



Exploring Career Clusters

A modular, hands-on approach to career exploration by Career Clusters®

Introduction

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Preface

The purpose of the *Exploring Career Clusters* project is to outline competencies for a ninth grade, one semester course that would introduce students to the many career opportunities available within a given cluster, and to link this knowledge with career preparation available through area career centers, community/technical colleges, and where appropriate, universities. These competencies are linked to the Show-Me Standards and appropriate national standards. This course is to be the first in a series of courses to include all of the national clusters.

The focus of the course is on careers, the nature of the work, long term prospects for employment, and the type of preparation required for entrance into selected careers. It was obvious this would be a significant departure from the preparation and practice of many career education teachers in Missouri, particularly those whose preparation had focused on materials and processes, and those who came from a very narrow technical specialization. Thus it was determined, for teachers to be able to teach the course effectively, they would need significantly more curriculum support materials than just a list of competencies. In addition, it was believed that sustained, high-quality professional development would be essential to support teachers if this transition in focus was to be successful.

We believe this is a “living” curriculum and as such will be further refined and updated as it is used by the teachers.

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Acknowledgements

With any project of this magnitude there are always many, many people involved without whose help this undertaking would never have been completed. It would be impractical to attempt to thank everyone. However, there are certain individuals whose leadership and contributions were so significant they must be acknowledged individually.

The Project Director would like to thank Mr. Doug Miller, Technology Education Supervisor, Department of Elementary and Secondary Education (DESE), for his vision and leadership for Technology Education in Missouri, and the countless hours he has spent working on behalf of the teachers and students. The project would not have been possible without the encouragement and support of both Mr. Gavin Allan, Director, Industrial Education and Engineering, and Dr. Dennis Harden, Coordinator, Career Education at DESE.

The Advisory Committee spent many hours reviewing materials and provided excellent input to guide the direction and development of this project. The Advisory Committee members are listed on a separate page.

The Project Director is especially grateful to Mr. Ben Yates, Assistant Professor of Technology Education at University of Central Missouri. Mr. Yates was the creative genius behind the majority of the content included in this curriculum guide. Ben dedicated countless hours and many evenings and weekends of uncompensated time to complete this project. This is just another strong testament to his commitment to Career Education and Technology Education in Missouri.

Finally, gratitude is expressed to Ms. Terri Fayle, Curriculum and Research Specialist, and Mr. Nathan Wittmaier, Coordinator of Communications, Missouri Center for Career Education (MCCE), for their guidance, support, and encouragement ... even when the project seemed too big to complete on time! Mr. Donald Scott, MCCE, was similarly a valuable asset with this project. His willingness to pitch in and help on many different aspects is greatly appreciated.

Michael Wright
Project Director

Course Overview

Exploring Career Clusters

This semester-long course will introduce students to career opportunities through six-week units in the Career Cluster of your choice.

Purpose of Course

The purpose of this course is to introduce students to the myriad of career fields available within each Career Cluster being studied. It is **EXPLORATORY**. Its intention is to introduce knowledge and skills needed in the various Career Cluster occupations. It should help students gain insight into their own interests and abilities, and offer important information to help them plan their high school courses and subsequent postsecondary educational program.

Course Description

Exploring Career Clusters is a ninth-grade level course of one-semester duration. This particular course will introduce students to the many career opportunities available within the Career Clusters by providing focused investigation, research and carefully selected learning activities.

Rationale for Course

The challenge to strengthen the understanding and basic skills of students prior to their entry into a secondary career and technical program and continuation to a postsecondary program has become increasingly more difficult. In consideration of this fact, this model course has been developed to meet the needs of many students in acquiring the academic and prerequisite technical skills and experiences needed for career and technical course work.

Course Assessment

A recommended summative assessment has been designed as a tool for instructors to use in evaluating the knowledge and skills students have acquired by taking the Exploring Career Clusters course. The assessment is scenario based and assesses the major goals of the course; namely, students can upon completion of the course perform a coordinated career search that matches a prescribed set of abilities, skills, interests, and work values.

Career Education and Career Clusters in Missouri

Career Education

“The goal of Missouri Career Education is to help schools respond to student needs through challenging, relevant, and accountable programs. From primary grade career awareness activities to youth career-oriented student organizations to adult job-skill enhancement, Career Education offers benefits for all Missourians.” *D. Kent King, Missouri Commissioner of Education*

Career Education prepares both youth and adults for a wide range of careers. These careers may require varying levels of education – from high school and postsecondary certificates to two- and four-year college degrees. Career Education is offered in middle schools, high schools, two-year community and technical colleges and other postsecondary schools.

