



State Model Programs of Study Guide

as required by Perkins IV

Nebraska Department of Education
April 2010

<http://www.education.ne.gov/nce/ProgramsStudy.htm>

The Federal Career and Technical Education Act of 2006 (Perkins IV) requires eligible recipients of Perkins Funds to have at least one approved program of study in career education. A program of study at its basic definition is a sequence of career education courses in a given career cluster or pathway that prepares students for postsecondary education or entry into their career.



In addition to qualifying for Perkins funds, Nebraska Career Education has identified the following advantages of identifying programs of study:

- Create sequences of NCE courses to prepare students for their career choice
- Promote postsecondary options for students to continue their education in preparation for successful careers
- Promote alignment of courses between secondary and postsecondary career education
- Promote advancement of articulated and/or dual credit courses
- Provide rigorous and relevant curriculum
- Provide a tool for career guidance to help students prepare their Personal Learning Plan

An approved program of study must meet the following criteria defined in the Perkins IV: **Section 122(2)(c)(1)** *(A) the career and technical programs of study, which may be adopted by local educational agencies and postsecondary institutions to be offered as an option to students (and their parents as appropriate) when planning for and completing future coursework, for career and technical content areas that—*

- (i) incorporate secondary education and postsecondary education elements;*
- (ii) include coherent and rigorous content aligned with challenging academic standards and relevant career and technical content in a coordinated, non-duplicative progression of courses that align secondary education with postsecondary education to adequately prepare students to succeed in postsecondary education;*
- (iii) may include the opportunity for secondary education students to participate in dual or concurrent enrollment programs or other ways to acquire postsecondary education credits; and*
- (iv) lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree;*

NCTE will provide three options for eligible recipients to submit their programs of study for approval.

- 1) Recommended state models are being adapted from the work of the national plan of study models developed by the States Career Cluster Initiative. These model programs of study are developed by cluster and by pathway within the cluster. Locals may choose to adopt these recommended programs of study.
- 2) Local eligible recipients will be able to design their own program of study and submit them to the Nebraska Department of Education for approval. The application must include a description of the courses included.
- 3) Local eligible recipients may choose to use a nationally validated program of study such as Project Lead the Way, Cisco or Oracle Academies or ProStart. The application must document the use of these national programs as designed to be implemented.

Model programs of study are available for eligible recipients to use in applying for approval of their programs of study. Eligible recipients must submit their programs of study for state approval prior to receiving approval for use of Perkins IV funds beginning July 1, 2010.

Perkins IV Intent to Participate and Program of Study Identification Process

The new Perkins IV Act has changed the procedure used for identifying schools eligible to receive Perkins funds. Following is a summary of the process necessary to participate in Perkins IV including a new on-line submission using the NDE Portal for three specific pieces of information:

- 1) School districts are asked to indicate their intent to participate either as a standalone or as a part of a consortium. Districts must indicate the consortium they are joining.
- 2) School districts must review the Essential Components checklist and verify that the district meets the Essential Components.
- 3) School districts must identify the career education programs of study that will be offered next year.

New with Perkins IV is the identification of Nebraska Career Education (NCE) programs of study offered in each school district. Programs of study are the sequence of NCE courses (three or four courses depending upon area) designed to help students prepare for a career on the cluster or pathway level. **The program of study information is based on what will be offered next year, and not based on what courses students enrolled in during the past year.**

School administrators are encouraged seek the assistance of NCE instructors in identifying program of study. This ***State Model Programs of Study Guide*** is designed to be a working document to help identify all possible combinations of courses to create programs of study at either the cluster level or the pathway level. Additional copies of this guide can be found at: <http://www.education.ne.gov/nce/ProgramsStudy.htm>

A revised Appendix D for the NDE Curriculum Report has been developed and forwarded to Nebraska schools. <http://ess.nde.state.ne.us/Forms/0910/Curriculum/CurrRep.htm>. Appendix D has NCE courses organized by the career field cluster structure and contains the new courses added for the state model programs of study.

A school may choose to submit national models or locally developed programs of study. The approved national models are listed in this Guide.

