotics III	2
Semester rotal	Soc. Sci.	Elective(s)	3
Semester 5	Semester Total		15
	Semester 5		

Speech/Comp.	Elective(s)	3
Nat. Sci.	Elective(s)	3
MEC 224	Robotics IV	4
NCT 123	2D CAD CAM CNC Programming for Mills and Lathes	2
Semester Total		12
Program Totals		71

## Welding

## HIGH SCHOOL COURSE SEQUENCE

9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
English 9	English 10	English 11	English 12
Algebra I	Geometry	Algebra II	Math Credit
World History/Geography	U.S. History/Geography	Civics/Economics	Science Credit
Biology	Physics or Chemistry	Welding	Welding
World Language	World Language	-	-
Phys Ed/Health	Visual/Performing/Applied		
	Arts		

#### **WASHTENAW COMMUNITY COLLEGE**

## **Welding Technology**

## **Associate in Applied Science**

Semester 1		
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
NCT 120	Introduction to 2D CAD CAM Programming and Applications	2
Math	Elective(s)	3
Semester Total		14
Semester 2		
WAF 131	Thermal Cutting, Gouging and Weld Repair	3
WAF 130	Shield Metal Arc Welding (SMAW)	4
WAF 139	Basic Metal Fabrication	3
WAF 140	Inspection and Testing	3
Semester Total		13
Semester 3		
WAF 230	Advanced Shielded Metal Arc Welding (SMAW)	4
WAF 231	Gas Tungsten Arc Welding (GTAW)	4
WAF 232	Semi-Automatic Welding Processes	4
Writing	Elective(s)	3
Semester Total		15
Semester 4		
WAF 150	Automated Welding and Cutting	3
WAF 210	Welding Metallurgy	3
WAF 233	Submerged Arc and Flux Core Arc Welding	3
Speech	Elective(s)	3
Semester Total		12
Semester 5		
WAF 239	Advanced Metal Fabrication	3
Arts/Human.	Elective(s)	3
Nat. Sci.	Elective(s)	4
Soc. Sci.	Elective(s)	3

Semester Total	13
Program Totals	66

#### **Conditions & Requirements**

- 1. Students must meet admissions requirements of the college.
- 2. Students should successfully complete a preponderance of tasks at the employable level.
- 3. Students must receive recommendation from the high school instructor.
- 4. Students must apply for articulated credit within 24 months following high school graduation.
- 5. Students must successfully complete 1 credit hour at WCC. Students should also check the requirements of their programs to determine if specific courses are required or recommended.
- 6. Students shall meet requirements of the intended curriculum and program of study.

## **Special Conditions**

- 1. This agreement is in effect for students who enter into their career and technical program beginning Fall of 2017 and earn credit at Washtenaw Community College by the end of Fall semester 2019. Exception: Students entering the Nursing Program must meet program requirements at the time of entry into the program. Please see website for information: www.wccnet.edu/health
- 2. All federal, state, and accreditation mandates supersedes this articulation agreement.

#### **Effective Dates**

#### Year 1:

Agreement start date: September 1, 2017

H.S. Graduation during: 2018

Last date to post credit: December 31, 2020

**Year 2:** 

Agreement start date: September 1, 2018

H.S. Graduation during: 2019

Last date to post credit: December 31, 2021

**Year 3:** 

Agreement start date: September 1, 2019

H.S. Graduation during: 2020

Last date to post credit: December 31, 2022

Documentation of secondary instruction delivery/segments is available for review at secondary institution.

## **Participating Instructors**

Program	Instructors
Accounting/ Finance	Statewide Agreement
Automotive Services	Statewide Agreement
Collision Repair	Statewide Agreement
Business	Statewide Agreement
Computer Sys. Networking and Technology	Statewide Agreement
Computer Programming	Statewide Agreement
Construction	Statewide Agreement
Cosmetology	Statewide Agreement
Culinary Arts/Cooking	Statewide Agreement
Digital Media	Statewide Agreement
Graphic and Printing Technology	Statewide Agreement
Health Science	Statewide Agreement
Mechatronics	Statewide Agreement
Radio & Broadcasting Technology	Statewide Agreement
Welding	Statewide Agreement

## **Signatures**

Genesee Area Career Institute		Washtenaw Community College	
CTE Director	Date	Eva Samulski, Dean Business & Computer Technologies	Date
		Valerie Greaves, Dean Health Science	Date
		Brandon Tucker, Dean Advanced Technologies and Public Ser	Date vice Careers
		Kristin Good, Dean Math. Science and Engineering Techno	Date logy

## Addendum 2018-2019

Updated program: revised WCC general education requirements and semester formats 8/8/18 mo Removed CUL 100 and WAF 288 as those courses were discontinued 11/30/18 jlg