SEC – Automotive Service Technician Blueprints

This document contains the blueprints for the concentration areas in secondary Automotive Service Technician.

Course Code(s)	Test Code	Program Name	Supplemental Materials/Notes
997000, 997002, 997003	11611Y1-2014	Automotive Service Technician	
997001, 997004, 997005	11611Y2-2014	Automotive Service Technician	

	Technical Skills Attainment 2020-2021	
Curriculum	**Y1 Post-Test**	**Y2 Post-Test**
Automotive Service Technician	MS-CPAS*	National Certification

The MS-CPAS assessment is required for both first- and second- year automotive service technician students. Second-year AST students who achieve a passing score on the second-year MS-CPAS assessment will have the option to take the ASE's automobile national student certification exams, paid for by the Mississippi Department of Education, during the national certification testing window.

https://www.ase.com/entry-level/

* These assessments are subject to change based on funding and policy changes/updates. Information for test coordinators will be disseminated on the ordering process for the national certification by the Research and Curriculum Unit at Mississippi State University.

MS-CPAS Blueprint Summary

Assessment:	**Automotive Service Technician**
Test Code:	**11611Y1-2014**
CIP Code:	**470604**
Course Codes:	**997000, 997002, 997003**
Type:	**CP**

The MS-CPAS Blueprint Summary indicates the number of assessment questions related to each unit on the assessment and indicates the relative emphasis placed on each unit. All of the listed competencies will appear on the assessment, but because of the length of the assessment, not every competency will be equally represented in the assessment.

The MS-CPAS Blueprint Summary includes a variety of information, which is explained below:

Terms and Definitions	
Assessment:	This signifies the name of the assessment, which corresponds with the name of the pathway or program.
CIP Code:	Developed by the U.S. Department of Education's National Center for Education Statistics (NCES), CIP codes are a federal coding system utilized for assessment and reporting of fields of study and program completions activity tracking.
Test Code:	A unique code that serves to numerically identify a specific assessment
DOK Levels:	Based on Webb's Depth of Knowledge (DOK), this signifies the assessment item difficulty factor to be expected in each unit. The three levels are as follows: *1 = Recall and Reproduction, 2 = Skills and Concepts, 3 = Short-term Strategic Thinking* **Some postsecondary programs will not use DOK levels until the next revision.**
Instructional	The total number of hours assigned to a unit per the pathway's curriculum
Total Items:	The total number of items assigned to each unit on the assessment. It is calculated as follows: *(Unit Instructional Hours / Total Instructional Hours) * Total Active Items*
Active Items:	The number of items on the assessment that will be graded
Field Test Items:	The number of items that are being field-tested, or piloted, to determine their eligibility for inclusion as an Active Item on future assessments. These items are not graded and, thus, will not impact the student's final score.
Total Assessed Items:	The total number of items on the given assessment. It is calculated as follows: *Active Items + Field Test Items*

For more information regarding this MS-CPAS Blueprint Summary, please contact the Research and Curriculum Unit by phone at 1.866.901.7433 or by e-mail at helpdesk@rcu.msstate.edu.

Assessment: Automotive Service Technician Test Code: 11611Y1-2014 CIP Code: 470604 Total Hours: 200	DOK Level(s)			Instructional Hours	Total Items
Unit 1: Automotive Shop Operations	1	2	3	30	12
1-5 Not on MS-CPAS 6. Identify and describe general safety rules, components of an automobile, tools/equipment, measurement practices, and fasteners for working in a shop/lab and industry. 7. Identify and apply concepts regarding safety procedures and practices in and around automotive operations. 8. Explore general shop operations and safety.					
Unit 2: Engine Repair		2		60	24
1. Identify and describe general vehicle information and repairs. 2. Identify and describe the major systems and components of an automobile. 3. Inspect, adjust, and/or repair cylinder head and valve train timing. 4. Inspect, replace, and adjust lubrication and cooling systems. 5. Inspect and perform general maintenance (lubrication, oils, and fluids).					
Unit 3: Manual and Automotive Transmission		2		40	16
1. Identify, inspect, and perform general maintenance and repair of automatic transmissions, transaxles and related components. 2. Identify, inspect, and perform general maintenance and repair of Manual Drive Trains, axles, transfer cases, and related components.					
Unit 4: Basic Electrical/Electronic Systems			3	70	28
1. Explore general electrical/electronic systems and theories of operation. 2. Apply concepts of battery systems by performing inspection, diagnosis, and repair, if needed. 3. Apply concepts of starting systems by performing inspection, diagnosis, and repair, if needed. 4. Apply concepts of charging systems by performing inspection, diagnosis, and repair, if needed.					
Unit 5: Not tested on MS-CPAS					
Active Items					80
Field Test Items					20
TOTAL ASSESSED ITEMS					100