If a school submits locally developed programs of study, please remember to submit the required information for all courses identified in the program of study. The submission portal outlines this process and clarifies the required information. The programs of study offered in each district will be posted on the State of the Schools Report. It will also be summarized in our annual report to the United States Department of Education.

State Model Programs of Study Business, Marketing and Management Career Field



Recommended for Cluster Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Business Management and Administration Cluster	Marketing Cluster	Finance Cluster	Hospitality and Tourism Cluster
<input type="checkbox"/> Cluster level program of study offered 032300 Intro to Business, Mkt & Mgmt or 033000 Personal Finance Plus three semesters from the following list: 030300 Accounting (2 sem.) 030900 Business Law 032802 Management & Leadership 038100 Marketing	<input type="checkbox"/> Cluster level program of study offered 032300 Intro to Business, Mkt & Mgmt or 033000 Personal Finance Plus three semesters from the following list: 038100 Marketing 038101 Advanced Marketing 320600 Entrepreneurship	<input type="checkbox"/> Cluster level program of study offered 032300 Intro to Business, Mkt & Mgmt or 033000 Personal Finance Plus three semesters from the following list: Both of the following courses 030300 Accounting (2 Sem.) and 030301 Advanced Accounting (2 sem.) or 030302 College Principles of Accounting (2 sem.)	<input type="checkbox"/> Cluster level program of study offered Must offer three semesters from the following list: 035000 Food Service Management 038300 Hospitality & Tourism 090107 Nutrition & Food 038100 Marketing

Recommended for Pathway Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Business Management & Admin Cluster Pathways	Marketing Cluster Pathways	Finance Cluster Pathways	Hospitality and Tourism Cluster Pathways
<p><input type="checkbox"/> Administrative Services Pathway 270501 Info. Technology Applications I 270502 Info. Technology Applications II Plus two from the following course list: 030600 Business Communication 270503 Info. Technology Applications III 270240 Desktop Publishing 270604 Web Design and Development 270605 Database Design & Development</p> <p><input type="checkbox"/> Business Information Mgmt Pathway 270501 Info. Technology Applications I 270502 Info. Technology Applications II 270503 Info. Technology Applications III 270605 Database Design & Development</p> <p><input type="checkbox"/> Human Resources Mgmt Pathway 032802 Management & Leadership 032400 College Introduction to Business</p> <p><input type="checkbox"/> Management Pathway 032802 Management & Leadership 030301 Advanced Accounting (2 sem.)</p> <p><input type="checkbox"/> Operations Management Pathway 032802 Management & Leadership 030301 Advanced Accounting (2 sem.)</p>	<p><input type="checkbox"/> Marketing Communications Pathway 031805 e-Business 038100 Marketing (2 sem.)</p> <p><input type="checkbox"/> Marketing Management Pathway 038100 Marketing (2 sem.) Plus one from the following course list: 032802 Management and Leadership 320600 Entrepreneurship</p> <p><input type="checkbox"/> Marketing Research Pathway 038100 Marketing (2 sem.) 038101 Advanced Marketing</p> <p><input type="checkbox"/> Merchandising Pathway 038100 Marketing (2 Sem.) Plus one from the following course list: 038101 Advanced Marketing 038200 Fashion Marketing</p> <p><input type="checkbox"/> Professional Selling Pathway 038100 Marketing (2 sem.) 038101 Advanced Marketing</p>	<p><input type="checkbox"/> Accounting Pathway Both of the following courses 030300 Accounting (2 Sem.) and 030301 Advanced Accounting (2 sem.) or this one course 030302 College Principles of Acctng (2 sem.)</p> <p><input type="checkbox"/> Banking Services Pathway 030803 Banking and Credit 033001 Business Finance 030802 Securities and Insurance</p> <p><input type="checkbox"/> Business Finance Pathway 030300 Accounting (2 sem.) 033001 Business Finance</p> <p><input type="checkbox"/> Insurance Pathway 030801 Intro to Risk Mgmt & Insurance Plus two from the following course list: 030300 Accounting (2 sem.) 033001 Business Finance 032400 College Introduction to Business 030802 Securities and Insurance</p> <p><input type="checkbox"/> Securities and Investments Pathway 033001 Business Finance 032400 College Introduction to Business 030802 Securities and Insurance</p>	<p><input type="checkbox"/> Lodging Pathway 038300 Hospitality & Tourism 038100 Marketing (2 sem.)</p> <p><input type="checkbox"/> Recreation, Amusements and Attractions Pathway 038300 Hospitality & Tourism 038100 Marketing 038400 Sports & Entertainment Marketing</p> <p><input type="checkbox"/> Restaurants/Food and Beverage Services Pathway 035000 Food Service Management I 035001 Food Service Management II 090107 Nutrition & Food</p> <p><input type="checkbox"/> Travel and Tourism Pathway 038100 Marketing 038300 Hospitality & Tourism 034100 International Business</p>

