Brought to you by the National Association of State Directors of Career Technical Education Consortium (NASDCTEc)

Introduction to The Common Career Technical Core

The Common Career Technical Core (CCTC) is an important step forward for the Career Technical Education (CTE) community. For the first time in the history of CTE, states throughout the nation have a common benchmark for what students should know and be able to do after completing a program of study.

The CCTC is a state-led initiative, with 42 states, the District of Columbia and Palau participating in the development stage. Business and industry representatives, educators and others helped guide the development of the CCTC from beginning to end to ensure CTE students will have the knowledge and skills to thrive in a global economy.

The resulting CCTC is a set of rigorous, high-quality standards for CTE that states can adopt voluntarily. The CCTC includes a set of standards for each of the 16 Career Clusters™ and their corresponding Career Pathways that define what students should know and be able to do after completing instruction in a program of study (pages 4-21 of this document).

The CCTC also includes an overarching set of Career Ready Practices that apply to all programs of study. The Career Ready Practices include 12 statements that address the knowledge, skills and dispositions that are important to becoming career ready (pages 2-3 of this document).

To appropriately cite the Common Career Technical Core, including the Career Ready Practices, use the following:
Author: National Association of State Directors of Career Technical Education Consortium/National Career Technical Education Foundation

Title: Common Career Technical Core

Publisher: National Association of State Directors of Career Technical Education Consortium/National Career Technical Education Foundation, Silver Spring, MD.

Copyright Date: 2012

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

2. Apply appropriate academic and technical skills.

Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.

3. Attend to personal health and financial well-being.

Career-ready individuals understand the relationship between personal health, workplace performance and personal well-being; they act on that understanding to regularly practice healthy diet, exercise and mental health activities. Career-ready individuals also take regular action to contribute to their personal financial well-being, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.

4. Communicate clearly, effectively and with reason.

Career-ready individuals communicate thoughts, ideas and action plans with clarity, whether using written, verbal and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice and organization and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.

5. Consider the environmental, social and economic impacts of decisions.

Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organizations and the environment. They are aware of and utilize new technologies, understandings, procedures, materials and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and profitability of the organization.

6. Demonstrate creativity and innovation.

Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.

7. Employ valid and reliable research strategies.

Career-ready individuals are discerning in accepting and using new information to make decisions, change practices or inform strategies. They use a reliable research process to search for new information. They evaluate the validity of sources when considering the use and adoption of external information or practices. They use an informed process to test new ideas, information and practices in their workplace situation.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

8. Utilize critical thinking to make sense of problems and persevere in solving them.

Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem. They thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.

9. Model integrity, ethical leadership and effective management.

Career-ready individuals consistently act in ways that align to personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the direction and actions of a team or organization, and they apply insights into human behavior to change others' actions, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morale and organizational culture.

10. Plan education and career path aligned to personal goals.

Career-ready individuals take personal ownership of their own educational and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the educational and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors and other experts to assist in the planning and execution of career and personal goals.

11. Use technology to enhance productivity.

Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring and using new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks -- personal and organizational -- of technology applications, and they take actions to prevent or mitigate these risks.

12. Work productively in teams while using cultural/global competence.

Career-ready individuals positively contribute to every team whether formal or informal. They apply an awareness of cultural differences to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

The Common Career Technical Core

Agriculture, Food & Natural Resources Career Cluster™ (AG)

1. Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food & Natural Resources Career Cluster™.
2. Evaluate the nature and scope of the Agriculture, Food & Natural Resources Career Cluster™ and the role of agriculture, food and natural resources (AFNR) in society and the economy.
3. Examine and summarize the importance of health, safety and environmental management systems in AFNR businesses.
4. Demonstrate stewardship of natural resources in AFNR activities.
5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources Career Pathways.
6. Analyze the interaction among AFNR systems in the production, processing and management of food, fiber and fuel and the sustainable use of natural resources.

Agribusiness Systems Career Pathway (AG-BIZ)

1. Apply management planning principles in AFNR businesses.
2. Use record keeping to accomplish AFNR business objectives, manage budgets, and comply with laws and regulations.
3. Manage cash budgets, credit budgets and credit for an AFNR business using generally accepted accounting principles.
4. Develop a business plan for an AFNR business.
5. Use sales and marketing principles to accomplish AFNR business objectives.

Animal Systems Career Pathway (AG-ANI)

1. Analyze historic and current trends impacting the animal systems industry.
2. Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare.
3. Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction and/or economic production.
4. Apply principles of animal reproduction to achieve desired outcomes for performance, development and/or economic production.
5. Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
6. Classify, evaluate and select animals based on anatomical and physiological characteristics.
7. Apply principles of effective animal health care.

Environmental Service Systems Career Pathway (AG-ENV)

1. Use analytical procedures and instruments to manage environmental service systems.
2. Evaluate the impact of public policies and regulations on environmental service system operations.
3. Develop proposed solutions to environmental issues, problems and applications using scientific principles of meteorology, soil science, hydrology, microbiology, chemistry and ecology.
4. Demonstrate the operation of environmental service systems (e.g., pollution control, water treatment, wastewater treatment, solid waste management and energy conservation).
5. Use tools, equipment, machinery and technology common to tasks in environmental service systems.

Food Products & Processing Systems Career Pathway (AG-FD)

1. Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
2. Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
3. Select and process food products for storage, distribution and consumption.
4. Explain the scope of the food industry and the historical and current developments of food products and processing.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Natural Resources Systems Career Pathway (AG-NR)

1. Plan and conduct natural resource management activities that apply logical, reasoned and scientifically based solutions to natural resource issues and goals.
2. Analyze the interrelationships between natural resources and humans.
3. Develop plans to ensure sustainable production and processing of natural resources.
4. Demonstrate responsible management procedures and techniques to protect or maintain natural resources.

Plant Systems Career Pathway (AG-PL)

1. Develop and implement a crop management plan for a given production goal that accounts for environmental factors.
2. Apply the principles of classification, plant anatomy and plant physiology to plant production and management.
3. Propagate, culture and harvest plants and plant products based on current industry standards.
4. Apply principles of design in plant systems to enhance an environment (e.g., floral, forest, landscape and farm).

Power, Structural & Technical Systems Career Pathway (AG-PST)

1. Apply physical science principles and engineering applications to solve problems and improve performance in AFNR power, structural and technical systems.
2. Operate and maintain AFNR mechanical equipment and power systems.
3. Service and repair AFNR mechanical equipment and power systems.
4. Plan, build and maintain AFNR structures.
5. Use control, monitoring, geospatial and other technologies in AFNR power, structural and technical systems.

