



**Mississippi Department of Education**

**Program of Study**

**Office of Career and Technical Education**

**January 2011**

## **Program of Study**

- **Program of Study Overview**
- **Sample Program of Study for Teacher Academy**
- **Sample Program of Study for Business**

# STUDENT PROGRAM OF STUDY

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## Introduction

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As far back as 1914, the federal government has recognized that children who do not respond to traditional instruction may be reached through learning by doing. Educators have found that when connecting education with life experiences and making it useful, students are more engaged, student outcomes are increased, attendance increases, and discipline decreases. In the development of the Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Perkins IV), legislatures reached a broad consensus that high school occupational courses should prepare students for meaningful work in a global economy that is continuously undergoing technological changes. Additionally, obtaining the skills to succeed in such an environment requires Program of Study secondary preparation (Lewis & Kosine, 2008; *Reinventing the American High School for the 21st Century*, 2006).

The PROGRAM OF STUDY must include coherent and rigorous content aligned with challenging academic standards and relevant career and technical education content. The courses in the PROGRAM OF STUDY must be delivered in a coordinated, nonduplicative progression that aligns secondary and Program of Study secondary courses. Additionally, the courses in the PROGRAM OF STUDY must lead to an industry-recognized credential or certificate at the Program of Study secondary level or an associate's or bachelor's degree. The PROGRAM OF STUDY may include opportunity for secondary education students to participate in dual or concurrent enrollment programs or articulated credit courses (Lewis & Kosine, 2008).

## Program of Study Defined

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In an effort to define PROGRAM OF STUDY for Mississippi students, information was drawn from the Perkins IV legislation, a report from the National Research Center for Career and Technical Education (Lewis & Kosine, 2008) and other states' definitions of PROGRAM OF STUDY. The Mississippi Department of Education (MDE) offers its own definition for an effective program of study:

A district-developed, sequential set of courses that begin when the student enters the ninth grade, the set of courses are to include **academic core courses** that are coherent, challenging, relevant to real-world situations, and aligned with national academic and college readiness standards and **relevant elective courses** including **career and technical education courses** that are logical, challenging, and aligned to industry-recognized (CTE courses) and college readiness standards. The courses in the PROGRAM OF STUDY are to be delivered in a coordinated, nonduplicative progression that aligns secondary and Program of Study secondary education including community college and 4-year institutions. The courses in the PROGRAM OF STUDY should lead to an associate's or bachelor's degree, a certificate at the Program of Study secondary level, or an industry-recognized credential. The PROGRAM OF STUDY should include

opportunities for dual or articulated credit at the Program of Study secondary level for all students.

## **Program of Study Effectiveness**

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### **Career Pathways**

The Career Pathways initiative came about as an attempt to align high school preparation more closely with the needs of the workforce. Through this initiative, comprehensive templates for educational planning and a stronger emphasis were placed on the rigor of academic and career technical course content. Stone and Aliaga (2003) found that there was a statistically significant Program of Study correlation between students participating in career pathways with 12th-grade GPA. In 2007, Castellano, et al. found that students from high schools who were implementing a comprehensive school reform that included career pathways had higher rates of Program of Study secondary enrollment and less remediation at the Program of Study secondary level (although remediation was still at 60%). Finally, Rudy and Rudy (2001) found that over a 5-year period of implementing six career pathways, high school attendance rates, high school GPA, scores on statewide tests, enrollment in dual-credit courses, and percentage of graduates enrolling in Program of Study secondary education increased.

### **Concurrent or Dual Enrollment**

The MDE definition of a PROGRAM OF STUDY states that it should include opportunities for dual or articulated credit at the Program of Study secondary level for all students. Concurrent or dual enrollment is the process of offering Program of Study secondary courses and credits to secondary students. It is seen as both increasing the efficiency of education by reducing the time and cost of obtaining Program of Study secondary degrees and increasing the rigor of high school instruction, thereby reducing Program of Study secondary remediation. In a report that analyzed multiple studies related to concurrent or dual enrollment, Lewis and Kosine (2008) found that evidence of effectiveness related to concurrent/dual enrollment include higher rates of Program of Study secondary education, higher grade point averages at the Program of Study secondary level, higher rates of persistence in Program of Study secondary education, and more Program of Study secondary credits earned by students.

## **History of Development**

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### **Resource Development**

Over the past couple of years, taskforces have met to develop a comprehensive student model that includes mentoring, counseling, and programs of study (PROGRAM OF STUDY).

The PROGRAM OF STUDY subcommittee recommended that eight Cluster Program of Study Subcommittees work together to develop recommendations and resources for each Mississippi cluster. Each subcommittee consisted of industry members; community and junior college instructors; Institutions of Higher Learning (IHL) professors; IHL students; and local district representatives such as superintendents, associate superintendents, curriculum coordinators, counselors, and teachers.