National Model Programs of Study

This option provides an automatic approval for nationally recognized programs of study. To qualify the program must be implemented as designed by the national curriculum and have a sequence of a minimum of four semesters.

- Finance Academy (NAF)
 High School of Business (MarkED)
 Pro Start (Culinary Arts)
 Academy of Hospitality and Tourism (NAF)

State Model Programs of Study
Communication and Information Systems Career Field



Recommended for Cluster Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Arts, A/V Technology and Communications Cluster

Information Technology Cluster

No state model programs of study available at the cluster level.

No state model programs of study available at the cluster level.

Please see pathway programs

Please see pathway programs

Recommended for Pathway Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Arts, A/V Technology and Communications Cluster Pathways

<p><input type="checkbox"/> <u>Audio/Video Technology and Film Pathway</u></p> <p>270501 Information Technology Applications I</p> <p><i>Plus three from the following course list:</i></p> <p>270200 Audio/Video Production 270230 Broadcasting 270602 Digital Media 270210 Digital Photography</p>	<p><input type="checkbox"/> <u>Journalism and Broadcasting Pathway</u></p> <p>270501 Information Technology Applications I</p> <p><i>Plus three from the following course list:</i></p> <p>270220 Publication Journalism 270230 Broadcasting 270602 Digital Media 270210 Digital Photography</p>	<p><input type="checkbox"/> <u>Printing Technology Pathway</u></p> <p>270501 Information Technology Applications I 270603 Graphic Design 270250 Printing Technology 270240 Desktop Publishing</p>	<p><input type="checkbox"/> <u>Telecommunications Pathway</u></p> <p>270504 Information Technology Fundamentals 270501 Information Technology Applications I 270502 Information Technology Applications II 270601 Network Systems</p>	<p><u>Performing Arts Pathway</u> <i>A local program of study with a strong career focus may be developed</i></p> <p><u>Visual Arts Pathway</u> <i>A local program of study with a strong career focus may be developed</i></p>
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Recommended for Pathway Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Information Technology Cluster Pathways

<input type="checkbox"/> <u>Network Systems Pathway</u>	<input type="checkbox"/> <u>Information Support and Services Pathway</u>	<input type="checkbox"/> <u>Web and Digital Communication Pathway</u>	<input type="checkbox"/> <u>Programming and Software Development Pathway</u>
270504 Information Technology Fundamentals 270501 Information Technology Applications I 270502 Information Technology Applications II 270601 Network Systems	270501 Information Technology Applications I 270502 Information Technology Applications II Plus two from the following course list: 270504 Information Technology Fundamentals 270605 Database Design and Development 270401 Programming I	270501 Information Technology Applications I 270502 Information Technology Applications II Plus two from the following course list: 270503 Information Technology Applications III 270602 Digital Media 270604 Web Design and Development 270401 Programming I	270501 Information Technology Applications I 270502 Information Technology Applications II 270401 Programming I Plus one from the following course list: 270402 Programming II 270403 Programming III 270605 Database Design and Development 270604 Web Design and Development

National Model Programs of Study

This option provides an automatic approval for nationally recognized programs of study. To qualify the national program must be implemented as designed by the national curriculum and have a sequence of a minimum of four semesters.