Architecture & Construction Career Cluster™ (AC)

1. Use vocabulary, symbols and formulas common to architecture and construction.
2. Use architecture and construction skills to create and manage a project.
3. Comply with regulations and applicable codes to establish and manage a legal and safe workplace.
4. Evaluate the nature and scope of the Architecture & Construction Career ClusterTM and the role of architecture and construction in society and the economy.
5. Describe the roles, responsibilities and relationships found in the architecture and construction trades and professions, including labor/management relationships.
6. Read, interpret and use technical drawings, documents and specifications to plan a project.
7. Describe career opportunities and means to achieve those opportunities in each of the Architecture & Construction Career Pathways.

Construction Career Pathway (AC-CST)

1. Describe contractual relationships between all parties involved in the building process.
2. Describe the approval procedures required for successful completion of a construction project.
3. Implement testing and inspection procedures to ensure successful completion of a construction project.
4. Apply scheduling practices to ensure the successful completion of a construction project.
5. Apply practices and procedures required to maintain jobsite safety.
6. Manage relationships with internal and external parties to successfully complete construction projects.
7. Compare and contrast the building systems and components required for a construction project.
8. Demonstrate the construction crafts required for each phase of a construction project.
9. Safely use and maintain appropriate tools, machinery, equipment and resources to accomplish construction project goals.

Design/Pre-construction Career Pathway (AC-DES)

1. Justify design solutions through the use of research documentation and analysis of data.
2. Use effective communication skills and strategies (listening, speaking, reading, writing and graphic communications) to work with clients and colleagues.
3. Describe the requirements of the integral systems that impact the design of buildings.
4. Apply building codes, laws and rules in the project design.
5. Identify the diversity of needs, values and social patterns in project design, including accessibility standards.
6. Apply the techniques and skills of modern drafting, design, engineering and construction to projects.
7. Employ appropriate representational media to communicate concepts and project design.
8. Apply standards, applications and restrictions pertaining to the selection and use of construction materials, components and assemblies in the project design.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Maintenance/Operations Career Pathway (AC-MO)

1. Recognize and employ universal construction signs and symbols to function safely in the workplace.
2. Use troubleshooting procedures when solving a maintenance problem in buildings.
3. Apply construction skills when repairing, restoring or renovating existing buildings.
4. Determine work required to repair or renovate an existing building.
5. Plan and practice preventative maintenance activities to service existing buildings.
6. Maintain and inspect building systems to achieve safe and efficient operation of buildings.

Arts, A/V Technology & Communications Career Cluster™ (AR)

1. Analyze the interdependence of the technical and artistic elements of various careers within the Arts, A/V Technology & Communications Career Cluster™.
2. Analyze the importance of health, safety and environmental management systems, policies and procedures common in arts, audio/video technology and communications activities and facilities.
3. Analyze the lifestyle implications and physical demands required in the arts, audio/visual technology and communications workplace.
4. Analyze the legal and ethical responsibilities required in the arts, audio/visual technology and communications workplace.
5. Describe the career opportunities and means to achieve those opportunities in each of the Arts, A/V Technology & Communications Career Pathways.
6. Evaluate technological advancements and tools that are essential to occupations within the Arts, A/V Technology & Communications Career Cluster™.

A/V Technology & Film Career Pathway (AR-AV)

1. Describe the history, terminology, occupations and value of audio, video and film technology.
2. Demonstrate the use of basic tools and equipment used in audio, video and film production.
3. Demonstrate technical support skills for audio, video and/or film productions.
4. Design an audio, video and/or film production.

Journalism & Broadcasting Career Pathway (AR-JB)

1. Describe the diversity of functions within the Journalism & Broadcasting Career Pathway.
2. Demonstrate writing processes used in journalism and broadcasting.
3. Plan and deliver a media production (e.g., broadcast, video, Internet, mobile).
4. Demonstrate technical support related to media production (e.g., broadcast, video, Internet, mobile).

Performing Arts Career Pathway (AR-PRF)

1. Describe the scope of the Performing Arts Career Pathway and the roles of various individuals in it.
2. Demonstrate the fundamental elements, techniques, principles and processes of various dance styles and traditions.
3. Perform a varied repertoire of vocal and/or instrumental music representing diverse styles, cultures and historical periods.
4. Demonstrate knowledge of music theory.
5. Explain key issues affecting the creation of characters, acting skills and roles.
6. Create stage, film, television or electronic media scripts in a variety of traditional and current formats.
7. Describe how technology and technical support enhance performing arts productions.
8. Analyze all facets of stage and performing arts production management.

Printing Technology Career Pathway (AR-PRT)

1. Manage the printing process, including customer service and sales, scheduling, production and quality control.
2. Demonstrate the production of various print, multimedia or digital media products.
3. Perform finishing and distribution operations related to the printing process.

Telecommunications Career Pathway (AR-TEL)

1. Demonstrate the use of telecommunications terminology, tools and test equipment.
2. Demonstrate telecommunication installation processes using appropriate tools, materials, schematics, diagrams, blueprints and industry specific codes and regulations.
3. Demonstrate decision making, problem-solving techniques and communication skills when providing services for customers.
4. Demonstrate the installation, repair and delivery of network systems.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Visual Arts Career Pathway (AR-VIS)

1. Describe the history and evolution of the visual arts and its role in and impact on society.
2. Analyze how the application of visual arts elements and principles of design communicate and express ideas.
3. Analyze and create two and three-dimensional visual art forms using various media.

Business Management & Administration Career Cluster™ (BM)

1. Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision-making in business.
2. Describe laws, rules and regulations as they apply to effective business operations.
3. Explore, develop and apply strategies for ensuring a successful business career.
4. Identify, demonstrate and implement solutions in managing effective business customer relationships.
5. Implement systems, strategies and techniques used to manage information in a business.
6. Implement, monitor and evaluate business processes to ensure efficiency and quality results.

Administrative Support Career Pathway (BM-ADM)

1. Plan, staff, lead and organize human resources to enhance employee productivity and satisfaction.
2. Access, evaluate and disseminate information for business decision making.
3. Plan, monitor and manage day-to-day business activities.

Business Information Management Career Pathway (BM-BIM)

1. Describe and follow laws and regulations affecting business operations and transactions.
2. Plan, monitor, manage and maintain the use of financial resources to ensure a business's financial wellbeing.
3. Access, evaluate and disseminate information for business decision making.
4. Plan, monitor and manage day-to-day business activities to sustain continued business functioning.
5. Plan, organize and manage an organization/department to achieve business goals.

General Management Career Pathway (BM-MGT)

1. Describe and follow laws and regulations affecting business operations and transactions.
2. Access, evaluate and disseminate information for business decision making.
3. Apply economic concepts fundamental to global business operations.
4. Employ and manage techniques, strategies and systems to enhance business relationships.
5. Plan, monitor, manage and maintain the use of financial resources to ensure a business's financial wellbeing.
6. Plan, monitor and manage day-to-day business activities to sustain continued business functioning.
7. Plan, organize and manage an organization/department to achieve business goals.
8. Create strategic plans used to manage business growth, profit and goals.