Each subcommittee worked together to examine the 2008–2009 Approved Courses for the Secondary Schools of Mississippi to select courses that should be coded as core or elective courses for the pathway PROGRAM OF STUDY. The subcommittees decided to create PROGRAM OF STUDY by pathway in order to provide a more relevant learning experience for all secondary students.

## **Validation**

With the help of Tech Prep Coordinators, validation surveys will be conducted with industry representatives, community college and IHL representatives, and secondary CTE and academic teachers, counselors, and administrators. Information from the validation survey will be used to ensure that the PROGRAM OF STUDY is appropriate for Mississippi.

## **Conclusion**

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It is important that every student in Mississippi develop their own individual graduation plan aligning the appropriate program of study. The courses in the program of study must be delivered in a coordinated, nonduplicative progression that aligns secondary and Program of Study secondary courses. Additionally, the courses in the PROGRAM OF STUDY must lead to an industry-recognized credential or certificate at the Program of Study secondary level or an associate's or bachelor's degree. The PROGRAM OF STUDY may include opportunity for secondary education students to participate in dual or concurrent enrollment programs or articulated credit courses.

## References

- Association for Career and Technical Education. (2006). *Reinventing the American high school for the 21st century: A Program of Study*. Alexandria, VA: Author.
- Carl D. Perkins Career and Technical Education Improvement Act of 2006 § 120,683 U.S.C. § 205. (2006).
- Castellano, M., Stone, J. R. III, Stringfield, S., Farley-Ripple, E. N., Overman, L. T., & Hussain, R. (2007). *Career-based comprehensive school reform serving disadvantaged youth in minority communities*. St. Paul, MN: National Research Center for Career and Technical Education, University of Minnesota. Retrieved January 5, 2009, from <http://www.mccte.org>
- Hull, D. (2004). *Career Pathways: The next generation of Tech Prep*. Wasco, TX: CORD.
- Lewis, M. V., & Kosine, N. (2008). *What will be the impact of program of study? A preliminary assessment based on similar previous initiatives, state plans for implementation, and career development theory*. NRCCTE. Retrieved January 5, 2009, from <http://www.mccte.org>
- Stone, J. R. III, & Aliaga, O. A. (2003). *Career and technical education, career pathways, and work-based learning: Changes in participation 1997–1999*. St Paul, MN: National Research Center for Career and Technical Education, University of Minnesota. Retrieved January 5, 2009, from <http://www.mccte.org>

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The Research and Curriculum Unit (RCU), located in Starkville, MS, as part of Mississippi State University, was established to foster educational enhancements and innovations. In keeping with the land grant mission of Mississippi State University, the RCU is dedicated to improving the quality of life for Mississippians. The RCU enhances intellectual and professional development of Mississippi students and educators, while applying knowledge and educational research to the lives of the people of the state. The RCU works within the contexts of curriculum development and revision, research, assessment, professional development, and industrial training.

# **SAMPLE: Teacher Academy Program of Study**

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## **Cluster(s): Human Sciences, Art, and Humanities...**

All entering ninth graders are required to have a minimum number of **Carnegie units** as specified in <http://www.mde.k12.ms.us/accred/accred.html>.

This Career Cluster Program of Study (based on the Human Sciences, Art, and Humanities cluster) can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended course work and should be individualized to meet each learner's educational and career goals. This program of study, used for learners at an educational institution, should be customized with course titles and appropriate district high school graduation requirements.

## **Additional Suggested Electives**

A committee of industry members; community and junior college instructors; Institutions of Higher Learning (IHL) professors; IHL students; and local district representatives such as superintendents, associate superintendents, curriculum coordinators, counselors, and teachers worked together to examine the Approved Courses for the Secondary Schools of Mississippi to select courses that should be coded as core or elective courses for the pathway PROGRAM OF STUDY. The subcommittees decided to create the programs of study by pathway in order to provide a more relevant learning experience for all secondary students. A list of all electives is below.

### ***Arts—Visual and Performing (Secondary)***

1. Band—Grades 9–12

### ***Science (Secondary)***

1. Health-Care Science

### ***Business Technology Education (Secondary)***

1. Advanced Desktop Publishing
2. Communications in Business
3. Computer Applications
4. Desktop Publishing I
5. Desktop Publishing II
6. Digital Media Design
7. Digital Photography
8. Entrepreneurship
9. Keyboarding
10. Multimedia Projects
11. Personal Finance
12. Research Using Technology's Information Tools
13. Word Processing

Name \_\_\_\_\_  
 MSIS ID \_\_\_\_\_  
 School/College/University \_\_\_\_\_

**Cluster: Human Sciences, Art, and Humanities**  
**Pathway(s): Teacher Academy**

This Teacher Academy Program of Study can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. This Program of Study, used for learners at an educational institution, should be customized with course titles and appropriate district and high school graduation requirements. Refer to the latest version of the approved courses for the secondary schools of Mississippi at MDE's Web site.

