

**OFFICE OF QUALITY PROFESSIONALS AND SPECIAL SCHOOLS**  
**Summary of State Board of Education Items**  
**May 20-21, 2010**

**EDUCATOR LICENSURE**

21. Approval of the Licensure Requirements and Endorsement Codes for the four new 2010 Vocational Redesign Career Pathways as recommended by the Commission on Teacher and Administrator Education, Certification and Licensure Development (Has cleared the Administrative Procedures Act process with no public comment)

**Background Information:**

In September of 2006, the Certification Commission was first introduced to the High School Redesign for Vocational Education. The Research and Curriculum Unit at Mississippi State University is under a memorandum of agreement with Mississippi Department of Education to write the curriculum for all redesign courses. In January of 2007, the first stage of the redesign was approved by the Commission and sent to the State Board with the adoption of the new curriculum for Career Discovery, Computer Discovery, and Technology Discovery.

In March of 2007, the Commission approved and recommended to the State Board Phase 1 of the new redesign courses by approving three new endorsement codes for ICT I, ICT II, and STEM, three new courses that were piloted in the 2007-2008 school year with training in the summer of 2007.

In the spring of 2008, as Phase 2 of the redesign, RCU was ready to pilot eight (8) of the new Career Pathways. In April of 2008, the state board approved eight new endorsement codes and license requirements for these eight new pathways. The school districts selected to pilot these programs sent select teachers to be trained during the summer of 2008 in these eight areas of certification. These eight Career Pathways approved in 2008 were:

- 955 – Management
- 956 – Marketing and Economics
- 961 – Health Sciences
- 966 – Automotive Service
- 971 – Teacher Academy
- 972 – Culinary Arts
- 976 – Manufacturing
- 977 – Construction Technology

On March 6, 2009, the Certification Commission approved the license endorsement codes and license requirements for the 2009 six new Career Pathways to be piloted in the 2009-2010 school year. The Commission recommends to the State Board that the following new courses be approved:

- 954 Information Technology
- 967 Collision Repair
- 973 Installation and Service – Industrial Maintenance
- 974 Installation and Service HVAC
- 985 Architecture and Engineering
- 987 Digital Media Technology

### **April 2010 Proposal**

At the January 2010 Commission meeting, the Office of Vocational Education requested approval of four new license codes and requirements for the next phase of the high school redesign of Career/Technical Education. These new proposed licenses are:

- 968 Diesel Service Technician
- 975 Welding
- 989 Polymer Science
- 970 Early Childhood
- 992 Agriculture & Environmental Science & Technology (AEST)

The first four proposed endorsement codes will eventually replace the old codes as funding is available through the state. The 992 code has already been approved, but the curriculum has been re-written and the license requirements amended to reflect the new requirements already approved by the Commission and the board.

School districts selected as pilot sites for these new pathways will send designated teacher to be trained at RCU this summer for these new courses.

Attachment: Licensure requirements for four new Redesign endorsement codes and redesigned license for 992.

Back-up material attached

Recommendation: Approval

# Diesel Service Technician Pathway

## ***Program Description***

Diesel Service Technician is a pathway for students in the Transportation career cluster. This program is designed for students who wish to diagnose and repair the systems and components related to diesel engines. The program emphasizes the techniques and tools used in servicing diesel systems and components. Both theoretical learning and activity-based learning are provided for students who wish to develop and enhance their competencies and skills. The course focuses on the basic areas of diesel engine components, electrical and electronic systems, and hydraulics. Exposure to state-of-the-art equipment is given through advice by experts from industry. The comprehensive project component provides practical experience toward developing a portfolio of work.

The program is aligned with the NATEF 2007 Medium/Heavy Truck program standards, which were retrieved August 1, 2009, from <http://www.natef.org>.

## ***Courses in Pathway***

The pathway program may be delivered as 2 two-credit courses or as 4 one-credit courses as shown below:

<u>Course Number</u>	<u>Course Title</u>	<u>Carnegie Units</u>
997200	Diesel Service Technician I	2
997201	Diesel Service Technician II	2
997202	Fundamentals of Diesel Systems and Components	1
997203	Electrical/Electronic Systems	1
997204	Diesel Engine Performance	1
997205	Auxiliary Components and Systems	1

## ***Teacher Licensure Requirements***

See next page.