The subject areas most commonly associated with Career Education are: Agriculture (careers related to food and fiber production and agribusiness); Business (accounting, business administration, management, information technology and entrepreneurship); Family and Consumer Sciences (culinary arts, management and life skills); Health Occupations (nursing, dental, and medical technicians); Marketing (management, entrepreneurship, merchandising and retail); Technology (production, communication and transportation systems); and Trade and Industrial (skilled trades such as automotive technician, carpenter and computer numerical control technician).

Terminology

Missouri has used six (6) Career Paths for more than a decade. The National Association of State Directors of Career and Technical Education Consortium developed, through the new *States' Career Clusters Initiative*, 16 Career Clusters. Each of these clusters is subdivided into Career Pathways. **Missouri has adopted Career Field in place of Career Pathway**. Please do not confuse Career Paths and Career Fields. Career Paths are very broad and are best for introducing students to various careers in elementary and middle school. In junior high and high school, students should be working with Career Clusters and Career Fields (*see the enclosed chart Missouri Career Paths and Career Clusters, page 7*). Fields are more specific groupings of careers within a given cluster. Several career or occupational areas are included within each field. Thus, a student will have many career opportunities available to them as they pursue education and training within a field.

Career Clusters Philosophy

It is imperative the teacher of the *Exploring Careers* course be grounded in the philosophy and breadth of the Career Cluster initiative. Please review the appropriate resources, which may be found at the website: <http://www.careerclusters.org>.

Career Paths and Career Clusters

Connecting to Your Future
Linking Career Paths with Career Clusters



Origins of This Course

The initial *Exploring Career Clusters* course was funded and championed by the program area of Technology Education, and included three of the clusters that might be described as falling within that program area. For this reason, a brief overview of Technology Education's centrality to Career Education is appropriate to give context and background for this course.

Missouri's Technology Education (TE) profession affirms that its programs should teach about technology and use technology education to serve as a vehicle to build understanding, skills and attitudes that can be applied to society in general, regardless of career aspirations. Furthermore, because all people are affected by technology and its increasing presence in our lives, all students from kindergarten to twelfth grade should learn about and learn to use technology.

Given the importance and pervasiveness of technology, TE is an essential component of both general education and specialized career and technical education. TE serves as:

1. the component of general education that develops generalizable understandings, capabilities, values and attitudes related to technology in all youth.
2. a component of specialized education that contributes to meaningful occupational choice and/or preparation in a technological society.

Because of these dual dimensions and TE's approach, it has an essential role in helping build the base that leads to successful articulation plans such as Tech-Prep and/or 2+2 or 2+2+2 programs. This base includes comprehensive career exploration across the range of national Career Clusters. As stated in the national standards for technological literacy:

Our world will be very different 10 or 20 years from now. We have no choice about that. We do, however, have a choice whether we march into that world with our eyes open, deciding for ourselves how we want it to be, or whether we let it push us along, ignorant and helpless to understand where we are going or why. A technological literate society will make the difference (ITEA, 2000, *Standards for Technological Literacy*, p. 10).

The Sixteen Career Clusters

Career Clusters provide a way for schools to organize instruction and student experiences around sixteen broad categories that encompass virtually all occupations from entry through professional levels. Resources such as KNOWLEDGE AND SKILLS STRUCTURES and BROCHURES are available for each of the sixteen clusters. Click on the cluster icon for access to resources. The sixteen clusters are:

	<p>The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.</p>
	<p>Careers in designing, planning, managing, building and maintaining the built environment.</p>
	<p>Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.</p>
	<p>Business Management and Administration careers encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy.</p>
	<p>Planning, managing and providing education and training services, and related learning support services.</p>
	<p>Planning, services for financial and investment planning, banking, insurance, and business financial management.</p>
	<p>Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration at the local, state, and federal levels.</p>
	<p>Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.</p>

 <p>Hospitality & Tourism</p>	<p>Hospitality & Tourism encompasses the management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services.</p>
 <p>Human Services</p>	<p>Preparing individuals for employment in career pathways that relate to families and human needs.</p>
 <p>Information Technology</p>	<p>Building Linkages in IT Occupations Framework: For Entry Level, Technical, and Professional Careers Related to the Design, Development, Support and Management of Hardware, Software, Multimedia, and Systems Integration Services.</p>
 <p>Law, Public Safety, Corrections & Security</p>	<p>Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.</p>
 <p>Manufacturing</p>	<p>Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.</p>
 <p>Marketing, Sales & Service</p>	<p>Planning, managing, and performing marketing activities to reach organizational objectives.</p>
 <p>Science, Technology, Engineering & Mathematics</p>	<p>Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.</p>
 <p>Transportation, Distribution & Logistics</p>	<p>Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.</p>
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Course Goals

The purpose of the *Exploring Career Clusters* course is to provide students with knowledge and experiences that will contribute to making informed choices regarding their educational plans.

