Manufacturing & Automotive

Powertrain Development Technician (APPDT) Associate in Applied Science Degree

Program Effective Term: Fall 2020

In this program, students will develop the knowledge and skills to perform in-car powertrain testing in unique testing environments. Jobs in this area require knowledge of automotive engine and electrical systems and experience with an automotive dynamometer. Students will learn about dynamometer setup and testing including the operation of complex analytical test equipment and test software.

First Semest	er (15 ci	redits)
ASV 131	Automotive Electrical	4
ASV 132	Automotive Engines	4
MTT 102	Machining for the Technologies	2
	Restricted Electives select a minimum of 2 credits: ABR 114 or WAF 105	2
Elective	Writing Elective(s)	3
Second Sem	ester (14 c	redits)
ASV 256	Electrical and Electronic Systems	4
	Restricted Electives select a minimum of 2 credits: ABR 140* or WAF 103	2
	Restricted Electives select a minimum of 2 credits: ABR 111, ABR 140*, ASV 174, ASV 251*, ASV 258*, ASV 270, MEC 120, or MST 110	2
Elective	Speech/Comp. Elective(s)	3
Elective	Nat. Sci. Elective(s)	3
Third Semes	ter (17 c	redits)
ASV 277	Automotive Powertrain Systems	4
ASV 279	Automotive Dynamometer and Test	4
MST 230	Advanced Motorcycle Fabrication	3
	Restricted Electives select a minimum of 2 credits: ASV 251* or ASV 258*	2
Elective	Math Elective(s)	4
Fourth Sem	ester	redits)
CST 185	Local and Mobile Networking Essentials	4
MST 220	Dynamometer Operations	4
Elective	Arts/Human. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
	edits Required for the Program:	60

Notes:

*Course may only be used to satisfy one Restricted Elective requirement.

^{**}Students may elect to take optional courses in Semester 5 to meet MTA. Please refer to the WCC MTA Transfer Agreement web page http://www.wccnet.edu/services/transferresources/mta/ for more information.

WASHTENAW COMMUNITY COLLEGE PROGRAM CHANGE OR DISCONTINUATION FORM

PROGRAM	/ CHANGE OR	DISCONTINUATION FOR	KIVI		
Program Code:	Program Nam	e:		Effective Term:	
APPDT	Powertrain De	velopment Technician		Fall 2020	
Division Code:	Department:				
ATP	Transportation	n Technologies			
Directions:					
		ting from the WCC catalo			
be included on	ı a separate she				
3. Check the box	es below for ea	ch type of change being	proposed. Chang	ges to courses, disco	ontinuing a
using a Master	ng new courses Svllabus form.	s as part of the proposed but should be submitted	at the same time	as the program chai	nge form.
Requested Cha					
Requested Cha	nges.				
☐ Review		10-	•	nission requirements igibility requirements	
X Remove cours			☐ Program outo		•
Add course(s)	: ABR 140' . W.	4F 103 MST 230	y		
☐ Program title (title was			information on (attach program (discontinuation
□ Description				udes transition of stu	
☐ Type of award	Niki tee		•	phasing out courses	
☐ Articulation inf			□ Other		
		d was from the catalon			
Snow all changes	s on the attache	d page from the catalog.			
Rationale for pr	oposed chang	es or discontinuation:			
MEC 101 and WA	νF 109 are being	removed. MEC 101 is being MST 230 is being added as	g removed from a re s a required course	estricted electives list. This change is being	made to insure
that all students v	will gain experiend	ce with transportation mate	rials processing. In	addition MST 230 add	s transportation
technology specif	fic fabrication, wh	ich has been repeatedly re	quested by employe	ers.	
The frequency of	each course offer	ing, the time(s) of day each	semester, and the	alignment of content v	vith expressed
employer's skill s					
	ng/equipment/s	space implications:			
None					
List departmen	ts that have be	en consulted regarding	their use of this	program.	
Automotive Body	Department (Now	 Transportation Technology rial Technology Department 	/), Motorcycle Techi . Welding and Fabr	nology Department (No ication Department	ow
		ia. Toomiology Doparation	,		
Signature Revie		Print Name	△ ei	gnature	Date
ı Kevie	WEI	I FILL INGILIE	1 1 31	gnature	Date

http://www.wccni	at adui/danartn	aante/curriculum
nttn://www.wcccn	er.eau/aeuar m	nents/curriculum

