

**OFFICE OF CHIEF ACADEMIC OFFICER**  
**Summary of State Board of Education Agenda Items**  
**March 16, 2017**

**OFFICE OF CAREER AND TECHNICAL EDUCATION**

02. Action: Begin the Administrative Procedures Act process: To revise the Mississippi Secondary Curriculum Frameworks in Career and Technical Education for Agriculture and Environmental Science and Technology (AEST), Entrepreneurship, International Business, and Agricultural Leadership and Personal Development [Goal 2 – MBE Strategic Plan]

**Executive Summary**

The Entrepreneurship and International Business secondary curriculum frameworks introduce students to business operations surrounding global trade and cutting edge entrepreneurship skills and knowledge. The Agriculture and Environmental Science and Technology (AEST) course model provides students with in-depth and concise information related to Agriscience concepts, Agribusiness, and Agricultural Animals, Plants, Environment, and Mechanization. Approved secondary curriculum will be disseminated for implementation in the 2017-2018 school year.

The following secondary curriculum frameworks are recommended for approval:

1. Concepts of Agriscience
2. AEST Science of Agribusiness Level I
3. AEST Science of Agribusiness Level II
4. AEST Science of Agricultural Animals Level I
5. AEST Science of Agricultural Animals Level II
6. AEST Science of Agricultural Plants Level I
7. AEST Science of Agricultural Plants Level II
8. AEST Science of Agricultural Environment Level I
9. AEST Science of Agricultural Environment Level II
10. AEST Science of Agricultural Mechanization Level I
11. AEST Science of Agricultural Mechanization Level II
12. Entrepreneurship
13. International Business
14. Agricultural Leadership and Personal Development

All curricula frameworks are designed to provide local programs with an instructional foundation that can be used to develop localized instructional management plans and course syllabi. Additionally, the frameworks include the following elements for each revised secondary curricula:

- ❖ Program
- ❖ Description
- ❖ CIP Code and CIP Name
- ❖ Course Outline and Codes
  - Curriculum
  - Student Competencies
  - Suggested Student Objectives

NOTE: The Office of Career and Technical Education has provided executive summaries of the curriculum framework revisions. The detailed documents are available upon request.

This item references Goal 2 of the *Mississippi Board of Education 2016-2020 Strategic Plan*.

Recommendation: Approval

Back-up material attached

The back-up for Tab 02 is a large document so it is on the Career and Technical Education (CTE) web page for you to review if you would like. Below is the link to the CTE back-up materials.

“CTE Backup for March Board Items” hyperlink is <http://www.mde.k12.ms.us/OCTE/cte-backup-for-march-2017-board-items>

### ***CTE Backup for March 2017 Board Items***

Tab 02. Action: Begin the Administrative Procedures Act process: To revise the Mississippi Secondary Curriculum Frameworks in Career and Technical Education for Agriculture and Environmental Science and Technology (AEST), Entrepreneurship, International Business, and Agricultural Leadership and Personal Development [Goal 2 – MBE Strategic Plan]

The following secondary curriculum frameworks are recommended for approval:

1. Concepts of Agriscience – page 172
2. AEST Science of Agribusiness Level I – page 269
3. AEST Science of Agribusiness Level II – page 316
4. AEST Science of Agricultural Animals Level I – page 528
5. AEST Science of Agricultural Animals Level II – page 623
6. AEST Science of Agricultural Plants Level I – page 917
7. AEST Science of Agricultural Plants Level II – page 1004
8. AEST Science of Agricultural Environment Level I – page 1307
9. AEST Science of Agricultural Environment Level II page 1395
10. AEST Science of Agricultural Mechanization Level – page 1610
11. AEST Science of Agricultural Mechanization Level II – page 1660
12. Entrepreneurship – page 1824
13. International Business – page 1995
14. Agricultural Leadership and Personal Development – page 2071

## **Summary of Secondary Curricula Changes for Career & Technical Education**

### **2017 Concepts of Agriscience**

- Hours were adjusted to reflect curriculum content.
- Units were realigned to provide basic introductory content that will be continued in advanced coursework within the Agriculture and Environmental Science and Technology (AEST) program.
- Added an introductory unit on Agribusiness and Entrepreneurship.
- Unit 2 Agricultural Leadership and Career Development is redesigned to reflect updated programming in the intracurricular student organization, Future Farmers of America (FFA).
- Unit 3 Introduction to Experiential Learning is redesigned to reflect updated changes in Supervised Agricultural Experience program requirements.
- Realigned/deleted content based on instructors' input.