The course goals are:

1. Expose students to many different technological career fields within the Career Clusters.
2. Provide realistic experiences from selected technological careers within these Career Clusters.
3. Assist the student to gain insights into their personal interests and aptitudes with respect to the Career Fields.
4. Identify potential Career Fields of interest and chart a preparation/educational plan required for entry into those fields.

Common Course Outcomes

Every *Exploring Career Clusters* course should provide the student the opportunity to acquire the following knowledge and skills:

Academics

- Demonstrate achievement of cluster specific academic knowledge and skills required to pursue the full range of career and post-secondary education opportunities.
- Fulfill high school graduation requirements and state standards.

Communications

- Learn and use reading strategies to gain meaning, technical concepts, vocabulary, and to bring together information needed for a particular situation.
- Learn how to locate, organize, and document written information.
- Use correct spelling, grammar, punctuation and terminology to write and edit documents.
- Develop and deliver formal and informal presentations using appropriate media to engage and inform audiences.
- Apply active listening skills to obtain and clarify information.
- Interpret and use information in tables, charts, and graphs to support written and oral communications.

Problem Solving/Critical Thinking

- Formulate solutions to problems using critical thinking skills while working independently and/or in teams.

Information Technology Applications

- Use Internet, writing/publishing, presentation, spreadsheet, electronic mail, and other software applications.

Systems

- Use knowledge of how businesses in various careers operate.
- Gain knowledge and experience with technological systems.
- Apply systems oriented thinking in solving problems.

Safety, Health and Environmental

- Gain knowledge of safety and health within career environments.

Leadership and Teamwork

- Gain leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.

Ethics and Legal Responsibilities

- Demonstrate knowledge of and commitment to professional ethics and legal responsibilities.

Employability and Career Development

- Identify and demonstrate positive work behaviors and personal qualities.
- Develop a personal career plan to meet career goals and objectives.
- Demonstrate ability to seek and apply for employment.

Technical Skills

- Demonstrate understanding of the basic technical skills and knowledge required in various careers.

Measurable Learner Objectives

To help students achieve the Course Goals (See *Course Goals*, page 11), the following objectives will guide the learning experiences in the course.

1. Perform mathematical operations appropriate for the Career Field being studied.
2. Demonstrate effective oral, written and visual communication in English (including industry-specific terminology) appropriate for the Career Field being studied.
3. Conduct scientific investigations appropriate for the Career Field being studied.
4. Demonstrate information technology skills to gather, store, analyze and communicate data appropriate for the Career Field being studied.
5. Demonstrate knowledge of safe practices appropriate for the Career Field being studied.
6. Apply safe practices appropriate for the Career Field being studied.
7. Participate effectively on a team appropriate for the Career Field being studied.
8. Discuss current ethical and legal issues appropriate for the Career Field being studied.
9. Demonstrate an understanding of career related requirements, opportunities and related factors (i.e., diversity of careers, wages, growth projections, academic requirements, working conditions, etc.) appropriate for the Career Field being studied.
10. Demonstrate problem-solving and/or critical thinking skills (i.e., evaluate and adjust plans to respond to unexpected events) appropriate for the Career Field being studied.
11. Demonstrate an understanding of the basic technical knowledge and skills appropriate for the Career Field being studied.
12. Demonstrate positive work behaviors appropriate for the Career Field being studied.
13. Demonstrate an understanding of and an appreciation for quality workmanship appropriate for the Career Field being studied.

Assessment Recommendations

The purpose of this course is to introduce students to the myriad of career fields available within each career cluster being studied. It is **EXPLORATORY**. It should help students gain insight into their own interests and abilities, and learn important information to help them plan their high school courses/major and subsequent postsecondary educational program. As such, the assessment should reflect this and focus primarily on the quality of the students' experiences (not just their skill level) and their ability to complete a meaningful career search, incorporating this information into their Personal Plans of Study.

Each module contains a recommendation to guide student assessment for the Cluster contained in the module.

Exploring Career Clusters Model

This model can be adapted to any of the Career Clusters.

An effective model has been designed to introduce students to the diversity and sheer number of career possibilities available within each Career Cluster. The model is a simple one, containing just three primary units for each cluster being explored.

1. Introduce the Cluster

- Review the broad number of careers contained within the Career Cluster through a combination of reading, discussion and brief hands-on experiences.

2. Provide Realistic, Hands-on Experiences

- One major activity combining many different careers should be completed as this more realistically represents the real world.
- Students should be engaged in both team and individual work.
- Students should apply research, math, science and other academic skills in the project, and this connection should be brought to their attention.

