

SEC - Aquaculture Technology Blueprints

This document contains the blueprints for the concentration areas in the secondary career pathway Aquaculture Technology.

Course Code(s)	Test Code	Program Name	Supplemental Materials
991600, 991602, 991603	10190Y1-2018	Aquaculture Technology	N/A
991601, 991604, 991605	10190Y2-2018	Aquaculture Technology	N/A

Curriculum	Perkins Assessment	
	2018-2019	
	Y1 Post-Test	Y2 Post-Test
Aquaculture	MS-CPAS*	MS-CPAS*

* 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:	Aquaculture Technology
Test Code:	10190Y1-2018
CIP Code:	010303
Course Codes:	991600, 991602, 991603
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: <i>1 = Recall and Reproduction, 2 = Skills and Concepts, 3 = Short-term Strategic Thinking</i> 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: <i>(Unit Instructional Hours / Total Instructional Hours) * Total Active Items</i>
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: <i>Active Items + Field Test Items</i>

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:	Aquaculture Technology		
Test Code:	10190Y1-2018		
CIP Code:	010303		
Total Hours:	205	Instructional Hours	DOK Level(s)
Unit 1: History and Overview of Aquaculture	20		8
1. Investigate the origin and development of aquaculture to its current status.		2	1
2. Compare and contrast the relationship between aquatic and terrestrial farm animals.		2	1
3. Assess the status of aquaculture production today and predict how it will look in the future.		3	2
4. Describe the issues facing aquaculture as a global, national, and statewide industry.		2	1
5. Investigate new and emerging technologies, practices, trends, and issues associated with aquaculture.		3*	2
6. Not tested on MS-CPAS			0
7. Not tested on MS-CPAS			0
8. Practice proper safety procedures for working in aquaculture facilities.		2	1
Unit 2: Leadership and Experiential Learning	15		6
1. Explore the integral relationship between the FFA and agricultural education.		1	1
2. Explore the role of the FFA in promoting leadership, personal growth, and career success through 21st Century Skills standards.		2	2
3. Participate in local, state, or national FFA activities that provide opportunities for leadership development and career exploration.		3*	1
4. Describe the purposes and requirements of the SAE program.		1	1
5. Develop a personal plan for a SAE program.		2	1
6. Not tested on MS-CPAS			
Unit 3: Basic Water Chemistry and Management	35		13
1. Examine chemical and physical properties of water.		2	5
2. Investigate mechanical and biological recirculation and filtration devices and systems.		3	4
3. Prepare aquatic systems for fish and plants.		3*	4
Unit 4: Aquatic Health Management	30		12
1. Discuss aquatic health-management practices.		2	6
2. Examine the role of nutrition in aquatic species.		3	6
Unit 5: Aquatic Plants	35		13
1. Apply concepts of plant production in an aquatic or hydroponic growing system.		3*	13
Unit 6: Warm-Freshwater Aquaculture Crops	35		14

1. Describe basic biological, environmental, and cultural requirements for warm-freshwater aquaculture species.	2	2
2. Describe the requirements for producing catfish.	3	2
3. Describe the requirements for producing tilapia.	3	2
4. Describe the requirements for producing other types of fish in a warm-freshwater environment.	3	2
5. Describe the requirements for producing crawfish.	3	2
6. Describe the requirements for producing freshwater prawns.	3	2
7. Describe the requirements for producing baitfish.	3	2
Unit 7: Cool-Freshwater Aquaculture Crops	35	14
1. Describe basic biological, environmental, and cultural requirements for cool-freshwater aquaculture species.	2	5
2. Describe the requirements for producing trout.	3	5
3. Describe the requirements for producing sturgeon.	3	4
Unit 8: Not Tested on MS-CPAS		
Unit 9: Not Tested on MS-CPAS		
Active Items		80
Field Test Items		20
TOTAL ASSESSED ITEMS		100
*Objectives that are taught at a DOK level 4 are assessed at a DOK level 3 on the MS-CPAS.		

MS-CPAS Blueprint Summary

Assessment:	Aquaculture Technology
Test Code:	10190Y2-2018
CIP Code:	010303
Course Codes:	991601, 991604, 991605
Type:	CP

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Assessment:	Aquaculture Technology		
Test Code:	10190Y2-2018		
CIP Code:	010303		
Total Hours:	150	Instructional Hours	DOK Level(s)
Unit 10: The Aquaculture Industry		10	5
1. Examine the environmental impact of the aquaculture industry on our state, nation, and world.		3	2
2. Examine trends and changes related to aquaculture and global economic factors.		3	3
Unit 11: Not tested on MS-CPAS			
Unit 12: Lab Safety, Biosecurity, and Basic Water Management		35	19
1. Make observations related to the chemical and physical properties of water.		3*	4
2. Review the operation of mechanical and biological systems designed for water recirculation and filtration devices.		2	4
3. Review safety procedures for the school, aquaculture classroom, and laboratory.		2	4
4. Demonstrate proper procedures of first aid.		3	3
5. Describe proper safety procedures for aquaculture.		2	4
Unit 13: Not tested on MS-CPAS			
Unit 14: Aquatic Health Management		30	16
1. Review aquatic health-management practices.		3	8
2. Examine the role of nutrition in aquatic species.		3*	8
Unit 15: Aquatic Farm Management		20	11
1. Demonstrate the principles of sound aquaculture farm management.		3*	11
Unit 16: Application of General Practices of Aquaculture to Specific Species		30	16
1. Apply culture and management requirements specific to individual aquatic species.		3*	16
Unit 17: Hatchery Management		25	13
1. Maintain and operate a hatchery.		3*	13
Unit 18: Not Tested on MS-CPAS			
Unit 19: Not Tested on MS-CPAS			
Active Items			80
Field Test Items			20
TOTAL ASSESSED ITEMS			100
*Objectives that are taught at a DOK level 4 are assessed at a DOK level 3 on the MS-CPAS.			