MS-CPAS Blueprint Summary

Assessment: Automotive Service Technician
Test Code: 11611Y2-2014
CIP Code: 470604
Course Codes: 997001, 997004, 997005
Type: CP

The MS-CPAS Blueprint Summary indicates the number of assessment questions related to each unit on the assessment and indicates the relative emphasis placed on each unit. All of the listed competencies will appear on the assessment, but because of the length of the assessment, not every competency will be equally represented in the assessment.

The MS-CPAS Blueprint Summary includes a variety of information, which is explained below:

Terms and Definitions	
Assessment:	This signifies the name of the assessment, which corresponds with the name of the pathway or program.
CIP Code:	Developed by the U.S. Department of Education's National Center for Education Statistics (NCES), CIP codes are a federal coding system utilized for assessment and reporting of fields of study and program completions activity tracking.
Test Code:	A unique code that serves to numerically identify a specific assessment
DOK Levels:	Based on Webb's Depth of Knowledge (DOK), this signifies the assessment item difficulty factor to be expected in each unit. The three levels are as follows: *1 = Recall and Reproduction, 2 = Skills and Concepts, 3 = Short-term Strategic Thinking* **Some postsecondary programs will not use DOK levels until the next revision.**
Instructional Hours:	The total number of hours assigned to a unit per the pathway's curriculum
Total Items:	The total number of items assigned to each unit on the assessment. It is calculated as follows: *(Unit Instructional Hours / Total Instructional Hours) * Total Active Items*
Active Items:	The number of items on the assessment that will be graded
Field Test Items:	The number of items that are being field-tested, or piloted, to determine their eligibility for inclusion as an Active Item on future assessments. These items are not graded and, thus, will not impact the student's final score.
Total Assessed Items:	The total number of items on the given assessment. It is calculated as follows: *Active Items + Field Test Items*

For more information regarding this MS-CPAS Blueprint Summary, please contact the Research and Curriculum Unit by phone at 1.866.901.7433 or by e-mail at helpdesk@rcu.msstate.edu.

Assessment: Automotive Service Technician Test Code: 11611Y2-2014 CIP Code: 470604 Total Hours: 205	DOK Level(s)		Instructional Hours	Total Items
Unit 6: Not tested on MS-CPAS				
Unit 7: Advanced Electrical/Electronic Systems		2 3	75	28
1. Explore lighting systems and theories of operation. 2. Apply concepts of gauges, warning devices, and driver information systems by performing inspection, diagnosis, and repair, if needed. 3. Apply concepts of horn and wiper/washer systems by performing inspection, diagnosis, and repair, if needed. 4. Apply concepts of accessories by performing inspection, diagnosis, and repair, if needed.				
Unit 8: Engine Performance		2 3	40	16
1. Explore general engine components and theories of operation. 2. Apply concepts of computerized engine controls by performing inspection, diagnosis, and repair, if needed. 3. Apply concepts of ignition systems by performing inspection, diagnosis, and repair, if needed.				
Unit 9: Advanced Engine Performance		2 3	40	16
1. Apply concepts of fuel, air induction, and exhaust systems by performing inspection, diagnosis, and repair, if needed. 2. Apply concepts of Fuel, Air Induction, and Exhaust Systems by performing inspection, diagnosis, and repair, if needed. 3. Apply concepts of Emissions Control Systems by performing inspection, diagnosis, and repair, if needed.				
Unit 10: Suspension/Steering Systems		2 3	50	20
1. Explore general suspension and steering systems and theories of operation. 2. Apply concepts of steering systems by performing inspection, diagnosis, and repair, if needed. 3. Apply concepts of wheel alignment. 4. Perform tire and wheel diagnosis and repair.				
Unit 11: Not tested on MS-CPAS				
			Active Items	**80**
			Field Test Items	**20**
			TOTAL ASSESSED ITEMS	**100**