3. Career Search

- The importance of this phase should not be overlooked.
- Involve the guidance counselor and utilize resources such as Kuder.
- Students should conduct extensive research into the educational requirements, locations for training (area career center, community college, etc.), future growth potential and other considerations for a career area of their choice.
- Students should revise their Educational Career Plans (4-year plans) as appropriate.

It is important to stress that to be an effective exploratory experience, the course focus should be on introducing as many career fields as possible rather than skill building. Skill development should follow in subsequent courses at an area career center or community college once a student has selected a Career Field.

NOTE 1: The appropriate Career and Technical Student Organization (CTSO) should be referenced when the course activities relate to a CTSO activity.

NOTE 2: Plan in advance to coordinate with the appropriate personnel/programs at the area career center and community college that have parallel career preparation programs.

Module Development

The *Exploring Career Clusters* modules are designed to give students an opportunity to explore and discover their interests and potential in several Career Clusters. At the freshman level, students will have the opportunity to explore up to three different Career Clusters in each semester course. Academic knowledge and skills along with technical knowledge and skills needed to be successful in each field will be investigated in each course.

The *Exploring Career Clusters* courses for the ninth grade level may include any combination of the Career Clusters. One possible configuration of the modules could be:

- *Architecture and Construction* Completed 2005
Science, Technology, Engineering and Mathematics
Manufacturing
- *Arts, A/V Technology and Communication* Completed 2006
Information Technology
Transportation, Distribution and Logistics
- *Health Science* In Process 2007
Human Services
- *Education and Training*
Hospitality and Tourism
- *Agriculture, Food and Natural Resources*
Government and Public Administration
Law, Public Safety and Security
- *Business, Management and Administration*
Marketing, Sales and Services
Finance

In each course in the *Exploring Career Clusters* sequence, students will:

- Explore various skill and academic requirements for a given Career Cluster and Career Field and develop basic skills within the allotted time.
- Participate in hands-on activities in the given Career Cluster and Career Field that allow for both individual and team efforts.
- Complete evaluations for basic skills within each Career Cluster and Career Field explored through written and performance assessments.

In addition, students will research each Career Field to discover the following:

- Job descriptions
- Academic and technical knowledge and skill requirements
- Education path
- Work environment
- Wage/Salary outlook
- Job availability outlook

More specifically, at the successful completion of each semester course, the student will have:

- Completed a self-awareness survey and will have identified a range of career areas (Career Clusters and Career Fields) related to interests and abilities.
- Gained basic understanding of the skills and academic requirements for each of their career areas of interest.
- Explored current technological tools and processes in addition to related safety practices in the career area selected by the student.
- Selected academic and career courses appropriate for the completion of their high school diploma/four year program requirements matched to their interests and abilities.

Students at the sophomore level should be able to continue to develop their skills and knowledge in one or more modules. The intent is for each module to eventually be developed for use in a sophomore level course that would link directly to an area career center or community/technical college program.

Students enrolling in either the ninth or tenth grades should be linked to career opportunities and programs available through area career centers and postsecondary institution. Upon successful completion of the *Exploring Career Clusters* modules, students will have achieved an established competency level and be prepared for entry into a career education course/program confident in their choice and ability to excel and perform at a high level.

Preparing to Teach This Course

Throughout this curriculum guide, each section contains suggested activities for the teacher's consideration in order to enhance student learning and success. Most of these suggestions will require planning in advance. **IT IS STRONGLY RECOMMENDED THE TEACHER READ THROUGH EACH UNIT IN ADVANCE TO BECOME FAMILIAR WITH THOSE TEACHER ACTIVITIES THAT MUST BE PLANNED IN ADVANCE.** Much of the planning and development has already been provided in this guide if the teacher chooses to use the recommended examples.

There are some general preparatory tasks the teacher should complete that extend across the semester. The following are general suggestions to guide **HOW** the course is taught.

Collaborate with Area Career Center and/or Community College Personnel in Related Programs

In preparation for each unit, the teacher should make contact with the teachers in each of the career programs that will be available for students to explore. The teacher should arrange the following:

1. Obtain course descriptions and curriculum outlines for related programs at the area career center (ACC) and/or community college, including course/program prerequisites.
2. Collect photos and other materials representative of the course/program, including pictures of students in action, to be used on bulletin boards and information folders.
3. Conduct a personal site visit to the area career center and/or community college to become familiar with their facilities and programs.
4. Arrange for either a field trip to the appropriate ACC program, or arrange to have the ACC instructor or representative visit your class.