Human Resources Management Career Pathway (BM-HR)

1. Describe and follow laws and regulations affecting human resource operations.
2. Access, evaluate and disseminate information for human resources management decision making.
3. Motivate and supervise personnel to achieve completion of projects and business goals.
4. Plan, monitor and manage the use of financial and human resources to ensure a business's financial wellbeing.
5. Plan, staff, lead and organize human resources to enhance employee productivity and satisfaction.
6. Plan, monitor and manage day-to-day business activities to foster a healthy and safe work environment.
7. Plan, organize and implement compensation, benefits, health and safety programs.

Operations Management Career Pathway (BM-OP)

1. Describe and follow laws and regulations affecting business operations and transactions.
2. Develop and maintain positive customer relationships.
3. Apply inventory tracking systems to facilitate operational controls.
4. Plan, monitor and manage day-to-day business activities to maintain and improve operational functions.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Education & Training Career Cluster™ (ED)

1. Apply communication skills with students, parents and other groups to enhance learning and a commitment to learning.
2. Demonstrate effective oral, written and multimedia communication in multiple formats and contexts.
3. Use critical thinking to process educational communications, perspectives, policies and/or procedures.
4. Evaluate and manage risks to safety, health and the environment in education and training settings.
5. Demonstrate group collaboration skills to enhance professional education and training practice.
6. Analyze ethical and legal policies of professional education and training practice.
7. Explain legal rights that apply to individuals and practitioners within education and training settings.
8. Demonstrate ethical and legal behavior within and outside of education and training settings.
9. Describe state-specific professional development requirements to maintain employment and to advance in an education and training career.
10. Apply organizational skills and logic to enhance professional education and training practice.
11. Demonstrate group management skills that enhance professional education and training practice.

Administration & Administration Support Career Pathway (ED-ADM)

1. Use research-based practices to develop, communicate and enlist support for a vision of success for all learners.
2. Identify behaviors necessary for developing and sustaining a positive learning culture.
3. Create instructional programs to meet the learning organization's objectives.
4. Identify instructional practices that meet the learning organization's objectives.
5. Model leadership skills for personnel in order to improve the performance of the learning organization.
6. Identify operations to meet the learning organization's objectives.
7. Plan strategically to meet the learning organization's objectives.
8. Apply internal and external resources to meet the learning organization's objectives and learner needs.
9. Describe advocacy strategies to promote the learning organization's needs.

Professional Support Services Career Pathway (ED-PS)

1. Identify strategies, techniques and tools used to determine the needs of diverse learners.
2. Implement methods to enhance learner success.
3. Identify resources and support services to meet learners' needs.
4. Identify resources and support services available in the learning organization to enhance the learning environment.

Teaching/Training Career Pathway (ED-TT)

1. Use foundational knowledge of subject matter to plan and prepare effective instruction and design courses or programs.
2. Employ knowledge of learning and developmental theory to describe individual learners.
3. Use content knowledge and skills of instruction to develop standards-based goals and assessments.
4. Identify materials and resources needed to support instructional plans.
5. Establish a positive climate to promote learning.
6. Identify motivational, social and psychological practices that guide personal conduct.
7. Demonstrate organizational and relationship building skills used to manage instructional activities and related procedures.
8. Demonstrate flexibility and adaptability in instructional planning.
9. Utilize assessment and evaluation tools and data to advance learner achievement and adjust instructional plans.
10. Evaluate teaching and training performance indicators to determine and improve effectiveness of instructional practices and professional development.
11. Implement strategies to maintain relationships with others to increase support for the organization.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Finance Career Cluster™ (FN)

1. Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision making in the finance industry.
2. Utilize tools, strategies and systems to plan, monitor, manage and maintain the use of financial resources.
3. Plan, staff, lead and organize human resources in finance to enhance employee productivity and job satisfaction.
4. Determine effective tools, techniques and systems to communicate and deliver value to finance customers.
5. Create and maintain positive, ongoing relationships with finance customers.
6. Plan, monitor and manage day-to-day activities to ensure effective and efficient finance operations.
7. Implement safety, health and environmental controls to ensure a safe and productive finance work workplace.
8. Describe and follow laws, regulations and ethical standards that affect finance operations and transactions.
9. Plan, manage and maintain the use of financial resources to protect solvency.
10. Plan, organize and manage a finance organization/department.
11. Plan, monitor and manage day-to-day activities required to sustain continued business functioning.
12. Access, evaluate and disseminate financial information to enhance financial decision-making processes.
13. Manage a financial product or service mix in order to respond to market opportunities.
14. Employ financial risk-management strategies and techniques used to minimize business loss.

Accounting Career Pathway (FN-ACT)

1. Describe and follow laws and regulations to manage accounting operations and transactions.
2. Utilize accounting tools, strategies and systems to plan, monitor, manage and maintain the use of financial resources.
3. Process, evaluate and disseminate financial information to assist business decision making.
4. Utilize career-planning concepts, tools and strategies to explore, obtain and/or develop an accounting career.

Banking Services Career Pathway (FN-BNK)

1. Describe and follow laws and regulations to manage business operations and transactions in the banking services industry.
2. Create and maintain positive, ongoing relationships with banking customers.
3. Manage the use of financial resources to enhance banking performance.
4. Demonstrate the use of banking technology and equipment.
5. Plan, monitor and manage the day-to-day activities within a banking organization to ensure secure operations.
6. Utilize career-planning concepts, tools and strategies to explore, obtain and/or develop a career in banking services.
7. Determine client needs and wants and respond through planned, personalized communication to guide purchase decisions and enhance future business opportunities in banking services.

Business Finance Career Pathway (FN-BFN)

1. Describe and follow laws and regulations to manage business operations and transactions in corporate finance.
2. Manage the use of financial resources to ensure business stability.
3. Utilize career-planning concepts, tools and strategies to explore, obtain and/or develop in a corporate finance career.
4. Employ risk-management strategies and techniques in corporate finance to minimize business loss.

Insurance Career Pathway (FN-INS)

1. Describe and follow laws and regulations to manage business operations and transactions in the insurance industry.
2. Plan, monitor and manage day-to-day insurance organization activities.
3. Utilize career-planning concepts, tools and strategies to explore, obtain and/or develop a career in insurance.
4. Demonstrate underwriting techniques and strategies to evaluate the risk posed by potential insurance clients.
5. Determine client needs and wants and respond through planned, personalized communication to guide purchase decisions and enhance future insurance business opportunities.