- Academy of Information Technology (NAF)
- CISCO Academy
- Oracle Academy

State Model Programs of Study
Environmental and Agricultural Systems Career Field



Recommended for Cluster Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Agriculture, Food, and Natural Resources Cluster

Cluster level program of study offered

- 011000 Introduction to Environmental and Agriculture Sciences
- 011009 Agribusiness
- 011004 Animal Science
- 011007 Plant Science

Recommended for Pathway Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Agribusiness Systems Pathway	Animal Systems Pathway	Environmental Service Systems Pathway	Food Products & Processing Systems Pathway	Natural Resources Systems Pathway	Plant Systems Pathway	Power, Structural and Technical Systems Pathway
<p><input type="checkbox"/> Pathway level program of study offered</p> <p>011000 Introduction to Environmental and Ag Sciences 011009 Agribusiness</p> <p><i>Plus two from the following course list:</i></p> <p>011010 Adv Agribusiness 032600 Entrepreneurship 011011 Agricultural Sales 017000 Leadership & Human Relations</p>	<p><input type="checkbox"/> Pathway level program of study</p> <p>011000 Introduction to Environmental and Ag Sciences 011004 Animal Science</p> <p><i>Plus two from the following course list:</i></p> <p>011005 Adv. Animal Science 011006 Companion Animals 011014 Equine Science 011015 Veterinary Science 011016 Biotechnology in Animal Science</p>	<p>No state model program of study is available at the pathway level.</p>	<p><input type="checkbox"/> Pathway level program of study</p> <p>011000 Introduction to Environmental and Ag Sciences 014000 Food Science</p> <p><i>Plus two from the following course list:</i></p> <p>014001 Adv Food Science 014002 Biotechnology in Food Products and Processing</p>	<p><input type="checkbox"/> Pathway level program of study</p> <p>011000 Introduction to Environmental and Ag Sciences 013000 Natural Resources 013001 Wildlife Mgmt</p>	<p><input type="checkbox"/> Pathway level program of study</p> <p>011000 Introduction to Environmental and Ag Sciences 011007 Plant Science</p> <p><i>Plus two from the following course list:</i></p> <p>011008 Adv Plant Science 012002 Floriculture 012000 Horticulture 012001 Landscape and Nursery Mgmt 012004 Biotechnology in Plant Science 012003 Turf Management</p>	<p><input type="checkbox"/> Pathway level program of study</p> <p>011000 Introduction to Environmental and Ag Sciences 016000 Power, Structural, and Technical Systems</p> <p><i>Plus two from the following course list:</i></p> <p>016003 Adv Power, Structural, and Technical Systems 016004 Agricultural Mechanics and Technology 101930 Welding 101940 Adv Welding 016005 Metal Fabrication 016002 Structural Fabrication 100165 Biotechnical Engineering</p>

National Model Programs of Study

This option provides an automatic approval for nationally recognized programs of study. To qualify the national program must be implemented as designed by the national curriculum and have a sequence of a minimum of four semesters.

None Available

State Model Programs of Study Health Science Career Field



Recommended for Cluster Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Health Science Cluster

Cluster level program of study offered

077300 Introduction to Health Sciences
077600 Medical Terminology

Plus one from the following course list:

077400 Introduction to Nursing
077500 Introduction to Sports Medicine
077000 Clinical Nutrition
077301 Advanced Health Science
077930 Health Care Sciences-Independent Study