Review the Suggested Scenarios

The success of this course depends largely on the teacher's ability to coordinate an efficient, meaningful "scenario" of actual career/occupational tasks and endeavors. This curriculum guide provides a well thought out scenario for each module. However, it will require advance planning and good organizational skills on the part of the teacher to coordinate all of the various instructional elements and activities in the short time period available.

As used in this curriculum guide, the term *scenario* describes the *sequence of connected activities with a common theme*. This connectivity creates a synergy among activities and is much more powerful learning than individual, disconnected activities.

The teacher should feel free to develop alternate scenarios for the modules. The scenarios should support the purpose of the modules, namely, to introduce students to as many career fields as possible and not to focus on just one area.

Arrange Industry/Business Tours

The primary purpose of this course is to introduce students to the real world of careers. Although classroom instruction and activities provide simulated experiences, it is a powerful instructional tool to have students observe first-hand in industry or business the careers they are studying. The following are suggestions related to organizing tours:

- **MAKE THE TRAVEL REQUEST EARLY IN THE YEAR! FUNDS FOR FIELD TRIPS MAY BE VERY LIMITED!**
- Ideally, there should be one industry/business tour for each module (multiple fields may be combined under one module).
- To save time and funds, it is a good idea to combine two or more tours on one day that may include multiple modules (it may benefit students to be exposed to fields outside of their interest).
- Remember to arrange one alternative date for the tour!
- Provide parent permission/release forms at least two weeks in advance.
- Provide preliminary information sheets about the industry/business tour and review prior to visit. This serves as an “advanced organizer” for the students and helps them know what to look for when they are there.
- Provide fact-finding forms for students to complete during and after the tour.
- Create a bulletin board display concerning the tour at least one week prior to visit.
- Confirm the arrangements for the tour a few days before actually leaving school with students.
- Conduct post-tour activities to review information learned on the tour.
- It is a good idea to take a gift to the person conducting the tour (something from your department/program or something representing your school).
- Remember to send thank you notes!

Guest Speakers

Guest speakers can be an effective instructional tool. Students will often listen more intently to someone from outside the school. The following are suggestions for organizing guest speaker visits:

- Identify potential guest speakers for each module/field before the beginning of the semester.
- Set dates for each guest speaker as far in advance as possible. They are busy people who are voluntarily giving of their time, and they generally appreciate as much lead time as possible to coordinate their own work schedules.
- Provide each guest speaker with a summary **IN ADVANCE** of what the students are learning/doing in this course/unit.
- It may be helpful to provide suggestions to the guest speaker on what to talk about and what to share with the students.
- Provide an interview questions form for the students.
- Remember to send thank you notes!

Key Points For Teaching This Course

This course may be quite different from other courses you teach. The following suggestions are intended to help clarify the nature and intent of this unique course.

1. The course should focus on **STUDENT SUCCESS!** It should whet the students' appetite and cause them to want to enroll in the subsequent tenth-grade course, with plans to attend the area career center, community college or other appropriate career preparation.
2. The purpose of the course is **EXPLORATORY!** The purpose of the class is to open students' eyes to the many exciting possible careers and to encourage them to apply themselves at school, to see relevance in academic subjects and plan an appropriate educational path.
3. The student's grade should reflect his/her attitude and effort toward achieving the designated course outcomes. Because this course is exploratory in nature, the goal is to have students experience as many career-related activities as possible. Therefore, the course grade should only minimally reflect their level of technical skill development.
4. Sometimes students will be engaged in multiple activities simultaneously; therefore, not all students will experience every activity. Due to the nature of the modules, some activities are team based and other activities may be just one part of the total project. It is incumbent upon the teacher to ensure all students benefit from understanding the nature of each activity, the careers associated with it and how it fits into the overall scenario.
5. Skill development and/or specific tool proficiency is deemphasized in this course!
6. Missouri has used six (6) Career Paths for more than a decade. The National Association of State Directors of Career and Technical Education Consortium developed, through the new *States' Career Clusters Initiative*, 16 Career Clusters (www.careerclusters.org). A Career Cluster is a grouping of occupations and broad industries based on commonalities. Each of these Clusters is subdivided into Career Pathways. **Missouri has adopted the use of Career Field in place of Career Pathway.** Please do not confuse Career Paths and Career Fields. Career Paths are very broad and are best for introducing students to various careers in elementary and middle school. In junior high and high school, students should be working with Career Clusters and Career Fields (see the enclosed chart *Missouri Career Paths and Career Clusters*, page 7). Fields are more specific groupings of careers within a given cluster.