LEVELS	English/Language Arts <sup>1</sup> (4)	Math <sup>2</sup> (4)	Science <sup>3</sup> (4)	Social Studies/Sciences (4)	Other Required Courses Electives (2 1/2)	*Career and Technical Courses and/or Degree Major Courses for Teacher Academy <sup>4</sup> (5 1/2)	SAMPLE Occupations Relating to This Career Pathway
<b>Interest Inventory Administered and Plan of Study Initiated for all Learners</b>							
7	Seventh Grade Language Arts	Seventh Grade Math or Pre-Algebra	Seventh Grade Science	Seventh Grade (Eastern Hemisphere Studies to 1750)	Information and Communication Technology I		Occupations Requiring Less Than a Baccalaureate Degree ▲ Teacher Assistant  Occupations Requiring Baccalaureate Degree ▲ Elementary Teacher ▲ Middle School Teacher ▲ High School Teacher ▲ Educator for Parent ▲ Elementary School Counselor ▲ Preschool Teacher
8	Eighth Grade Language Arts	Pre-Algebra or Algebra I	Eighth Grade Science	Eighth Grade (United States History to 1877)	Information and Communication Technology II		
9	English I or Accelerated English	Algebra I or Geometry	Physics or Biology I	Geography (1/2) & MS Studies (1/2)	Comprehensive Health or Family and Individual Health (1/2)	Science, Technology, Engineering, and Mathematics (STEM) Applications	
10	English II or Accelerated English	Geometry or Algebra II	Biology I or Chemistry I	World History	Business & Technology (1) <sup>5</sup>	*See an entire list of suggested electives on Page 2 of the Program of Study word document for Teacher Academy.	
11	English III	Trigonometry, Pre-Calculus, or Algebra II	Chemistry or Physics	U.S. History	Art (1) Physical Education (1)	Teacher Academy I, II, III, and IV	
<b>College Placement Assessments-Academic/Career Advisement Provided</b>							
12	English IV or AP English (offered in a dual credit environment)	Trigonometry, Pre-Calculus, Statistics, or AP Calculus	Physics or science course	U.S. Government (1/2) & Economics (1/2)			
<b>Articulation/Dual Credit Transcribed-Postsecondary courses may be taken/moved to the secondary level for articulation/dual credit purposes.</b>							
Year 13	English Composition English Literature	Algebra or Calculus	Lab Science	Economics Psychology	All plans of study need to meet learners' career goals with regard to required degrees, licenses, certifications, or journey worker status. Certain local student organization activities may also be important to include.	Continue courses pertinent to the pathway selected.	
Year 14	Speech/Communication Oral Technical Writing	Business Accounting Pre-Calculus or Calculus		Dependent on chosen major			
Year 15		Continue courses in the area of specialization.					
Year 16							

SECONDARY

POSTSECONDARY



# SAMPLE: Business Program of Study

## **Cluster(s): Management, Marketing, and Finance**

All entering ninth graders are required to have a minimum number of **Carnegie units** as specified in <http://www.mde.k12.ms.us/accred/accred.html>.

This Career Cluster Program of Study (based on the Business Career Cluster) can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. This Program of Study, used for learners at an educational institution, should be customized with course titles and appropriate district, high school graduation requirements.

## **Additional Suggested Electives**

A committee of industry members, community and junior college instructors, Institutions of Higher Learning (IHL) professors, IHL students, local district representatives such as superintendents, associate superintendents, curriculum coordinators, counselors, and teachers worked together to examine the *Approved Courses for the Secondary Schools of Mississippi* to select courses that should be coded as core or elective courses for the pathway PROGRAM OF STUDY. The sub-committees decided to create Program of Study by pathway in order to provide a more relevant learning experience for all secondary students. A list of all electives is below:

### ***Agriculture Courses:***

1. Agribusiness and Entrepreneurship  
Technology
2. Agriculture and Business Management I
3. Agriculture and Business Management II
4. Agriculture Production I
5. Agriculture Production II

### ***Arts-visual and Performing (Secondary):***

1. High-tech Video Production
2. Photography

### ***Business Pathway Courses:***

1. Management I
2. Management II
3. Marketing and Economics I
4. Marketing and Economics II
5. Finance I
6. Finance II

**Business Technology Education (Secondary):**

1. Accounting I
2. Accounting II
3. Advanced Desktop Publishing
4. Advanced Software Topic
5. Business Law
6. Certified Advanced Networking I
7. Certified Advanced Networking II
8. Certified Advanced Networking III
9. Certified Advanced Networking IV
10. Communications in Business
11. Computations in Business
12. Computer Applications
13. Computer Engineering I
14. Computer Engineering II
15. Desktop Publishing I
16. Desktop Publishing II
17. Digital Media Design
18. Digital Photography
19. Digital Video
20. Entrepreneurship
21. Finance Technology
22. Global Marketing
23. Graphic Design I
24. Graphic Design II
25. Information Processing
26. Innovative Applications using Technology
27. International Business and Policy
28. IT Essentials: PC Hardware and Software
29. IT Essentials II: Network Operating Systems
30. Keyboarding
31. Multimedia Projects
32. National Endowment for Financial Education
33. Network Essentials
34. Personal Finance
35. Principles of Computer Aided Drafting (CAD)
36. Programming Research Using Technology's Information Tools
37. Telecommunications and Networking