Securities & Investments Career Pathway (FN-SEC)

1. Describe and follow laws and regulations to manage business operations and transactions in the securities and investments industry.
2. Manage the use of financial resources to perform key duties in the securities and investments industry.
3. Plan, monitor and manage day-to-day securities and investments operations.
4. Utilize career-planning concepts, tools and strategies to explore, obtain and/or develop in a securities and investments career.
5. Determine client needs and wants and respond through planned, personalized communication to guide purchase decisions and enhance future securities and investments opportunities.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Government & Public Administration Career Cluster™ (GV)

1. Explain the purpose and functions of government and public administration and the application of democratic principles in the process of governmental and administrative policymaking.
2. Analyze the systemic relationships of government and public administration agencies.
3. Describe health, safety and environmental management systems, as well as policies and procedures in government and public administration agencies.
4. Describe the implementation of plans and policies to respond to public health, safety and environmental needs in government and public administration agencies.
5. Describe career opportunities and the means to achieve those opportunities in each of the Government & Public Administration Career Pathways.
6. Explain the administration of human, financial, material and information resources in government and public administration agencies.

Foreign Service Career Pathway (GV-FOR)

1. Apply the knowledge acquired from history, law, geography, science, language studies, social sciences (including economic and political science), business, foreign policy and culture to perform diplomatic functions.
2. Describe the laws, customs and current administrative practices of the United States and host countries used to manage administrative, social and policy matters.
3. Describe the application of United States and host country laws, regulations, policies and procedures used to manage consular administrative matters.
4. Describe the application of host country laws, customs and effective administrative practices used to manage the conduct of diplomatic operations.

Governance Career Pathway (GV-GOV)

1. Employ research skills to gather and document factual information, analyze data and interpret statistics applicable to matters of public policy.
2. Develop and articulate reasoned, persuasive arguments to support public policy options or positions.
3. Select and apply appropriate political processes to gain consensus for the resolution of differing opinions and positions.
4. Advocate to gain support for new laws, regulations, ordinances, programs or procedures; alternatively, advocate to gain support to reform or revoke existing laws, regulations, ordinances, programs or procedures.

National Security Career Pathway (GV-SEC)

1. Instruct persons who will perform tasks relating to national homeland security.
2. Describe the appropriate duties, responsibilities and authority of a national security agency's personnel at all levels.
3. Describe the leadership characteristics necessary to ensure compliance with rules of engagement and applicable ethical standards.
4. Collect and analyze information from within and outside the United States to assess threats and opportunities regarding national security.
5. Develop strategies to defend against and respond to the effects of chemical, biological, radiological, nuclear (CBRN) or other emergent events.

Planning Career Pathway (GV-PLN)

1. Explain the planning process used to support the development and implementation of new and updated plans, programs and regulations for government and public administration agencies.
2. Develop a comprehensive and focused strategic planning process for government and public administration agencies to manage change.
3. Formulate plans and policies that meet the social, economic and physical needs of the public.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Public Management & Administration Career Pathway (GV-MGT)

1. Describe the organization of a government or public administration department or agency.
2. Design strategies to maximize the potential of a government or public administration department or agency to meet its vision, mission and goals.
3. Utilize fiscal management skills to manage budget and allocation processes to ensure that resources are applied in a manner consistent with the department or agency's vision, mission and goals.
4. Facilitate the flow of ideas and information to keep the department or agency and its constituency informed of policies and operations.
5. Create plans that utilize department or agency expertise to help elected officials and others identify, implement, and achieve common goals and objectives.
6. Use analysis, planning and fiscal services to fund department or agency priorities.
7. Describe ethical and fiscally responsible procurement systems and procedures used to meet department or agency needs.
8. Prepare procurement requirements, procedures and solicitations for bids or proposals.
9. Evaluate bids and proposals consistent with the requirements of the procurement process.
10. Describe the oversight of awarded contracts to ensure the ethical and optimal use of public funds.
11. Describe laws and policies that are used to protect or disclose information.
12. Develop strategies that encourage a creative and innovative environment in a government or public administration department or agency.

Regulation Career Pathway (GV-REG)

1. Describe enforcement of compliance with legal requirements and regulatory standards.

Revenue & Taxation Career Pathway (GV-REV)

1. Examine evidence and ensure revenue compliance by interpreting applicable laws, applying appropriate investigative principles and following relevant procedures.
2. Acquire, analyze and disseminate information to facilitate clear and accurate communication with revenue and taxation stakeholders.
3. Design, develop, operate and review data analysis systems and procedures to minimize and eliminate revenue-related financial problems.

Health Science Career Cluster™ (HL)

1. Determine academic subject matter, in addition to high school graduation requirements, necessary for pursuing a health science career.
2. Explain the healthcare worker's role within their department, their organization, and the overall healthcare system.
3. Identify existing and potential hazards to clients, coworkers, visitors, and self in the healthcare workplace.
4. Evaluate the roles and responsibilities of individual members as part of the healthcare team and explain their role in promoting the delivery of quality health care.
5. Analyze the legal and ethical responsibilities, limitations and implications of actions within the healthcare workplace.
6. Evaluate accepted ethical practices with respect to cultural, social and ethnic differences within the healthcare workplace.

Biotechnology Research & Development Career Pathway (HL-BRD)

1. Summarize the goals of biotechnology research and development within legal and ethical protocols.
2. Apply the fundamentals of biochemistry, cell biology, genetics, mathematical concepts, microbiology, molecular biology, organic chemistry and statistics to conduct effective biotechnology research and development of products.
3. Demonstrate basic knowledge of recombinant DNA, genetic engineering, bioprocessing, monoclonal antibody production, nanotechnology, bioinformatics, genomics, proteomics and transcriptomics to conduct biotechnology research and development.
4. Demonstrate the principles of solution preparation, sterile techniques, contamination control, and measurement and calibration of instruments used in biotechnology research.
5. Determine processes for product design and production and how that work contributes to an understanding of the biotechnology product development process.
6. Summarize and explain the larger ethical, moral and legal issues related to biotechnology research, product development and use in society.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Diagnostic Services Career Pathway (HL-DIA)

1. Communicate key diagnostic information to healthcare workers and patients in an accurate and timely manner.
2. Assess and report patient's/client's health status in order to monitor and document patient progress.
3. Demonstrate the principles of body mechanics for positioning, transferring and transporting of patients/clients, and perform them without injury to the patient/client or self.
4. Explain procedures and goals to the patient/client accurately and effectively, using strategies to respond to questions and concerns.
5. Select, demonstrate and interpret diagnostic procedures.

Health Informatics Career Pathway (HL-HI)

1. Communicate health information accurately and within legal and regulatory guidelines, upholding the strictest standards of confidentiality.
2. Describe the content and diverse uses of health information.
3. Demonstrate the use of systems used to capture, retrieve and maintain confidential health information from internal and external sources.

Support Services Career Pathway (HL-SUP)

1. Describe, differentiate and safely perform the responsibilities of healthcare support services roles.
2. Demonstrate work practices that maintain a clean and healthy healthcare facility to reduce or eliminate pathogenic organisms.
3. Follow established internal and external guidelines in order to provide high-quality, effective support services in the healthcare facility.
4. Maximize available resources for proper care and use of healthcare equipment and materials.
5. Implement healthcare facility standards in order to maintain high-quality healthcare facilities.