Initiator

Department Chair

Allen Day

Allen Day

Division Dean/Administrator	Brandon Tucker	7/4	5	12/12/10
Please submit cor	mpleted form to the Off	ice of Curriculum and Ass	sessment (SC 2	57).
Office reviewed by the appr		es we will secure the signatu	ire of the VPI and	President.
Vice President for Instruction	Kimberly Hurns	+ on M	11/-	2/3/2020
President	Rose B. Bellanca		- V	1-1-10-0
Do not write in shaded area	. Entered in: Banner	C&A Database 2-14-20	Log File 2-/4-20	Board Approval
			8	

Reviewed by C & A Committees
1/23/20

Manufacturing & Automotive

Powertrain Development Technician (APPDT) Associate in Applied Science Degree

Program Effective Term:

Fall 2019

In this program, students will develop the knowledge and skills to perform in-car powertrain testing in unique testing environments. Jobs in this area require knowledge of automotive engine and electrical systems and experience with an automotive dynamometer. Students will learn about dynamometer setup and testing including the operation of complex analytical test equipment and test software.

First Semes	er a salege de la companya del companya de la companya de la companya del companya de la company	(15 credits)
ASV 131	Automotive Electrical	4
ASV 132	Automotive Engines	4
MTT 102	Machining for the Technologies	2 2
WAF 109	Welding Safety and OSHA Regulations	
Elective	Writing Elective(s)	3
Second Sem	ester Communication of the Com	(16 credits)
ASV 256	Electrical and Electronic Systems	4
WAF 105	Introduction to Welding Processes	2
Elective	Speech/Comp. Elective(s)	3
Elective	Nat. Sci. Elective(s)	3
Elective	Restricted Electives select a minumum of 4 credits: ABR 111, ASV 174, ASV 251, ASV 258, ASV 270, 101, MEC 120, MST 110, WAF 125	MEC 4
Third Semes	ter and the second seco	(15 credits)
ABR 114	Applied Auto Body Welding	2
ASV 277	Automotive Powertrain Systems	4
ASV 279	Automotive Dynamometer and Test	4
Elective	Math Elective(s)	3
Elective	Restricted Electives select a minimum of 2 credits: ASV 251 or ASV 258	2
Fourth Seme		(14 credits)
CST 185	Local and Mobile Networking Essentials	4
MST 220	Dynamometer Operations	4
Elective	Arts/Human. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Minimum Cr	edits Required for the Program:	60

Notes:

^{*}Students may elect to take optional courses in Semester 5 to meet MTA. Please refer to the WCC MTA Transfer Agreement web page http://www.wccnet.edu/services/transferresources/mta/ for more information.

Program Chang	GE OR DISCONTINUATION FORM		
Program Code:	Program Name:		Effective Term:
APPDT	Powertrain Development Technicia	n	Fall 2019
Division Code:	Department:		
ATP	Automotive Service Department		
Directions:			
	ram listing from the WCC catalog or We	b site and indicate any change	es to be made.
1 9	text that should be deleted and write in a	- 0	
	for each type of change being proposed.		
1 -	he proposed program change, must be ap the same time as the program change for		aster Syllabus form, but
	the same time as the program change for	111.	
Requested Changes:			
□Review		□Program admission requ	irements
X Add course(s): WAF 10 As restricted electives: AS	V 174, ASV 251, ASV 258, ASV 270, C 101, MTT 102, WAF 125	` .	
☐Articulation information	ttached page from the catalog.		
ASV 135, WAF 200, WAF 19 Program goals and employer WAF 109, a new course has	changes or discontinuation: 06 are being removed. Those courses are being alignment were better improved with the adsafety content from ASV135, and is a prerequicollaboration with the Computer Instruction the target career path.	dition of the new course and the uisite for other restricted elective	e updated restricted electives. e WAF courses. CST 185 was
were considered. Prerequisit	e offering, the time(s) of day each semester, a tes were also reviewed, and the courses were ir of each department was consulted to consi	chosen to limit registration restr	rictions that always require
Financial/staffing/equi	pment/space implications:		