This endorsement licenses a person to teach the following secondary courses:

- 997200 Diesel Service Technician I
- 997201 Diesel Service Technician II
- 997202 Fundamentals of Diesel Systems and Components
- 997203 Electrical/Electronic Systems
- 997204 Diesel Engine Performance
- 997205 Auxiliary Components and Systems

Minimum Requirements for this Endorsement:

**1. Education**

- Applicant must have earned a two-year college degree (associate degree) or higher from an accredited institution of higher education. [Exception: Teachers with a currently valid license and endorsement #350 Diesel Equipment Repair may earn this endorsement based on that #350 endorsement even if two-year college degree is not earned. All other requirements for this endorsement must be satisfied.]

**2. Technology Literacy and Related Assessment of that Competency**

Applicant must validate technology competency during the first year of license by attaining the established minimum score or higher on an assessment approved by the Mississippi Department of Education (MDE). The assessment must be directly related to technology competency required by the grade level and subject matter being taught. Approved assessments for this license are ICS, iCAT, or other specific assessment created by third-party vendors, authorized by the Local Education Agency (LEA) and approved by the MDE.

**3. Occupational Experience and Related Assessment of that Experience**

- Applicants with an associate degree must have at least two years of verifiable occupational experience in the past ten years. Experience must be appropriate to the subject to be taught.
- Applicants with a bachelor or higher degree must have at least one year of verifiable occupational experience in the past ten years. Experience must be appropriate to the subject to be taught.
- Applicant must hold ASE Certifications in the following three areas: a) Medium & Heavy Duty Truck (test Diesel T2), b) Electrical/Electronics (test T6), and c) Preventative Maintenance (test T8).

**4. Teacher Education Preparation and Related Assessment(s) of that Education**

- Applicant must enroll immediately in Vocational Instructor Preparation (VIP) program.
- Applicant must complete the individualized professional development plan (PDP) requirements of the VIP program prior to the expiration date of the three-year vocational license.
- Applicant must successfully complete a certification for online learning workshop, module, or course that is approved by the Mississippi Department of Education
- Applicant must successfully complete the Diesel Service Technician certification workshop, module, or course that is approved by the Mississippi Department of Education.

**note #1:** If the applicant meets all requirements listed above, that applicant will be issued a 968 endorsement—a five-year license. If the applicant does not meet all requirements, the applicant may be issued a three-year endorsement (license), and all requirements stated above must be satisfied prior to the ending date of that license.

# Welding Pathway

## ***Program Description***

Welding is an instructional program that prepares students for employment or continued education in the occupations of the welding profession. Students who successfully complete the welding curriculum may gain employment in a variety of businesses throughout Mississippi including ship building, petroleum pipelines, automotive manufacturing, and other metal fabrication companies. The courses in this program prepare the student for an exciting career working with various types of fusion welding techniques. Both theoretical learning and activity-based learning are provided for students who wish to develop and enhance their competencies and skills. The student will also be introduced to automated welding processes like robotic welding and frictional stir welding. The program emphasizes the techniques and tools used in a multitude of welding applications. Training on state-of-the-art equipment, like that found in metal fabrication businesses throughout the world, is an essential part of this program; therefore, equipment used in the courses is the same equipment found in the global work place. The comprehensive project component provides practical experience toward developing a portfolio of work.

## ***Courses in Pathway***

The pathway program may be delivered as 2 two-credit courses or as 4 one-credit courses as shown below:

<u>Course Number</u>	<u>Course Title</u>	<u>Carnegie Units</u>
993300	Welding I	2
993301	Welding II	2
993302	Orientation and Cutting	1
993303	Shielded Metal Arc Welding (SMAW)	1
993304	Gas Metal, Flux Core and Gas Tungsten Welding (GMAW, FCAW, and GTAW)	1
993305	Production Welding Processes	1

## ***Teacher Licensure Requirements***

See next page.