Therapeutic Services Career Pathway (HL-THR)

1. Utilize communication strategies to answer patient/client questions and concerns on planned procedures and goals.
2. Communicate patient/client information among healthcare team members to facilitate a team approach to patient care.
3. Utilize processes for assessing, monitoring and reporting patient's/clients' health status to the treatment team within protocol and scope of practice.
4. Evaluate patient/client needs, strengths and problems in order to determine if treatment goals are being met.

Hospitality & Tourism Career Cluster™ (HT)

1. Describe the key components of marketing and promoting hospitality and tourism products and services.
2. Evaluate the nature and scope of the Hospitality & Tourism Career Cluster ™ and the role of hospitality and tourism in society and the economy.
3. Demonstrate hospitality and tourism customer service skills that meet customers' needs.
4. Describe employee rights and responsibilities and employers' obligations concerning occupational health and safety in the hospitality and tourism workplace.
5. Identify potential, real and perceived hazards and emergency situations and determine the appropriate safety and security measures in the hospitality and tourism workplace.
6. Describe career opportunities and means to attain those opportunities in each of the Hospitality &Tourism Career Pathways.

Lodging Career Pathway (HT-LOD)

1. Use various communication technologies to accomplish work tasks in lodging facilities.
2. Explain the role and importance of housekeeping operations to lodging facility.
3. Allocate staff positions to meet the needs of various lodging departments.
4. Describe the role and responsibilities of lodging managers.
5. Compare the advantages and disadvantages of independently owned and chain-affiliated lodging facilities.
6. Analyze the departmental interrelationships of a lodging facility.
7. Explain various check-in and check-out procedures used in the lodging industry.
8. Understand reservation procedures used in the lodging industry.
9. Explain how room access policies and procedures ensure guest safety and minimize risks to the lodging facility.
10. Explain how cash control procedures are used in the lodging industry.
11. Explain how guests and property are protected to minimize losses or liabilities in the lodging facility.
12. Explain the basic legal issues in lodging management.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Recreation, Amusements & Attractions Career Pathway (HT-REC)

1. Describe career opportunities in the Recreation, Amusements & Attractions Career Pathway.
2. Explain admission and traffic control procedures used to manage and control individuals, groups and vehicles in recreation, amusement and attraction venues.
3. Determine the maintenance and technology needs for various recreation, amusement and attraction venues.
4. Describe safety and security issues unique to the Recreation, Amusements & Attractions Career Pathway.
5. Compile a resource base to manage emergency situations in recreation, amusement and attraction venues.
6. Identify safety and security issues for recreation, amusement and attraction venues that might require customer education.
7. Compare different ticket sales options to maximize revenue for recreation, amusement and attraction venues.
8. Describe the types of information and directions a guest would need at a recreation, amusement and attraction entry point.
9. Develop marketing strategies for recreation, amusement and attractions venues.
10. Analyze the merchandising, program and product potential for different recreation, amusement and attraction venues.
11. Compare and contrast various types of recreation, amusement and attraction venues.

Restaurants & Food/ Beverage Services Career Pathway (HT-RFB)

1. Describe ethical and legal responsibilities in food and beverage service facilities.
2. Demonstrate safety and sanitation procedures in food and beverage service facilities.
3. Use information from cultural and geographical studies to guide customer service decisions in food and beverage service facilities.
4. Demonstrate leadership qualities and collaboration with others.
5. Research costs, pricing, market demands and marketing strategies to manage profitability in food and beverage service facilities.
6. Explain the benefits of the use of computerized systems to manage food service operations and guest service.
7. Utilize technical resources for food services and beverage operations to update or enhance present practice.
8. Implement standard operating procedures related to food and beverage production and guest service.
9. Describe career opportunities and qualifications in the restaurant and food service industry.
10. Apply listening, reading, writing and speaking skills to enhance operations and customer service in food and beverage service facilities.

Travel & Tourism Career Pathway (HT-TT)

1. Apply information about time zones, seasons and domestic and international maps to create or enhance travel.
2. Apply unit and time conversion skills to develop travel schedules and compute cost, distance and time (including travel time) factors.
3. Analyze cultural diversity factors to enhance travel planning.
4. Assess the potential (real and perceived) hazards related to multiple environments, and recommend appropriate safety, health and security measures for travelers.
5. Develop a safety and security plan containing proactive and reactive solutions to manage emergency situations for travelers and staff.
6. Use common travel and tourism terminology used to communicate within the industry.
7. Customize travel with diverse transportation, lodging, cruise and food options.
8. Compare and contrast services and products from related industries to understand and evaluate how they impact the delivery of travel and tourism products and services to customers.
9. Identify the community elements necessary to maintain cooperative tourism development efforts.
10. Develop a travel product that matches customer needs, wants and expectations.
11. Design promotional packages to effectively market travel and tourism.
12. Select the most effective communication technique and media venue to convey travel marketing information to a target audience.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Human Services Career Cluster™ (HU)

1. Evaluate principles of planning, development, implementation and evaluation to accomplish long-range goals in the human services.
2. Evaluate the role of the family, community and human services in society and the economy.
3. Use effective communication with human services clients and their families.
4. Demonstrate ethical and legal conduct in human services settings.
5. Evaluate career opportunities in each of the Human Services Career Pathways.
6. Explain how human development principles enhance the wellbeing of individuals and families.

Consumer Services Career Pathway (HU-CSM)

1. Summarize necessary credentials, licensures or state-specific requirements to prepare for a career in consumer services.
2. Communicate product or equipment features that meet the needs of clients and consumers.
3. Make consumer services recommendations meeting the needs of clients or customers.
4. Analyze financial/economic situations when making recommendations about consumer services.
5. Use standard business processes or procedures to create consumer service information and facilitate client interactions.
6. Use a variety of methods to educate audiences about consumer services.
7. Demonstrate knowledge of ethical and legal responsibilities associated with providing consumer services.
8. Apply business procedures and utilize equipment and facilities to produce satisfying client outcomes.

Counseling & Mental Health Services Career Pathway (HU-CMH)

1. Use clear written, spoken and nonverbal messages when communicating with clients about mental health services and the counseling process.
2. Utilize functional and specialized assessments to evaluate needs and solutions for counseling and mental health.
3. Evaluate client motivation, strengths and weaknesses to develop a client treatment program.
4. Demonstrate knowledge of an operational mental health or counseling program that meets organizational goals.
5. Demonstrate the ethical and legal responsibilities of counseling and mental health services.
6. Choose appropriate counseling and therapy techniques to serve identified needs.