38. Web Page Design I

39. Web Page Design II

40. Word Processing

**English Language Arts (Secondary):**

1. Oral Communications I

2. Oral Communications II

3. Debate

4. Introduction to Journalism

5. Public Speaking

6. Technical and Workplace Writing

7. World Literature

**Foreign Language:**

1. French I – IV

2. German I – IV

3. Italian Grades 9 – 12

4. Latin I

5. Russian I – IV

6. Spanish I – IV

**Mathematics (Secondary):**

1. Algebra II

2. Geometry

3. Statistics

4. Survey of Mathematical Topics

**Science (Secondary):**

1. Earth Science

2. Field Experiences in Science Courses

3. Physical Science

4. Science Skills and Reasoning

**Social Studies:**

1. Problems of American Democracy

2. Community Service Learning

3. Global Studies

4. Personal Leadership I

Name \_\_\_\_\_  
 MSIS ID \_\_\_\_\_  
 School/College/University \_\_\_\_\_

**Cluster: Business**  
**Pathway(s): Management, Marketing, & Finance**

This Career Cluster Program of Study (based on the Business Career Cluster) can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. This Program of Study, used for learners at an educational institution, should be customized with course titles and appropriate district and high school graduation requirements. Refer to the latest version of the approved courses for the secondary schools of Mississippi at the MDE's Web site.

EDUCATION LEVELS	English/Language Arts <sup>1</sup> (4)	Math <sup>2</sup> (4)	Science <sup>3</sup> (4)	Social Studies/Sciences (4)	Other Required Courses Electives (2-1/2)	*Career and Technical Courses and/or Degree Major Courses for Management* (5-1/2)	SAMPLE Occupations Relating to This Career Cluster
Interest Inventory Administered and Plan of Study Initiated for all Learners							
7	Seventh Grade Language Arts	Seventh Grade Math or Pre-Algebra	Seventh Grade Science	Seventh Grade (Eastern Hemisphere Studies to 1750)	Information and Communication Technology I		
8	Eighth Grade Language Arts	Pre-Algebra or Algebra I	Eighth Grade Science	Eighth Grade (United States History to 1877)	Information and Communication Technology II		
9	English I or Accelerated English	Algebra I or Geometry	Physical Science or Biology I	Geography (1/2) & MS Studies (1/2)	Comprehensive Health or Family and Individual Health (1/2)	Science, Technology, Engineering, and Mathematics (STEM) Applications	
10	English II or Accelerated English	Geometry or Algebra II	Biology I or Chemistry I	World History	Business & Technology (1) <sup>5</sup>	*See an entire list of suggested electives on Page 2.	
11	English III	Statistics, Pre-Calculus, or Algebra II	Chemistry or Physics	U.S. History	Art (1) Physical Education (1)	Management I (2) Management II (2) Accounting I and II Advanced Desktop Publishing Advanced Software Topic Business Law	Administrative Assistant Advertising Sales Person Auditor Business Consultant Certified Public Accountant Corporate Trainer E-Commerce Analyst Entrepreneur Facilities Manager Finance Director Human Resources Manager Investment Executive Marketing Analyst Medical Transcriptionist Office Manager OSHA/ADA Compliance Officer Personnel Recruiter Public Relations Manager Sales Representative Wholesale and Retail Buyer
College Placement Assessments-Academic/Career Advisement Provided	English IV or AP English (offered in a dual credit environment)	Trigonometry, Pre-Calculus, Statistics, or AP Calculus	Physics or science course	U.S. Government (1/2) & Economics (1/2)			
12							
Articulation/Dual Credit Transcribed-Postsecondary courses may be taken/moved to the secondary level for articulation/dual credit purposes.							
Year 13	English Composition English Literature	Algebra or Calculus	Lab Science	Economics Psychology	All plans of study need to meet learners' career goals with regard to required degrees, licenses, certifications, or journey worker status. Certain local student organization activities may also be important to include.	Continue courses pertinent to the pathway selected.	
Year 14	Speech/Oral Communication Technical Writing	Dependent on chosen pathway	Dependent on chosen major				
Year 15		Continue courses in the area of specialization.					
Year 16							