This endorsement licenses a person to teach the following secondary courses:

- 993300 Welding I
- 993301 Welding II
- 993302 Orientation and Cutting
- 993303 Shielded Metal Arc Welding (SMAW)
- 993304 Gas Metal, Flux Core and Gas Tungsten Welding (GMAW, FCAW, and GTAW)
- 993305 Production Welding Processes

Minimum Requirements for this Endorsement:

**1. Education**

- Applicant must have earned a two-year college degree (associate degree) or higher from an accredited institution of higher education. [Exception: Teachers with a currently valid license and endorsement #376 Welding may earn this endorsement based on that #376 endorsement even if two-year college degree is not earned. All other requirements for this endorsement must be satisfied.]

**2. Technology Literacy and Related Assessment of that Competency**

Applicant must validate technology competency during the first year of license by attaining the established minimum score or higher on an assessment approved by the Mississippi Department of Education (MDE). The assessment must be directly related to technology competency required by the grade level and subject matter being taught. Approved assessments for this license are IC3, iCAT, or other specific assessment created by third-party vendors, authorized by the Local Education Agency (LEA) and approved by the MDE.

**3. Occupational Experience and Related Assessment of that Experience**

- Applicants with an associate degree must have at least two years of verifiable occupational experience in the past ten years. Experience must be appropriate to the subject to be taught.
- Applicants with a bachelor or higher degree must have at least one year of verifiable occupational experience in the past ten years. Experience must be appropriate to the subject to be taught.
- Applicant must earn a passing score on the Welding Assessment: TOCA at RCU--Welding

**4. Teacher Education Preparation and Related Assessment(s) of that Education**

- Applicant must enroll immediately in Vocational Instructor Preparation (VIP) program.
- Applicant must complete the individualized professional development plan (PDP) requirements of the VIP program prior to the expiration date of the three-year vocational license.
- Applicant must successfully complete the Contren Instructor Certification.
- Applicant must successfully complete a certification for online learning workshop, module, or course that is approved by the Mississippi Department of Education
- Applicant must successfully complete the Welding certification workshop, module, or course that is approved by the Mississippi Department of Education.

note #1: If the applicant meets all requirements listed above, that applicant will be issued a 975 endorsement—a five-year license. If the applicant does not meet all requirements, the applicant may be issued a three-year endorsement (license), and all requirements stated above must be satisfied prior to the ending date of that license.

# Polymer Science Pathway

## *Program Description*

Polymer Science is an instructional program that introduces an individual to the field of plastics and polymer materials manufacturing. The program allows an individual to prepare for employment or continued education in the occupations of plastics and polymer materials manufacturing. The program is designed to provide students with hands-on experiences related to the application of polymer science concepts in the workplace. Students will develop academic and technical skills, 21<sup>st</sup> century skills, and human relations competencies that accompany technical skills for job success and lifelong learning. Students who complete the program will be better prepared to enter and succeed in related programs offered by Mississippi community and junior colleges and institutions of higher education.

## *Courses in Pathway*

The pathway program may be delivered as 2 two-credit courses or as 4 one-credit courses as shown below:

<u>Course Number</u>	<u>Course Title</u>	<u>Carnegie Units</u>
994500	Polymer Science I	2
994501	Polymer Science II	2
994502	Introduction to Polymer Science I	1
994503	Introduction to Polymer Science II	1
994504	Advanced Topics in Polymer Science	1
994505	Production Welding Processes	1

## *Teacher Licensure Requirements*

See next page.

This endorsement licenses a person to teach the following secondary courses:

994500	Polymer Science I
994501	Polymer Science II
994502	Introduction to Polymer Science I
994503	Introduction to Polymer Science II
994504	Advanced Topics in Polymer Science
994505	Production Welding Processes

Minimum Requirements for this Endorsement:

**1. Education**

- Applicant must hold a four-year college degree (bachelor degree) or higher from an accredited institution of higher education. The degree must be in polymer science, chemistry, or other appropriate field of science and must be approved by MDE program coordinator. **[Exception:** Teachers with a currently valid license and endorsement #379 Polymer/Plastic Technology may earn this endorsement based on that #379 endorsement even if four-year college degree is another major field of study. All other requirements for this endorsement must be satisfied.]