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

Automotive Body Department, Motorcycle Technology Department, Industrial Technology Department, Computer Instruction Department, Welding and Fabrication Department

Signatures:	LISA VOASOZ	Kisa veas	4/11/19
Reviewer	Print Name	Signature	Date
Initiator	Arrian DAV	alluns	11/19/2018
Department Chair	The state of the s	Justin Morningston	11/17/2018
Division Dean/Administrator	Brandon Tucker	PAVE	11/21/18
Vice President for Instruction	KIMBERY HURNS,	to letter	11/29/18
President	" KOSO D DELANK	Pur 43 Belana	1/3/19
Do not write in shaded area.	Entered in: Banner C&A Datal	pase 4 2 9 Log File 4/12/19 Board Appr	roval

WCC General Education Requirements Effective Fall 2018

Associate degree programs were updated to meet the revised WCC general education requirements below.

Course Distribution Requirements

Associate degree students must complete courses from each of six General Education content areas. The requirements vary, depending on which degree is being earned. The number of general education credit hours required for each degree is as follows.

	AA	AS	AAS
Writing/Composition	3-4 credits	3-4 credits	3-4 credits
2nd Writing/Composition or Communication	3-4 credits	3 credits	3 credits
Mathematics	3-4 credits	3-4 credits	3-4 credits
Natural Sciences ¹	7-8 credits	7-8 credits	3-4 credits
Social & Behavioral Science ²	6 credits	6 credits	3 credits
Arts and Humanities ³	6 credits	6 credits	3 credits
General Education Electives to reach 30 credits	0-2 credits	0-2 credits	N/A
Minimum	30 credits	30 credits	18 credits

¹ Two courses in Natural Science including one with laboratory experience (from two disciplines)

² From two disciplines

³ From two disciplines

Powertrain Development Technician (APPDT) Associate in Applied Science Degree

Program Effective Term: Fall 2018

In this program, students will develop the knowledge and skills to perform in-car powertrain testing in unique testing environments. Jobs in this area require knowledge of automotive engine and electrical systems and experience with an automotive dynamometer. Students will learn about dynamometer setup and testing including the operation of complex analytical test equipment and test software.

Service and the service and th		74 E (110)
First Semester		(15 credits)
ASV 131	Automotive Electrical	4
ASV 132	Automotive Engines	4
MTT 102	Machining for the Technologies	2 2
WAF 105	Introduction to Welding Processes	2
Elective	Writing Elective(s)	3
Second Semes	ter a control of the second of	(14 credits)
ASV 256	Electrical and Electronic Systems	4
MEC 120	3D-Printing: Machine, Process and Innovation	4
WAF 106	Welding Print Reading	3
Elective	Nat. Sci. Elective(s)	3
Third Semeste		(15 credits)
ASV 277	Automotive Powertrain Systems	4
ASV 279	Automotive Dynamometer and Test	4
WAF 200	Layout Theory Welding	3
Elective	Math Elective(s)	3
	Elective(s) to reach a minimum 60 credits	1
Fourth Semest		(16 credits)
ASV 135	Facility Operations	3
MST 220	Dynamometer Operations	4
Elective	Arts/Human, Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Elective	Speech/Comp. Elective(s)	3
Minimum Cred	ts Required for the Program:	60

Notes:

*Students may elect to take optional courses in Semester 5 to meet MTA. Please refer to the WCC MTA Transfer Agreement web page http://www.wccnet.edu/services/transferresources/mta/ for more information.