### **2017 AEST Science of Agribusiness Level I**

- New 0.5-credit course that expands on the related introductory material presented in Concepts of Agriscience.
- Added depth and specific objectives to units.
- Aligned to the Agriculture, Food and Natural Resources National Content Standards and Performance elements.
- Unit 1 Leadership and Experiential Learning is expanded and more in-depth, challenging students to further develop their leadership skills and invest more time and effort into experiential learning projects.
- Interactive, hands-on coursework that guides students through principles of personal financial management, development of budgets and marketing with real-life scenarios.

### **2017 AEST Science of Agribusiness Level II**

- One-credit course that expands on the related introductory material presented in the corresponding Level I course.
- Added depth and specific objectives to units.
- Aligned to the Agriculture, Food and Natural Resources National Content Standards and Performance elements.
- Unit 1 Leadership and Experiential Learning is expanded and more in-depth, challenging students to practice leadership skills and invest more time and effort into experiential learning projects that lead to career preparation.
- Interactive, in-depth hands-on coursework that students utilize to develop and manage an agriculture-related business have been added.

### **2017 AEST Science of Agricultural Animals Level I**

- New 0.5-credit course that expands on the related introductory material presented in Concepts of Agriscience.
- Split content from the original Science of Agricultural Animals curriculum to provide added depth and specific objectives to units.
- Aligned to the Agriculture, Food and Natural Resources National Content Standards and Performance elements.
- Unit 1 Leadership and Experiential Learning is expanded and more in-depth, challenging students to further develop their leadership skills and invest more time and effort into experiential learning projects.
- Interactive, hands-on coursework guides students through principles and application of animal science to breeding, market and performance animal production have been added.

### **2017 AEST Science of Agricultural Animals Level II**

- New 1-credit course that expands on the related science-based and applied knowledge presented in the Level I course.
- Split content from the original Science of Agricultural Animals curriculum to provide added depth and new units of instruction, such as Unit 2 Application of Feed and Feeding to Animal Growth and Reproduction and Unit 6 Facility and Equipment Management in Animal Agriculture.
- Aligned to the Agriculture, Food and Natural Resources National Content Standards and Performance elements.
- Unit 1 Leadership and Experiential Learning is expanded and more in-depth, challenging students to practice leadership skills and invest more time and effort into experiential learning projects that lead to career preparation.
- Interactive, hands-on coursework guides students through principles and application of animal science to production management have been added.

### **2017 AEST Science of Agricultural Plants Level I**

- New 0.5-credit course that expands on the related introductory material presented in Concepts of Agriscience.
- Split content from the original Science of Agricultural Plants curriculum to provide added depth and specific objectives to units.
- Aligned to the Agriculture, Food and Natural Resources National Content Standards and Performance elements.
- Unit 1 Leadership and Experiential Learning is expanded and more in-depth, challenging students to further develop their leadership skills and invest more time and effort into experiential learning projects.
- Interactive, hands-on coursework guides students through principles and application of plant science to plant growth, reproduction and propagation have been added.

### **2017 AEST Science of Agricultural Plants Level II**

- New 1-credit course that expands on the related science-based and applied knowledge presented in the Level I course.
- Split content from the original Science of Agricultural Plants curriculum to provide added depth and new units of instruction, with the opportunity for local programs to focus and apply learning to crops specific to their geographic area and local economy.
- Aligned to the Agriculture, Food and Natural Resources National Content Standards and Performance elements.
- Unit 1 Leadership and Experiential Learning is expanded and more in-depth, challenging students to practice leadership skills and invest more time and effort into experiential learning projects that lead to career preparation.
- Interactive, hands-on coursework guides students through principles and application of crop production and management have been added.