Scenario Based Assessment

This summative assessment was designed as a tool for instructors to use in evaluating the knowledge and skills students have acquired by taking the Exploring Career Clusters course. The assessment includes materials developed in cooperation with the Missouri Department of Elementary and Secondary Education, Division of Career Education, Kuder, Missouri Connections, and the Missouri Center for Career Education. The assessment is accessed by a new Web-site link (<http://www.missouriconnections.org/mockup/HSActivity.html>) under development by Missouri Connections. The assessment mock-up provides the testing scenario and a link to a scenario based student profile for a hypothetical student Robert Bruce. By developing these tools and assessment rubrics, course instructors are provided with the essential elements needed to conduct the assessment process, measure student success, and assign a grade based on student outcomes.

Purpose

This summative assessment is intended to be administered to students at the completion of the Exploring Career Clusters course. It is designed to assess the major goals of the course; namely, can students upon completion of the course perform a coordinated career search that matches a prescribed set of abilities, skills, interests, and work values? Specifically, students' knowledge and skills will be assessed in the following three outcome areas: (a) Communication; (b) Problem Solving and Critical Thinking; and (c) Employability and Career Development. More detailed descriptions of the specific outcomes that define these outcome areas are presented in Appendix A. Students who successfully complete this assessment will have demonstrated the generalizable ability to perform an appropriate career search that can be utilized to determine suitable careers for themselves and/or others.

Overview

Each student will need access to a computer with Internet connectivity. Though the Internet, students will be able to access a hyperlink to the "Complete Summary Activity" Missouri Connections Web-page which contains a hypothetical scenario of a student friend Robert Bruce who is seeking help with selecting a career. This Web page also provides a link to a "student portfolio" which contains a description of the interests and abilities of Robert Bruce, and the results from three Missouri Connections assessments: (a) Interest Inventory; (b) Skills Inventory; and (c) Work-Related Values Inventory. The Missouri Connections Web-page also describes the three-part assessment requirements for students. These requirements are that each student must write a paper which includes: (a) the titles of two careers that match the student portfolio information provided for their hypothetical friend, Robert Bruce; (b) a written explanation of why the two careers were chosen; and (c) a statement of what Robert Bruce will need to do next to prepare himself for either of the two potential careers identified (i.e., an educational career plan). The student's responses to these requirements, and the links to Web-pages searched to

find documents related to the chosen careers, will be saved in each student's personal portfolio (can be deleted after graded). To help clarify the assessment requirements, the assessment deliverables contained in Appendix B need to be discussed and made available to each student taking the course.

Course instructors will utilize each student's written statements, as well as information retained within their personal portfolio, to determine overall scores. A "Scoring Sheet for Career Search Assessment" is presented in Appendix C. This scoring sheet provides a list of potential outcomes to be assessed and makes recommendations for points assigned to each outcome. A detailed explanation of the "Recommended Scoring Rubric" for the assessment (See Appendix D) provides suggested criteria by which course instructors may assign points and the source of evidence to be used in the evaluation of each student outcome. While the suggested criteria provide scoring recommendations for each outcome, the actual points allotted are at the discretion of the individual instructor.

Procedure for Evaluation

The recommended total number of points possible on this assessment equals one-hundred (100). To help ensure student motivation, scores from this assessment should count towards students' course grades; however, the overall percentage of student grades determined by this assessment is left to the discretion of individual instructors. After completing all components of the assessment, students will be required to provide access to their personal Missouri Connections portfolio by submitting their name and pass code to the course instructor. The course instructor will electronically access each student's portfolio which should contain the links to Missouri Connections Web-pages and other Web-sites accessed and used by each student (may vary by choice) to determine appropriate career choices for Robert Bruce. The pages and links identified should be evaluated based on their relevance to the careers each student has selected for their scenario based friend. Additionally, the written statements outlined above must be printed and turned in to the instructor. All of the information needed to complete this assessment is contained within Robert Bruce's hypothetical portfolio.

By assessing Learning Outcome A for Information Technology Applications, course instructors will be able to determine if a student has demonstrated adequate managing information skills and application of information technology by examining the scope of the materials stored in the portfolio (See Recommended Scoring Rubric for details), and assigning a point value between zero and ten (0-10) on the Scoring Sheet. Learning Outcome B under Communication will be determined by an assessment of the written statements provided by the student. This outcome focuses on writing ability and the criteria for scoring are presented in the Recommended Scoring Rubric.