Washtenaw Community College General Education Revision AAS Program Change Form 2018-2019

Program Code:	10000	Program Name:
	APPDI	Youer train Level fel
Division Code:	0	Department:
	ATP	ASV

This form is to be used only for General Education Revision Program Changes for Associate in Applied Science (AAS) programs. Any other program changes should be submitted separately using a standard Program Change Form. **Directions:**

- 1. Review each general education area under Requested Changes below and respond as needed.
- 2. Attach the semester program layout showing the current program listing from the WCC catalog.
 - a. Indicate any changes to be made on the semester layout.
 - b. Draw a line through any courses that should be removed on the semester layout.
 - c. Write in any courses that need to be added on the semester layout.
- 3. Submit this form and semester program layout to the Office of Curriculum and Assessment (SC 257).

Current General Education I AAS	Requirements	Revised General Education Requirements AAS	2018-2019
Writing	3-4 credits	English Composition	3 - 4 credits
Speech	3 credits	2 nd Course in English Composition or one course in Communication	3 - 4 credits
Mathematics	3 - 4 credits		2 4 1:4-
Natural Sciences	3 - 4 credits	Mathematics	3 - 4 credits
Social & Behavioral Sciences	3 credits	Natural Sciences	3 - 5 credits
Arts & Humanities	3 credits	Social & Behavioral Sciences	3 credits
Critical Thinking	0 credits	Arts & Humanities from	3 credits
Computer & Information Literacy	3 credits	Total	18 credits
Total	21-24 credits		

Please review each General Education Area in the chart below, and record the needed changes in the chart and on the attached semester program layout.

Genera	I Education Area
_	Composition – The requirement for one writing/English composition course remains the same. No s will be made unless specifically requested below. (Use Writing Elective or ENG 111)
Option	al Change: None
	urse in English Composition or one course in Communication
option:	reviously required both a second composition/writing course and a communication course. Your
1.	Allow students to select any course that meets composition/writing or communication (recommended).
2.	
3.	Require students to take a specific communication course (identify course below and on semester layout).

Optional Change:
Natural Sciences - The requirement for one natural science course remains the same. No changes will be made unless specifically requested below.
Optional Change:
Social & Behavioral Sciences — The requirement for one social and behavioral science course remains the same. No changes will be made unless specifically requested below.
Optional Change: "WC
Arts & Humanities – The requirement for one arts and humanities course remains the same. No changes will be made unless specifically requested below. (Note: A department can designate a COM course as a requirement here. The same course cannot be counted in two areas.)
Optional Change:
$\mathcal{N}\mathcal{C}$
Computer and Information Literacy The requirement for computer and information literacy has been removed. Your options are: 1. Continue to require a specific computer course. If a specific course is required in your program, we will leave it there. If you previously used "Computer and Information Literacy Course," you will need to specify either a specific course or a list of courses from which to choose. 2. Remove the computer and information literacy course if the program will still meet the minimum of 60 credit hours. 3. Remove the computer and information literacy course and replace the course with elective or other credits as needed to meet the minimum of 60 credit hours.

Reviewer	Print Name	Signature	Date
Initiator	Auren Day	Denny	12/12/2017
Department Chair	Justin Moranester	ANIN	12/12/17
Division Dean/Administrator	Brandon Tweller	PA	12/2/17
Vice President for Instruction	E =	In I h	1/9/18

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School of Automotive and Motorcycle Technology

If you are looking for the best technical training in the automotive or motorcycle field, WCC's School of Automotive and Motorcycle Technology is the place for you. Whether your focus is finding employment as a technician, learning about performance equipment, or creating a custom look, our introductory and advanced certificate programs, as well as associate degrees, will enhance your personal and professional qualifications. These programs offer the perfect blend of classroom and hands-on education not available in many other educational settings.

Washtenaw Community College offers programs at several levels for students who want to begin new careers, or advance in their existing careers. The first level is the certificate, which can vary from nine to thirty-six credits, depending on the field. Certificates generally prepare students for entry-level jobs.

After completing a certificate, students can progress to the next level, the advanced certificate. The credit hours required for these programs also vary. This type of certificate provides a more specialized level of skill development, and often allows students to upgrade their positions at their places of employment.