Recommended for Pathway Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Biotechnology Research and Development Pathway	Therapeutic Services Pathway	Diagnostic Services Pathway	Supportive Services Pathway	Health Informatics Pathway
<p>No state model program of study is available at the pathway level.</p>	<p><input type="checkbox"/> Pathway level program of study</p> <p>077300 Intro to Health Sciences 077600 Medical Terminology</p> <p><i>Plus one course from below</i></p> <p>077301 Advanced Health Care 077400 Intro to Nursing 077500 Intro to Sports Medicine 077930 Independent Study: Therapeutic Services</p>	<p><input type="checkbox"/> Pathway level program of study</p> <p>077300 Intro to Health Sciences 077600 Medical Terminology</p> <p><i>Plus one from the following course list:</i></p> <p>077301 Advanced Health Science 077400 Intro to Nursing 077700 Clinical Nutrition 077930 Independent Study: Diagnostic Services</p>	<p><input type="checkbox"/> Pathway level program of study</p> <p>077300 Intro to Health Sciences 077600 Medical Terminology</p> <p><i>Plus one from the following course list:</i></p> <p>077301 Adv Health Science 077930 Independent Study: Support Services</p>	<p><input type="checkbox"/> Pathway level program of study</p> <p>077300 Intro to Health Sciences 077600 Medical Terminology</p> <p><i>Plus one from the following course list:</i></p> <p>077930 Independent Study: Health Information</p>

National Model Programs of Study

This option provides an automatic approval for nationally recognized programs of study. To qualify the national program must be implemented as designed by the national curriculum and have a sequence of a minimum of four semesters.

None available

State Model Programs of Study
Human Services and Resources Career Field



Recommended for Cluster Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Education and Training Cluster	Government and Public Administration Cluster	Human Services Cluster	Law, Public Safety, and Security Cluster
<input type="checkbox"/> Cluster level program of study offered 090102 Human Development 090300 Careers in Education 090310 Experience in Teaching OR 090102 Human Development 090119 Early Childhood Education I 090120 Early Childhood Education II	<p style="text-align: center;">No state model program of study is available at the cluster or pathway level.</p>	<p style="text-align: center;">No state model programs of study available at the cluster level.</p> <p style="text-align: center;">Please see pathway programs</p>	<input type="checkbox"/> Cluster level program of study offered 090112 Intro to Human Services & Resources 090400 Law, Public Safety and Security Plus one from the following course list: 090410 Intro to Criminal Justice 090500 Intro to Fire/Emergency Services 030900 Business Law

Recommended for Pathway Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Education and Training Cluster Pathways	Government and Public Administration Cluster Pathways	Law, Public Safety, and Security Cluster Pathways
<p><u>Administration and Administrative Support Pathway</u> - none</p> <p><u>Professional Support Services Pathway</u> - none</p> <p><input type="checkbox"/> <u>Teaching/Training Pathway</u> 090102 Human Development 090300 Careers in Education 090310 Experience in Teaching OR 090102 Human Development 090119 Early Childhood Education I 090120 Early Childhood Education II</p>	<p><u>Revenue and Taxation Pathway</u>- none</p> <p><u>Foreign Service Pathway</u> - none</p> <p><u>Governance Pathway</u> - none</p> <p><u>National Security Pathway</u> - none</p> <p><u>Planning Pathway</u>- none</p> <p><u>Public Management and Administration Pathway</u> - none</p> <p><u>Regulation Pathway</u> - none</p>	<p><input type="checkbox"/> <u>Correction Services Pathway</u> <input type="checkbox"/> <u>Security and Protective Services Pathway</u> <input type="checkbox"/> <u>Law Enforcement Services Pathway</u> <i>(three different pathways with the same requirements)</i></p> <p>090112 Intro to Human Services & Resources 090400 Law, Public Safety and Security 090410 Introduction to Criminal Justice</p> <p><input type="checkbox"/> <u>Emergency and Fire Management Services Pathway</u> 090112 Intro to Human Services & Resources 090400 Law, Public Safety and Security 090500 Intro to Fire/Emergency Services</p> <p><input type="checkbox"/> <u>Legal Services Pathway</u> 090112 Intro to Human Services & Resources 090400 Law, Public Safety and Security 030900 Business Law</p>

Recommended for Pathway Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Human Services Cluster Pathways