### **2017 AEST Science of Agricultural Environment Level I**

- New 0.5-credit course that expands on the related introductory material presented in Concepts of Agriscience.
- Split content from the original Science of Agricultural Environment curriculum to provide added depth and specific objectives to units.
- Aligned to the Agriculture, Food and Natural Resources National Content Standards and Performance elements.
- Unit 1 Leadership and Experiential Learning is expanded and more in-depth, challenging students to further develop their leadership skills and invest more time and effort into experiential learning projects.
- Interactive, hands-on coursework guides students through principles and application of environmental science to agricultural production have been added.

### **2017 AEST Science of Agricultural Environment Level II**

- New 1-credit course that expands on the related science-based and applied knowledge presented in the Level I course.
- Split content from the original Science of Agricultural Environment curriculum to provide added depth and new units of instruction, such as Unit 5 Water Quality Management and Unit 7 Wildlife Management.
- Aligned to the Agriculture, Food and Natural Resources National Content Standards and Performance elements.
- Unit 1 Leadership and Experiential Learning is expanded and more in-depth, challenging students to practice leadership skills and invest more time and effort into experiential learning projects that lead to career preparation.
- Interactive, hands-on coursework guides students through principles and application of science principles to environmental management have been added.

### **2017 AEST Science of Agricultural Mechanization Level I**

- New 0.5-credit course that expands on the related introductory material presented in Concepts of Agriscience.
- Split content from the original Science of Agricultural Mechanization curriculum to provide added depth and specific objectives to units.
- Aligned to the Agriculture, Food and Natural Resources National Content Standards and Performance elements.
- Unit 1 Leadership and Experiential Learning is expanded and more in-depth, challenging students to further develop their leadership skills and invest more time and effort into experiential learning projects.
- Interactive, hands-on coursework guides students through principles and application of agricultural mechanics, specifically in metal fabrication have been added.

### **2017 AEST Science of Agricultural Mechanization Level II**

- New 1-credit course that expands on the related science-based and applied knowledge presented in the Level I course.
- Split content from the original Science of Agricultural Mechanics curriculum to provide added depth and new units of instruction, such as Unit 3 Hydraulic and Pneumatic Systems in Agriculture and Unit 7 Principals of Internal Combustion Diesel Engines.
- Aligned to the Agriculture, Food and Natural Resources National Content Standards and Performance elements.
- Unit 1 Leadership and Experiential Learning is expanded and more in-depth, challenging students to practice leadership skills and invest more time and effort into experiential learning projects that lead to career preparation.
- Interactive, hands-on coursework guides students through principles and application of agricultural mechanics to various areas of agricultural production enterprises have been added.

### **2017 Entrepreneurship**

- Reduced the number of units from 11 to 8 by removing redundant competencies and scaling down the content to allow for a more authentic approach to presenting the content. For example, covering only the economics and business functions that could realistically be applied in a 1 Carnegie unit course without bogging-down students with content that is not relevant.
- The units in the curriculum were rearranged for an improved and more engaging flow of instruction. For example, instead of beginning the course with business concepts, students are given the opportunity to engage in idea generation and learn the essential business concepts as they turn their idea into a business venture.

- Unit names were changed to reflect the authentic content, as opposed to broader content.

### **2017 International Business**

- Added more units by breaking some units into smaller units of study that were more streamlined and logical.
- Incorporated a project that is completed over entire course as an instructional unit is covered.
- Reordered and renamed previous units for improved, logical flow.
- Changed instructional hours for units.
- Revised competencies to better reflect the new unit order and be more specific.

### **2017 Agricultural Leadership and Personal Development**

- This course is a new one-credit enhancement course available in the Agriculture, Food and Natural Resources Career Cluster. It is designed to be relevant to students in any of the programs within the National Agriculture, Food, and Natural Resources (AFNR) pathway.
- The units in the curriculum are designed to introduce students to the skills, attitudes, and habits of effective leaders.
- Units allow an in depth study and focus of content on topics such as communication skills, public speaking, conflict resolution, and time management.
- The curriculum is aligned to the Agriculture, Food and Natural Resources National Content Standards and Performance elements, specifically the Career Ready Practices and the AFNR Cluster Skills.
- Experiential learning is a key component for student engagement in this curriculum.