The next level, an Associate in Applied Science, is available for some programs. For some career fields, it is possible to earn a certificate, advanced certificate (if one exists), and an Associate in Applied Science degree in the same field. In these cases, the credit hours from the certificate and advanced certificate can be applied to the credit hours needed for the Associate in Applied Science degree.

Alternatively, students can earn an AAS in Occupational Studies by completing a certificate, advanced certificate and General Education requirements.

Automotive Services

The automotive certificate prepares the student for work as an automotive services technician, diagnosing and repairing malfunctions in automobile systems.

Powertrain Development Technician (APPDT) Associate in Applied Science Degree

Program Effective Term: Fall 2015

In this program, students will develop the knowledge and skills to perform in-car powertrain testing in unique testing environments. Jobs in this area require knowledge of automotive engine and electrical systems and experience with an automotive dynamometer. Students will learn about dynamometer setup and testing including the operation of complex analytical test equipment and test software.

ASV 131	Automotive Electrical	4
ASV 132	Automotive Engines	4
MTT 102	Machining for Auto Applications	7
WAF 105	Introduction to Welding Processes	2
Elective	Writing Elective(s)	3-4
ASV 256	Electrical and Electronic Systems	4
MEC 101	3D Modeling and Blueprint Reading	2
WAF 106	Blueprint Reading for Welders	3
Elective Elective	Computer Lit. Elective(s) Nat. Sci. Elective(s)	3
	Nat. 30. Elective(s)	٦
Third Birth 14	是我们的时候,我们就是这个人的,我们就是不是一个人的,我们就是这个人的,我们就是这个人的,我们就是这个人的,我们就是这个人的,我们就是这个人的,我们就是这个人	
ASV 277	Automotive Powertrain Systems	4
ASV 279	Automotive Dynamometer and Test	4
WAF 200	Layout Theory Welding	3
Elective	Math Elective(s)	4
Fourth Seriest		(166 er edite)
ASV 135	Facility Operations	3
MST 220	Dynamometer Operations	4
Elective	Arts/Human. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Elective	Speech Elective(s)	3
Minimum Credi	its Required for the Program:	62

Notes:

^{*}Students may elect to take the following optional courses in Semester 5 to meet MTA:

⁻Arts and Humanities Elective (3 credits)

⁻Natural Science Elective (3-4 credits)

⁻Social Science Elective (3 credits)

PROGRAM PROPOSAL FORM

Preliminary Approval - Check here items in general terms.	when using this form for preliminary approval of a	program proposal, and respond to the	
	completing this form after the Vice President for Instal, complete information must be provided for each		
Program Name:	Powertrain Development Technician (AP)	ODT)	
Division and Department:	ATP/ AUTD		
Type of Award:	☐ AA ☐ AS ☒ AAS ☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cer	t. Cert. of Comp.	
Effective Term/Year:	Fall 2015		
Initiator:	Allen Day		
Program Features Program's purpose and its goals.	This program is being developed in coordina Equipment grant. In this program, students v	vill develop the knowledge and	
Criteria for entry into the program, along with projected enrollment figures.	skills to perform automotive powertrain testing in a unique testing environment. Jobs in this area require experience with an automotive dynamometer.		
Connection to other WCC programs, as well as accrediting agencies or professional organizations.	(APASRV) associate degree program to provide the background for testing and development of powertrains. While the APASRV program goes on to review all		
Special features of the program.	components of a car, this program focuses of systems. This program would require the purchase of	-	
Need for the program with evidence to support the stated need.	This program is developed in coordination of grant and as a result of round table discussifucal employers, GM Powertrain, Detroit D who participated in the round table discussifute field of powertrain development technic engineering powertrain testing lab or an engineering lab setting up tests, running them us with interpretation of results.	ons with industry leaders. Three biesel and Thompson Automotive, ion, identified immediate openings in cian. Students would work in an gineering powertrain endurance	
Program Outcomes/Assessment	Outcomes	Assessment method	
State the knowledge to be gained, skills to be learned, and attitudes to be developed	1. Assemble dyno test cell to run engine and powertrain components.	1. Departmental Exam	
by students in the program.	2. Retrieve and analyze complex test	2. Departmental Exam	
Include assessment methods that will be used to determine the effectiveness of the program.	data. 3. Interpret test data and recommend corrective action.	3. Departmental Exam	