Early Childhood Development & Services Career Pathway (HU-EC)

1. Demonstrate communication techniques with children to facilitate ongoing development and enhance learning.
2. Communicate effectively with fellow staff members to facilitate child development activities.
3. Maintain working knowledge of child development licensing and certification organizations to keep abreast of current procedures and changes.
4. Create and maintain relationships between staff and parents/family members to encourage involvement and facilitate child development and learning.
5. Evaluate safety and sanitation procedures associated with the early childhood education environment to assure compliance and prevent potential hazards.
6. Adhere to ethical and legal responsibilities, laws and regulations to protect children and families.
7. Apply principles of child growth and development, including social, emotional, physical and cognitive milestones, to provide comprehensive program offerings.
8. Evaluate curriculum for inclusiveness of children with special needs.

Family & Community Services Career Pathway (HU-FAM)

1. Use formal and informal assessment practices to create and evaluate a prevention and/or treatment plan.
2. Identify community resources to provide family and community services.
3. Communicate effectively to gain support from the client's family and other support groups.
4. Comply with laws and procedures that govern abuse, neglect, confidentiality and other health and safety situations.
5. Evaluate crisis prevention, intervention and resolution techniques to formulate emergency plans.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Personal Care Services Career Pathway (HU-PC)

1. Analyze basic principles of biology, chemistry and human anatomy for safe and effective utilization and selection of personal care products and services.
2. Evaluate an individualized personal care plan that reflects client preferences, needs and interests for a course of treatment/action.
3. Utilize data and information to maintain electronic records of client services and make recommendations for personal care services.
4. Demonstrate policies and procedures to achieve a safe and healthy environment for personal care services.
5. Develop organizational policies, procedures and regulations that establish personal care organization priorities, accomplish the mission, and provide high-quality service to a diverse set of clients and families.
6. Identify personal care business opportunities enhanced by community involvement, self-improvement and current trends.
7. Apply methods of obtaining feedback to understand expectations and promote high-quality personal care services standards.

Information Technology Career Cluster™ (IT)

1. Demonstrate effective professional communication skills and practices that enable positive customer relationships.
2. Use product or service design processes and guidelines to produce a quality information technology (IT) product or service.
3. Demonstrate the use of cross-functional teams in achieving IT project goals.
4. Demonstrate positive cyber citizenry by applying industry accepted ethical practices and behaviors.
5. Explain the implications of IT on business development.
6. Describe trends in emerging and evolving computer technologies and their influence on IT practices.
7. Perform standard computer backup and restore procedures to protect IT information.
8. Recognize and analyze potential IT security threats to develop and maintain security requirements.
9. Describe quality assurance practices and methods employed in producing and providing quality IT products and services.
10. Describe the use of computer forensics to prevent and solve information technology crimes and security breaches.
11. Demonstrate knowledge of the hardware components associated with information systems.
12. Compare key functions and applications of software and determine maintenance strategies for computer systems.

Information Support & Services Career Pathway (IT-SUP)

1. Provide technology support to maintain service.
2. Manage operating systems and software applications, including maintenance of upgrades, patches and service packs.
3. Apply appropriate troubleshooting techniques in resolving computer hardware, software and configuration problems.
4. Perform installation, configuration and maintenance of operating systems.
5. Demonstrate the use of networking concepts to develop a network.
6. Evaluate the effectiveness of an information system.
7. Employ system installation and maintenance skills to setup and maintain an information system.
8. Employ system administration and control skills to monitor the performance of an information system.
9. Employ technical writing and documentation skills in support of an information system.
10. Apply quality assurance processes to maximize information system operation.

Network Systems Career Pathway (IT-NET)

1. Analyze customer or organizational network system needs and requirements.
2. Analyze wired and wireless network systems to determine if they meet specifications (e.g., IEEE, power, security).
3. Design a network system using technologies, tools and standards.
4. Perform network system installation and configuration.
5. Perform network administration, monitoring and support to maintain a network system.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Programming & Software Development Career Pathway (IT-PRG)

1. Analyze customer software needs and requirements.
2. Demonstrate the use of industry standard strategies and project planning to meet customer specifications.
3. Analyze system and software requirements to ensure maximum operating efficiency.
4. Demonstrate the effective use of software development tools to develop software applications.
5. Apply an appropriate software development process to design a software application.
6. Program a computer application using the appropriate programming language.
7. Demonstrate software testing procedures to ensure quality products.
8. Perform quality assurance tasks as part of the software development cycle.
9. Perform software maintenance and customer support functions.
10. Design, create and maintain a database.

Web & Digital Communications Career Pathway (IT-WD)

1. Analyze customer requirements to design and develop a Web or digital communication product.
2. Apply the design and development process to produce user-focused Web and digital communications solutions.
3. Write product specifications that define the scope of work aligned to customer requirements.
4. Demonstrate the effective use of tools for digital communication production, development and project management.
5. Develop, administer and maintain Web applications.
6. Design, create and publish a digital communication product based on customer needs.
7. Evaluate the functionality of a digital communication product using industry accepted techniques and metrics.
8. Implement quality assurance processes to deliver quality digital communication products and services.
9. Perform maintenance and customer support functions for digital communication products.
10. Comply with intellectual property laws, copyright laws and ethical practices when creating Web/digital communications.

Law, Public Safety, Corrections & Security Career Cluster™ (LW)

1. Analyze the nature and scope of the Law, Public Safety, Corrections & Security Career ClusterTM and the role law, public safety, corrections and security play in society and the economy.
2. Formulate ideas, proposals and solutions to ensure effective and efficient delivery of law, public safety, corrections and/or security services.
3. Assess and implement measures to maintain safe and healthy working conditions in a law, public safety, corrections and/or security environment.
4. Conduct law, public safety, corrections and security work tasks in accordance with employee and employer rights, obligations and responsibilities, including occupational safety and health requirements.
5. Analyze the various laws, ordinances, regulations and organizational rules that apply to careers in law, public safety, corrections and security.
6. Describe various career opportunities and means to those opportunities in each of the Law, Public Safety, Corrections & Security Career Pathways.