<input type="checkbox"/> Consumer Services Pathway	<input type="checkbox"/> Counseling and Mental Health Services Pathway	<input type="checkbox"/> Early Childhood Development and Services Pathway	<input type="checkbox"/> Family and Community Services Pathway	<input type="checkbox"/> Personal Care Services Pathway
<p>090112 Intro to Human Services and Resources 090105 Life and Career Essentials Relationship Literacy 090104 Life and Career Essentials Financial Literacy</p> <p><i>Plus the courses to complete one of the following concentrations</i></p> <p>Financial Concentration: 031800 Business Economics 030900 Business Law</p> <p>Clothing Concentration: 090103 Clothing and Textiles 090206 Fashion Design</p> <p>Home Furnishing Concentration: 090109 Housing/Home Furnishings 090207 Home Furnishings Production</p>	<p>090112 Intro to Human Services and Resources 090105 Life and Career Essentials Relationship Literacy 090104 Life and Career Essentials Financial Literacy</p> <p><i>Plus one from the following course list:</i></p> <p>090111 Applied Psychology 151200 Psychology 090118 Elder Care 090102 Human Development</p>	<p>090102 Human Development 090119 Early Childhood Education I 090120 Early Childhood Education II</p>	<p>090112 Intro to Human Services and Resources 090105 Life and Career Essentials Relationship Literacy 090104 Life and Career Essentials Financial Literacy</p> <p><i>Plus the courses to complete one of the following concentrations</i></p> <p>Family Concentration: 090106 Family Relationships 090118 Elder Care</p> <p>Nutrition Concentration: 090107 Nutrition and Food 090113 Food Science</p>	<p>090112 Intro to Human Services and Resources 090105 Life and Career Essentials Relationship Literacy 090104 Life and Career Essentials Financial Literacy</p> <p><i>Plus the courses to complete one of the following concentrations</i></p> <p>Wellness Concentration: 090102 Human Development 090107 Nutrition and Foods</p> <p>Care Giving Concentration: 090106 Family Relationships 090117 Child Care/Parenting</p> <p>Family Resources Concentration: 090103 Clothing and Textiles 090109 Housing and Home Furnishings</p>

National Model Programs of Study

This option provides an automatic approval for nationally recognized programs of study. To qualify the national program must be implemented as designed by the national curriculum and have a sequence of a minimum of four semesters.

None available

State Model Programs of Study
**Industrial, Manufacturing, and Engineering Systems
 Career Field**



Recommended for Cluster Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Architecture and Construction Cluster	Manufacturing Cluster	Science, Technology, Engineering, and Mathematics Cluster	Transportation, Distribution, and Logistics Cluster
<input type="checkbox"/> Cluster level program of study offered 100100 Introduction to the Built Environment 100130 The Language of Architecture and Construction 100110 Principles of Construction	<input type="checkbox"/> Cluster level program of study offered 101900 Introduction to Manufacturing/Mechatronics <i>Plus two of the following:</i> 101920 Manufacturing – Woods 101400 Manufacturing – Metals 101930 Manufacturing – Welding I	<input type="checkbox"/> Cluster level program of study offered 100503 Principles of Technology 100160 Principles of Engineering 100161 Introduction to Engineering Design	<input type="checkbox"/> Cluster level program of study offered 101600 Introduction to the Transportation, Distribution and Logistics Industry <i>Plus two of the following:</i> 170300 Mobile Equipment Preventative Maintenance Systems/Basic Care 101630 Mobile Equipment Maintenance and Repair 101610 Distribution – Comprehensive

Recommended for Pathway Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Architecture and Construction Cluster Pathways

<input type="checkbox"/> <u>Design and Pre-construction Pathway</u>	<input type="checkbox"/> <u>Construction Pathway</u>	<input type="checkbox"/> <u>Maintenance and Operations Pathway</u>
<p>100100 Introduction to the Built Environment</p> <p><i>Plus two courses from the following course list:</i> Design and Pre-construction:</p> <p>100130 The Language of Architecture and Construction (CADD)</p> <p>100140 Principles of Design and Pre- construction (CADD)</p> <p>100141 Applications in Design and Pre-construction (CADD)</p> <p>100131 Introduction to Architecture Technology (CADD)</p> <p>090109 Housing and Home Furnishings</p>	<p>100100 Introduction to the Built Environment</p> <p><i>Plus two courses from the following course list:</i></p> <p>100110 Principles of Construction</p> <p>100120 Applications in Construction</p> <p>100404 Electricity in the Construction Industry</p> <p>100405 Electricity – Comprehensive</p>	<p>100100 Introduction to the Built Environment</p> <p><i>Plus two courses from the following course list:</i></p> <p>100800 Principles of Maintenance and Operations</p> <p>100150 Restoration and Repair of Existing Structures</p>