Done 4/25/15 mo

Mo logged 1/14/15 5;
Office of Curriculum & Assessment

Curriculum	Semester 1		15 - 16 Credits
	Writing Elective		3 - 4 cr
ist the courses in the program as they should	MTT 102	Machining for Auto Applicati	ions 2 cr
ppear in the catalog. List minimum credits equired. Include any notes that should	ASV 131	Automotive Electrical	4 cr
ppear below the course list.	ASV 132	Automotive Engines	4 cr
	WAF 105 ·	Introduction to Welding Proce	esses 2 cr
	Semester 2		15 Credits 1
	Computer Literacy		3 cr
	MEC 101 ·	Modeling and Blueprint Read	
	WAF 106	Blueprint Reading for Welder	
	ASV 256	Electrical and Electronic Syst	
	Natural Science Elective		4 cr
	Semester 3		15 Credits
	Math Elective		4 cr
	WAF 200	Layout/Fabrication for AMC	3 cr
	ASV 277	Automotive Powertrain Syste	ms 4 cr
	ASV 279 (Auto Dynamometer and Testi	
	Semester 4		16 credits
	Social Science Elective		3 cr
			3 cr
	Speech Elective Humanities Elective		3 cr
		Facility Operations	3 cr
	ASV 135 MST 220	Facility Operations Dynamometer Operations	4 cr
		(override)	
	Total Program Credits		62
	Semester 5 – Optional		9 – 10
	Courses to meet MTA		
	Social Science Elective		3 cr
	Humanities Elective		3 cr
	Physical Science		3-4 cr
	Elective		
	Total Decomposity	A191	70 - 72
Budget	Total Program Credits		
_		START-UP COSTS	ONGOING COSTS
pecify program costs in the following reas, per academic year:	Faculty	\$.	Future FT Instructor
	Training/Travel	•	•
	Materials/Resources	•	\$600.00
	Facilities/Equipment	\$374,749.00*	\$2500.00
	Classified Faculty	\$374,749.00*	.5 FTE
	TOTALS:	ment grant funding* Funding overla	S TBD

Program Description for Catalog and Web site	In this program, students will develop the knowledge and skills to perform in-car powertrain testing in unique testing environments. Jobs in this area require knowledge of automotive engine and electrical systems and experience with an automotive dynamometer. Students will learn about dynamometer setup and testing including the operation of complex analytical test equipment and test software.
Program Information	Accreditation/Licensure - ASE Tests
	Advisors - TBD
	Advisory Committee – In Development
	Admission requirements -
	Articulation agreements - TBD
	Continuing eligibility requirements -

Assessment plan:

Program outcomes to be assessed	Assessment tool	When assessment will take place	Courses/other populations	Number students to be assessed
Assemble dyno test cell to run engine and powertrain components.	Departmental Exam	Fall 2018	ASV 279	All students
Retrieve and analyze complex test data	Departmental Exam	Fall 2018	ASV 279	All students
Interpret test data and recommend corrective action.	Departmental Exam	Fall 2018	ASV 279	All students

Scoring and analysis plan:

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally-developed rubric, external evaluation, other). Attach the rubric.

Departmentally-developed rubric and answer key

2. Indicate the standard of success to be used for this assessment.

75% of the students will score 70% or higher

3. Indicate who will score and analyze the data.

Departmental faculty will analyze the data.

REVIEWER	PRINT NAME	SIGNATURE	DATE
Department Chair/Area Director	Allen Day	alulay	1/14/2015
Dean	Brandon Tucker		1/14/5
Vice President for Instruction	4	1	
Approved for Development			1/22/1
Final Approval	William Abernethy	The state of	497/3/
President	Rose Bellanca	D Dellance	2/23//4
Board Approval			3/24/15