Correction Services Career Pathway (LW-COR)

1. Evaluate the correctional environment for signs of potential problems and/or danger.
2. Demonstrate leadership roles, responsibilities and collaboration in correctional environments.
3. Analyze the impact of federal, state and local laws on correctional facilities.
4. Describe the various roles and impacts of forensics and computer forensics in the resolution of crime in the correctional environment.
5. Describe the legal, regulatory and organizational guidelines governing the correction services.
6. Compare and contrast different career fields in the correction services.
7. Demonstrate effective communication skills (e.g., writing, speaking, active listening and nonverbal c communication) in the correctional environment.
8. Analyze the techniques used to manage crisis situations and resolve conflicts in correctional environments.
9. Demonstrate the protocols regarding the reduction or elimination of sexual harassment or abuse in the correctional environment.
10. Analyze situations that require the use of force, including deadly force, to determine when varying degrees of force should be utilized in correctional facilities.
11. Analyze the impact of the Fourth, Fifth, Sixth and Fourteenth Amendments in the correction services environment.
12. Apply the ethical and legal responsibilities of correctional staff to various situations in the correction services environment.
13. Describe the knowledge and technical skills needed to carry out the day-to-day operations at a correctional facility.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Emergency & Fire Management Services Career Pathway (LW-EFM)

1. Demonstrate effective communication skills (e.g., writing, speaking, listening and nonverbal communication) while utilizing communications equipment and platforms common to emergency and fire management services.
2. Manage an incident scene as the first responder using emergency response skills.
3. Utilize up-to-date technology equipment and applications to facilitate the management of emergency and fire management situations.
4. Demonstrate an understanding of the objectives and a commitment to the mission of emergency and fire management services.
5. Execute safety procedures and protocols associated with local, state and federal regulations.
6. Develop an organizational professional growth plan including the development of team building and leadership skills within the emergency and fire management environment.
7. Describe the legal, regulatory and organizational guidelines governing emergency and fire management services.
8. Compare and contrast the different career fields in fire and emergency management services.
9. Execute protocols for handling emergency situations that range from minor medical and fire emergencies to area-wide incidents.
10. Demonstrate the use and various applications of the equipment commonly used in emergency and fire management services.
11. Implement an appropriate Incident Command System to effectively manage an incident scene.
12. Use common codes and icons to properly handle and transport potentially hazardous substances in fire and medical emergency scenes.
13. Implement public relations plans to enhance public awareness and safety in fire and emergency situations.
14. Describe the elements and issues involved in using the preparedness and response systems available to manage large-scale disasters.
15. Analyze the key functions and techniques of critical infrastructure protection in cases of terrorism and/or natural disasters.

Law Enforcement Services Career Pathway (LW-ENF)

1. Demonstrate effective communication skills (e.g., writing, speaking, listening and nonverbal communication) required in law enforcement.
2. Demonstrate proficiency in the operation of communication equipment used in an emergency telecommunications center.
3. Utilize anger and conflict management strategies to resolve problems in law enforcement settings.
4. Model behaviors that exhibit integrity and commitment to a code of conduct and ethics for law enforcement professionals.
5. Analyze the impact of federal, state and local laws on law enforcement procedures.
6. Execute established procedures to avoid the violation of the rights guaranteed by the Fourth, Fifth, Sixth and Fourteenth Amendments.
7. Manage crime and loss prevention programs in collaboration with the community.
8. Explain the appropriate techniques for managing crisis situations in order to maintain public safety.
9. Evaluate for the signs of domestic violence, child abuse and neglect.
10. Demonstrate the routine day-to-day tasks conducted by various law enforcement agencies.
11. Describe law enforcement protocols and procedures designed to handle incidents related to homeland security, terrorism and other disaster situations.
12. Demonstrate the procedures to properly protect, document and process the crime scene and all related evidence.
13. Demonstrate procedures to assist individuals requiring special assistance from law enforcement personnel.
14. Describe the behavioral symptoms of drug use and the inherent dangers associated with handling dangerous drugs.

Legal Services Career Pathway (LW-LEG)

1. Demonstrate effective communication skills (writing, speaking, listening and nonverbal communication) in the legal services environment.
2. Interpret nonverbal communication cues in order to discern facts from fabrication.
3. Produce written legal materials using writing strategies applicable to the legal services environment.
4. Apply information technology tools to perform daily tasks assigned to legal services professionals.
5. Analyze the role forensics plays in preventing and solving crimes.
6. Use legal terminology to communicate within the legal services community.
7. Compare and contrast different career fields in the legal services.
8. Analyze the influence of the three branches of the U.S. Government (judicial, legislative and executive) on the legal services.
9. Analyze the impact of the Fourth, Fifth, Sixth and Fourteenth Amendments on the provision of legal services.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Security & Protective Services Career Pathway (LW-SEC)

1. Demonstrate effective communications skills (e.g., writing, speaking, listening and nonverbal communication) when communicating security-related directives, technical concepts and other information.
2. Utilize conflict resolution skills to resolve conflicts among individuals.
3. Compare and contrast the roles, responsibilities, tools and techniques of the criminal justice and security fields.
4. Describe the legal, regulatory and organizational guidelines governing the security and protective services.
5. Analyze the impact of federal, state and local laws on the security and protective services field.
6. Apply ethical and legal responsibilities of security and protective services personnel to various situations in the security and protective services field.
7. Analyze the impact of the Fourth, Fifth, Sixth and Fourteenth Amendments on the security and protective services.
8. Compare and contrast the different career fields in the security and protective services.
9. Evaluate the application and relevance of crime prevention concepts and security assessments to security and protective services functions.
10. Explain the application of risk management principles to the protection of assets in various settings.
11. Describe the importance of utilizing good public relations techniques and building relationships in security and crisis situations.
12. Describe the role of security systems in an overall security strategy.
13. Explain the duties of security and protective services personnel in terrorism, homeland security and disaster preparedness.
14. Apply basic management principles for the effective supervision and management of a security force or an organization's security program.
15. Perform the roles and responsibilities of a security officer, including basic incident response.
16. Compare types and techniques of security approaches within the public and private sectors.
17. Demonstrate the concepts and techniques used to ensure the security of information-based and intangible assets.
18. Summarize the importance and roles of intelligence analysis in crime prevention and homeland security.

Manufacturing Career Cluster™ (MN)

1. Evaluate the nature and scope of the Manufacturing Career ClusterTM and the role of manufacturing in society and in the economy.
2. Analyze and summarize how manufacturing businesses improve performance.
3. Comply with federal, state and local regulations to ensure worker safety and health and environmental work practices.
4. Describe career opportunities and means to achieve those opportunities in each of the Manufacturing Career Pathways.
5. Describe government policies and industry standards that apply to manufacturing.
6. Demonstrate workplace knowledge and skills common to manufacturing.

Health, Safety, & Environmental Assurance Career Pathway (MN-HSE)

1. Demonstrate the safe use of manufacturing equipment.
2. Develop safety plans for production processes that meet health, safety and environmental standards.
3. Demonstrate a safety inspection process to assure a healthy and safe manufacturing environment.
4. Evaluate a system of health, safety and/or environmental programs, projects, policies or procedures to determine compliance.
5. Evaluate continuous improvement protocols and techniques in health, safety and/or environmental practices.
6. Conduct job safety and health analysis for manufacturing jobs, equipment and processes.
7. Develop the components of a training program based on environmental health and safety regulations.