Recommended for Pathway Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

Manufacturing Cluster Pathways

<input type="checkbox"/> <u>Production Pathway</u>	<input type="checkbox"/> <u>Manufacturing Production Process Development Pathway</u>	<input type="checkbox"/> <u>Maintenance, Installation, and Repair Pathway</u>	<u>Quality Assurance Pathway- none</u>	<input type="checkbox"/> <u>Logistics and Inventory Control Pathway</u>	<u>Health, Safety & Environment Pathway- none</u>
<p>101900 Introduction to Manufacturing / Mechatronics</p> <p><i>Plus two courses in a specific pathway:</i></p> <p>Production:</p> <p>101920 Manufacturing – Woods 101921 Manufacturing – Adv. Woods 101400 Manufacturing- Metals 101401 Manufacturing – Adv. Metals 101930 Manufacturing – Welding 101940 Manufacturing –Adv. Welding 101950 Manufacturing - Plastics</p>	<p>101900 Introduction to Manufacturing / Mechatronics</p> <p><i>Plus the following course:</i></p> <p>101901 Computer Integrated Manufacturing 101910 Adv. Mechatronics</p>	<p>101900 Introduction to Manufacturing / Mechatronics</p> <p><i>Plus two courses from the following course list:</i></p> <p>100401 Electronics – Comprehensive 100403 Electronics – Digital</p>		<p>101900 Introduction to Manufacturing / Mechatronics</p> <p><i>Plus the following course:</i></p> <p>101610 Distribution – Comprehensive (2 sem.)</p>	

Recommended for Pathway Level Program of Study

- All courses are one semester in length unless otherwise noted. Schools with block scheduling should convert accordingly.
- Course numbers listed are from Appendix D, NDE Curriculum Report.
- The check boxes are provided for your use in identifying the programs of study your school has in place.

STEM Cluster Pathways	Transportation, Distribution, and Logistics Cluster Pathways		
<p><input type="checkbox"/> Engineering and Technology Pathway 100160 Principles of Engineering or 100161 Introduction to Engineering Design</p> <p><i>Plus two of the following courses: Engineering and Technology:</i></p> <p>101901 Computer Integrated Manufacturing 100162 Civil Engineering and Architecture 100163 Engineering Design and Development 100164 Aerospace Engineering 100165 Biotechnical Engineering</p> <p><u>Science and Mathematics Pathway- none</u></p>	<p><input type="checkbox"/> Facility and Mobile Equipment Maintenance Pathway</p> <p>101600 Introduction to the Transportation, Distribution and Logistics Industry (Small Engines/Motorcycles)</p> <p><i>Plus two courses in a specific pathway:</i></p> <p>101620 Mobile Equipment Preventative Maintenance Systems / Basic Care 101630 Mobile Equipment Maintenance and Repair 101640 Automotive Body Repair and Refinishing</p> <p>100406 Energy</p>	<p><u>Health, Safety and Environmental Management Pathway- none</u></p> <p><u>Logistics Planning and Management Services Pathway- none</u></p> <p><u>Transportation Operations Pathway- none</u></p>	<p><u>Transportation/Systems Infrastructure Pathway- none</u></p> <p><u>Warehousing and Distribution Center Operations Pathway- none</u></p>
<p>National Model Programs of Study</p>			
<p>This option provides an automatic approval for nationally recognized programs of study. To qualify the national program must be implemented as designed by the national curriculum and have a sequence of a minimum of four semesters.</p>			
<p><input type="checkbox"/> Project Lead The Way – High School Engineering Program <input type="checkbox"/> NATEF/AYES Automotive Program Certification <input type="checkbox"/> NCCER Construction Program Certification</p>			