**2. Technology Literacy and Related Assessment of that Competency**

Applicant must validate technology competency during the first year of license by attaining the established minimum score or higher on an assessment approved by the Mississippi Department of Education (MDE). The assessment must be directly related to technology competency required by the grade level and subject matter being taught. Approved assessments for this license are IC3, iCAT, or other specific assessment created by third-party vendors, authorized by the Local Education Agency (LEA) and approved by the MDE.

**3. Occupational Experience and Related Assessment of that Experience**

- Verification of at least one year of full-time occupational experience in the past ten years. This experience must be appropriate to the subject area to be taught.  
 - All successful applicants must hold a bachelor or higher degree in the subject area to be taught. This degree in subject area exempts applicant from any additional occupational competency testing.

**4. Teacher Education Preparation and Related Assessment(s) of that Education**

-Applicant must enroll immediately in Vocational Instructor Preparation (VIP) program.  
 -Applicant must complete the individualized professional development plan (PDP) requirements of the VIP program prior to the expiration date of the three-year vocational license.  
 -Applicant must successfully complete a certification for online learning workshop, module, or course that is approved by the Mississippi Department of Education  
 - Applicant must successfully complete the Polymer Science certification workshop, module, or course that is approved by the Mississippi Department of Education.

**note #1:** If the applicant meets all requirements listed above, that applicant will be issued a 989 endorsement—a five-year license. If the applicant does not meet all requirements, the applicant may be issued a three-year endorsement (license), and all requirements stated above must be satisfied prior to the ending date of that license.

# Early Childhood Pathway

## *Program Description*

Early Childhood is a pathway in the Human Science, Art, and Humanities career cluster. This high school program of study consists of 4 Carnegie units of credit and includes classroom and hands-on experiences designed to prepare students for employment or continuing education in the early childhood education field. . This course of study emphasizes students' personal and professional preparation for careers or education in the field, history and trends of early childhood education, children's health and safety, child development, child guidance and observation, career and professional development, characteristics of high quality early childhood centers, management and administration in quality child care programs, and the learning environment. Membership is encouraged in the student organization, FCCLA (Family, Career, and Community Leaders of America), which provides activities for leadership and the application of competencies through participating in competitive events. Skills developed through the course of study assist students in meeting requirements for the CDA (Child Development Associate) credential.

## *Courses in Pathway*

The pathway program may be delivered as 2 two-credit courses or as 4 one-credit courses as shown below:

<u>Course Number</u>	<u>Course Title</u>	<u>Carnegie Units</u>
996200	Early Childhood I	2
996201	Early Childhood II	2
996202	Fundamentals and Stages of Child Development	1
996203	Children's Health, Safety and Guidance	1
996204	The Learning Environment	1
996205	Management of a Quality Child Care Program	1

## *Teacher Licensure Requirements*

See next page.

This is an “add on” endorsement that may be earned only by persons who hold a currently valid Mississippi Educator License with endorsement #321—Vocational Family and Consumer Sciences or #322—Home Economics.

A #970 endorsement allows a person to teach the following courses:

- 996200 Early Childhood I
- 996201 Early Childhood II
- 996202 Fundamentals and Stages of Child Development
- 996203 Children’s Health, Safety and Guidance
- 996204 The Learning Environment
- 996205 Management of a Quality Child Care Program

This endorsement requires the following:

1. Currently valid Mississippi Educator License with endorsement in Vocational Family and Consumer Sciences (#321) or Home Economics (#322).
2. Complete and submit MDE licensure application form.
3. Applicant must validate technology competency during the first year of license by attaining the established minimum score or higher on an assessment approved by the Mississippi Department of Education (MDE). The assessment must be directly related to technology competency required by the grade level and subject matter being taught. Approved assessments for this license are IC3, ICAT, or other specific assessment created by third-party vendors, authorized by the Local Education Agency (LEA) and approved by the MDE.
4. Applicant must successfully complete a certification for online learning workshop, module, or course that is approved by the Mississippi Department of Education.
5. Applicant must successfully complete the Early Childhood certification workshop, module, or course that is approved by the Mississippi Department of Education.
6. Applicant must earn and maintain a Health-care Provider Basic Life Saver, Instructor Level certification through American Health Association or American Red Cross.
7. Applicant must enroll immediately in Vocational Preparation (VIP) program. Applicant must complete the individualized professional development plan (PDP) requirements of the VIP program prior to the expiration date of the three-year vocational license.

**note #1:** If the applicant meets all requirements listed above, that applicant will be issued a 970 endorsement—a five-year license. If the applicant does not meet all requirements, the applicant may be issued a three-year endorsement (license), and all requirements stated above must be satisfied prior to the ending date of that license.

# **Agricultural and Environmental Science Technology (AEST) Pathway**

## ***Program Description***

AEST is a pathway in the Agricultural Sciences career cluster. This high school program of study consists of 5 courses (one Carnegie unit of credit each). A local school district choosing to implement this pathway will offer the course, Concepts of Agriculture, as the first course (prerequisite to all others). The local school district and students will complete the program of study by selecting from the remaining 4 courses. All courses include classroom and hands-on experiences designed to prepare students for employment or continuing education in some field of agriculture. This course of study emphasizes students' personal and professional preparation for careers or education in the field of agriculture (including animals, plants, mechanization and the environment. Membership is encouraged in the student organization, FFA (Future Farmers of America), which provides activities for leadership and the application of competencies through participating in competitive events.

## ***Courses in Pathway***

The pathway program is delivered in one-credit courses as shown below:

<u>Course Number</u>	<u>Course Title</u>	<u>Carnegie Units</u>
991000	Concepts of Agriculture	1
991001	Science of Agricultural Animals	1
991002	Science of Agricultural Environment	1
991003	Science of Agricultural Plants	1
991004	Science of Agricultural Mechanization	1

## ***Teacher Licensure Requirements***

See next page.

992 Agriculture & Environmental Science and Technology

This is an "add on" endorsement that may be earned only by persons who hold a currently valid Mississippi Educator License with endorsement #301—Vocational Agriculture-Related Program or #302 Agriculture.

A #992 endorsement allows a person to teach the following courses:

- 991000 Concepts of Agriscience
- 991001 Science of Agricultural Animals
- 991002 Science of Agricultural Environment
- 991003 Science of Agricultural Plants
- 991004 Science of Agricultural Mechanization

This endorsement requires the following:

1. Currently valid Mississippi Educator License with endorsement in Vocational Agriculture-Related Program #301 or Agriculture #302.
2. Complete and submit MDE licensure application form
3. Applicant must validate technology competency during the first year of license by attaining the established minimum score or higher on an assessment approved by the Mississippi Department of Education (MDE). The assessment must be directly related to technology competency required by the grade level and subject matter being taught. Approved assessments for this license are IC3, iCAT, or other specific assessment created by third-party vendors, authorized by the Local Education Agency (LEA) and approved by the MDE.
4. Applicant must successfully complete a certification for online learning workshop, module, or course that is approved by the Mississippi Department of Education
5. Enrollment in and completion of AEST training program, a 3 credit-hour course approved by MDE and offered at MSU.
6. Applicant must enroll immediately in Vocational Instructor Preparation (VIP) program. Applicant must complete the individualized professional development plan (PDP) requirements of the VIP program prior to the expiration date of the three-year vocational license.
7. Applicant must successfully complete the AEST certification workshop, module, or course that is approved by the Mississippi Department of Education.

note #1: If the applicant meets all requirements listed above, that applicant will be issued a 992 endorsement—a five-year license. If the applicant does not meet all requirements, the applicant may be issued a three-year endorsement (license), and all requirements stated above must be satisfied prior to the ending date of that license.