To assist the course instructor in scoring Learning Outcome A under the Problem Solving and Critical Thinking outcome area, a checklist for skills, interests and work-related values is presented in Appendix D. This checklist can be used by the course instructor to track the correlation between the skills, interest and work-related values in the student's chosen careers and the information about Robert Bruce provided in the Complete Summary Activity. The checklist uses terminology consistent with Missouri Connections to allow for a quick and easy

comparison between the information provided about Robert Bruce and the information submitted by the student in her/his portfolio. Course instructors should compare the skills, interests and work-related values in the checklist with those listed for the chosen careers in the “Characteristics of Workers in this Occupation” Missouri Connections Web-pages that the student posts in her/his portfolio. The evaluation of this information along with the written explanation for why the two careers were chosen will serve as the basis of determining the student’s score (0 through 35) for this outcome.

Learning Outcome B should be measured by an evaluation of both the use and correct interpretation of the graphically presented material from the results of the three assessment inventories and other graphically presented material the student has chosen to include in their portfolio (See Scoring Rubric). The recommended number of points to be allocated for this outcome is zero to ten (0-10).

To assess the final outcome, Employability and Career Development Knowledge and Skills, the course instructor will need to examine the educational career plan and the written statement to determine the appropriateness (i.e., the educational career plan identifies appropriate knowledge and skills required in the chosen careers and lists the education and/or degree programs and any needed certification/licensure that is appropriate given the information provided) of the career development paths chosen by the student. Links to appropriate educational career plans should be contained in the portfolio (See Scoring Rubric). The recommended number of points to be allocated for this outcome is zero to thirty-five (0-35).

Scenario Based Assessment

Appendix A

Outcomes to be Assessed

Students will be evaluated on the following learning outcomes:

Communication/Information Technology Applications

- Appropriate use of managing information skills and application of information technology (i.e., ability to locate, organize and document information; appropriate use of internet and other software applications)
- Use of correct spelling, grammar, punctuation, and terminology

Problem Solving and Critical Thinking

- Ability to arrive at appropriate career choice by evaluation of information provided and identified through research
- Appropriate use and interpretation of graphically presented material

Employability and Career Development/Appropriate Knowledge and Skills

- Ability to develop an accurate educational career plan (i.e., the educational career plan identifies the appropriate knowledge and skills required in the chosen careers and lists the education and/or degree programs and any needed certification/licensure that is appropriate given the information provided)

Scenario Based Assessment

Appendix B

Assessment Deliverables Student Handout

Assessment Deliverables

Course instructors will receive the following from the students:

- The titles of the two careers they have chosen for their friend
- An explanation of exactly why they have selected these two careers
- A statement of what their friend will have to do next in order to prepare for these two careers (educational career plan).
- Information in their portfolio that includes
 - 1) Links or copies of the pages from Career Interest Area Exploration or Career Cluster Exploration for the chosen careers
 - 2) Links or copies of the pages from the Occupation Overview for the chosen careers
 - 3) Links or copies of the pages from Characteristics of Workers in This Occupation for the chosen careers
 - 4) Links or copies of the pages from College Majors and Instructional Programs for each of the careers chosen
 - 5) Links or copies of the pages from Get Descriptions of Careers or Majors and Career Information
 - 6) Links or copies of the pages from Education and Training for This Occupation

Scenario Based Assessment

Appendix D

Recommended Scoring Rubric

Communication

Learning Outcome A. Appropriate use of managing information skills and application of information technology (i.e., ability to locate, organize and document information: appropriate use of internet and other software) (10 points).

SOURCE – Student Portfolio

Student demonstrated very good managing information skills and application of information technology. Student’s portfolio contained links from Missouri Connections appropriate for chosen careers from all of the following pages: Occupation Overview, Career Interest Area Exploration or Career Cluster Exploration, Characteristics of Workers in This Occupation, College Majors and Instructional Programs, Get Descriptions of Careers or Majors and Education and Training for This Occupation plus at least one additional link outside Missouri Connections.

Student demonstrated adequate managing information skills and application of information technology. Student’s portfolio contained links from Missouri Connections that were **appropriate** for chosen careers from **most but not all of the following pages**: Occupation Overview, Career Interest Area Exploration or Career Cluster Exploration, Characteristics of Workers in This Occupation, College Majors and Instructional Programs, Get Descriptions of Careers or Majors and Education and Training for This Occupation.

Student failed to demonstrate adequate use of managing information skills and application of information technology. Student’s portfolio contained substantial number of links that were not appropriate for chosen careers and/or contained only a small proportion of the links or pages needed to conduct an adequate career search.

Learning Outcome B. Use of correct spelling, grammar, punctuation, and terminology (10 points).

SOURCE – Written explanation of two chosen careers and written statement of friend’s educational plan.

Student’s writing was without any significant mechanical errors and demonstrated clear mastery of written communication skills. Student made 5 or fewer spelling, grammatical or punctuation errors. Student used appropriate terminology and writing was logically continuous and major points were obvious.

Student's writing had some mechanical errors but demonstrated adequate mastery of written communication skills. Student made 6-10 spelling, grammatical and/or punctuation errors. Student used appropriate terminology for the most part and writing was fairly logically continuous and contained fairly clear statement of major points.

Student's writing contained significant number of mechanical errors and failed to demonstrate mastery of written communication skills. Student made more than 10 spelling, grammatical and/or punctuation errors. Student consistently failed to use appropriate terminology and writing was not logically continuous and did not contain clear statement of major points.

Problem Solving and Critical Thinking

Learning Outcome A. Ability to arrive at appropriate career choice by evaluation of information provided and identified through research **(35 points)**.

SOURCE – Chosen titles of career choices, student portfolio, inventory assessment results and written explanation of why the two careers were chosen, and an educational plan or statement of what friend will have to do next to prepare for chosen careers.

Student demonstrated above average problem solving and critical thinking skills. Student accumulated appropriate evidence (e.g., linked pages) in portfolio to support career choices and the two chosen careers clearly matched the abilities, skills, interests and workplace values of the hypothetical friend. Arguments for chosen careers in student's writing were clear and based on information provided in portfolio.

Student demonstrated adequate problem solving and critical thinking skills. Student accumulated most but not all of the appropriate evidence in portfolio to support career choices and the two chosen careers were appropriate for the abilities, skills, interests and workplace values of the hypothetical friend but clearly not the best match. Arguments for chosen careers in student's writing, although adequate, were not especially clear and were not largely based on information provided in portfolio.

Student failed to demonstrate adequate problem solving and critical thinking skills. Student failed to accumulate adequate appropriate evidence in portfolio to support career choices and the two chosen careers were not appropriate for the abilities, skills, interests and workplace values of the hypothetical friend. Arguments for chosen careers in student's writing were clearly not based on information provided in portfolio and/or did not make sense given the information collected.

Learning Outcome B. Appropriate use and interpretation of graphically presented Material **(10 points)**.

SOURCE – Student portfolio and written explanation of exactly why the two careers were chosen.

Student demonstrated above average ability in the use of and interpretation of graphically presented material. Student made good use of graphically presented material in portfolio in his/her explanation of careers chosen and interpretation of that information clearly matched the data presented.

Student demonstrated average ability in the use of and interpretation of graphically presented material. Student made satisfactory use of graphically presented material in portfolio in his/her explanation of careers chosen and interpretation of that information matched the data presented for the most part.

Student failed to demonstrate the ability to use and interpret graphically presented material. Student did not use graphically presented material in portfolio in his/her explanation of careers chosen and/or the interpretation of that information did not match the data presented.

Employability and Career Development

Learning Outcome A. Ability to develop an accurate educational career plan (i.e., the educational career plan identifies the appropriate knowledge and skills required in the chosen careers and lists the education and/or degree programs and any needed certification/licensure that is appropriate given the information provided) **(35 points)**.

SOURCE – Written educational career plan and/or statement of what the student’s hypothetical friend should do next to prepare for the chosen careers and additions to the student portfolio.

Student’s educational career plan clearly demonstrates the knowledge and skills needed to pursue an education or degree program leading to appropriate certification/licensure given the information provided in the Complete Summary Activity and Sample Portfolio. The knowledge and skills listed, the level of education, degree and certification/licensure (if appropriate) presented in the educational career plan obviously match the chosen careers as evidenced by a comparison of the information presented in the Complete Summary Activity and Sample Portfolio and the links/documents in the student’s portfolio from “Education and Training for This Occupation” and/or from “College Majors and Instructional Programs” (if appropriate) for the chosen careers.

Student’s educational career plan contains an adequate listing of the knowledge and skills, an education and/or degree program and the needed certification/licensure given the information provided in the Complete Summary Activity and Sample Portfolio. The knowledge and skills listed, the level of education, degree and certification/licensure (if appropriate) presented in the educational career plan basically match the chosen careers as evidenced by a comparison of the information presented in the Complete Summary Activity and Sample Portfolio and the links/documents in the student’s portfolio from “Education and Training for This Occupation” and/or from “College Majors and Instructional Programs” (if appropriate) for the chosen careers.

Student's educational career plan contains an education and/or degree program that does not list the required knowledge and skills and the needed certification/licensure that is appropriate given the information provided in the Complete Summary Activity and Sample Portfolio. The knowledge and skills listed, the level of education, degree and certification/licensure (if appropriate) presented in the educational career plan do not match the chosen careers as evidenced by a comparison of the information presented in the Complete Summary Activity and Sample Portfolio and the links/documents in the student's portfolio from "Education and Training for This Occupation" and/or from "College Majors and Instructional Programs" (if appropriate) for the chosen careers.