Logistics & Inventory Control Career Pathway (MN-LOG)

1. Demonstrate positive customer service skills in regard to logistics and inventory control issues.
2. Demonstrate proper handling of products and materials in a manufacturing facility.
3. Develop a safety inspection process to assure a healthy and safe manufacturing facility.
4. Manage inventory using logistics and control processes and procedures.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Maintenance, Installation, & Repair Career Pathway (MN-MIR)

1. Demonstrate maintenance skills and proficient operation of equipment to maximize manufacturing performance.
2. Demonstrate the safe use of manufacturing equipment to ensure a safe and healthy environment.
3. Diagnose equipment problems and effectively repair manufacturing equipment.
4. Investigate and employ techniques to maximize manufacturing equipment performance.
5. Implement a preventative maintenance schedule to maintain manufacturing equipment, tools and workstations.
6. Implement an effective, predictive and preventive manufacturing equipment maintenance program.

Manufacturing Production Process Development Career Pathway (MN-PPD)

1. Produce quality products that meet manufacturing standards and exceed customer satisfaction.
2. Research, design and implement alternative manufacturing processes to manage production of new and/or improved products.
3. Monitor, promote and maintain a safe and productive workplace using techniques and solutions that ensure safe production of products.
4. Implement continuous improvement processes in order to maintain quality within manufacturing production.
5. Develop procedures to create products that meet customer needs.

Production Career Pathway (MN-PRO)

1. Diagnose production process problems and take corrective action to meet production quality standards.
2. Manage safe and healthy production working conditions and environmental risks.
3. Make continuous improvement recommendations based on results of production process audits and inspections.
4. Coordinate work teams when producing products to enhance production process and performance.
5. Demonstrate the safe use of manufacturing equipment.

Quality Assurance Career Pathway (MN-QA)

1. Evaluate production operations for product and process quality.
2. Recommend and implement continuous improvement in manufacturing processes.
3. Coordinate work teams to create a product that meets quality assurance standards.
4. Employ project management processes using data and tools to deliver quality, value-added products.
5. Perform safety inspections and training to ensure a safe and healthy workplace.
6. Implement continuous improvement processes to maintain quality products.
7. Identify inspection processes that ensure products meet quality specifications.

Marketing Career Cluster™ (MK)

1. Describe the impact of economics, economics systems and entrepreneurship on marketing.
2. Implement marketing research to obtain and evaluate information for the creation of a marketing plan.
3. Plan, monitor, manage and maintain the use of financial resources for marketing activities.
4. Plan, monitor and manage the day-to-day activities required for continued marketing business operations.
5. Describe career opportunities and the means to achieve those opportunities in each of the Marketing Career Pathways.
6. Select, monitor and manage sales and distribution channels.
7. Determine and adjust prices to maximize return while maintaining customer perception of value.
8. Obtain, develop, maintain and improve a product or service mix in response to market opportunities.
9. Communicate information about products, services, images and/or ideas to achieve a desired outcome.
10. Use marketing strategies and processes to determine and meet client needs and wants.

Marketing Communications Career Pathway (MK-COM)

1. Apply techniques and strategies to convey ideas and information through marketing communications.
2. Plan, manage and monitor day-to-day activities of marketing communications operations.
3. Access, evaluate and disseminate information to enhance marketing decision-making processes.
4. Obtain, develop, maintain and improve a marketing communications product or service mix to respond to market opportunities.
5. Communicate information about products, services, images and/or ideas to achieve a desired outcome.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Marketing Management Career Pathway (MK-MGT)

1. Plan, organize and lead marketing staff to achieve business goals.
2. Plan, manage and monitor day-to-day marketing management operations.
3. Plan, manage and organize to meet the requirements of the marketing plan.
4. Access, evaluate and disseminate information to aid in making marketing management decisions.
5. Determine and adjust prices to maximize return and meet customers' perceptions of value.
6. Obtain, develop, maintain and improve a product or service mix in response to market opportunities.
7. Communicate information about products, services, images and/or ideas.

Marketing Research Career Pathway (MK-RES)

1. Plan, organize and manage day-to-day marketing research activities.
2. Design and conduct research activities to facilitate marketing business decisions.
3. Use information systems and tools to make marketing research decisions.

Merchandising Career Pathway (MK-MER)

1. Plan, organize and lead merchandising staff to enhance selling and merchandising skills.
2. Plan, manage and monitor day-to-day merchandising activities.
3. Move, store, locate and/or transfer ownership of retail goods and services.
4. Access, evaluate and disseminate marketing information to facilitate merchandising decisions and activities.
5. Determine and adjust prices to maximize return and meet customers' perceptions of value.
6. Obtain, develop, maintain and improve a product or service mix to respond to market opportunities.
7. Communicate information about retail products, services, images and/or ideas.
8. Create and manage merchandising activities that provide for client needs and wants.

Professional Sales Career Pathway (MK-SAL)

1. Access, evaluate and disseminate sales information
2. Apply sales techniques to meet client needs and wants.
3. Plan, organize and lead sales staff to enhance sales goals.

Science, Technology, Engineering & Mathematics Career Cluster™ (ST)

1. Apply engineering skills in a project that requires project management, process control and quality assurance.
2. Use technology to acquire, manipulate, analyze and report data.
3. Describe and follow safety, health and environmental standards related to science, technology, engineering and mathematics (STEM) workplaces.
4. Understand the nature and scope of the Science, Technology, Engineering & Mathematics Career ClusterTM and the role of STEM in society and the economy.
5. Demonstrate an understanding of the breadth of career opportunities and means to those opportunities in each of the Science, Technology, Engineering & Mathematics Career Pathways.
6. Demonstrate technical skills needed in a chosen STEM field.

Engineering & Technology Career Pathway (ST-ET)

1. Use STEM concepts and processes to solve problems involving design and/or production.
2. Display and communicate STEM information.
3. Apply processes and concepts for the use of technological tools in STEM.
4. Apply the elements of the design process.
5. Apply the knowledge learned in STEM to solve problems.
6. Apply the knowledge learned in the study of STEM to provide solutions to human and societal problems in an ethical and legal manner.

Science & Mathematics Career Pathway (ST-SM)

1. Apply science and mathematics to provide results, answers and algorithms for engineering and technological activities.
2. Apply science and mathematics concepts to the development of plans, processes and projects that address real world problems.
3. Analyze the impact that science and mathematics has on society.
4. Apply critical thinking skills to review information, explain statistical analysis, and to translate, interpret and summarize research and statistical data.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org

Transportation, Distribution & Logistics Career Cluster™ (TD)

1. Describe the nature and scope of the Transportation, Distribution & Logistics Career ClusterTM and the role of transportation, distribution and logistics in society and the economy.
2. Describe the application and use of new and emerging advanced techniques to provide solutions for transportation, distribution and logistics problems.
3. Describe the key operational activities required of successful transportation, distribution and logistics facilities.
4. Identify governmental policies and procedures for transportation, distribution and logistics facilities.
5. Describe transportation, distribution and logistics employee rights and responsibilities and employers' obligations concerning occupational safety and health.
6. Describe career opportunities and means to achieve those opportunities in each of the Transportation, Distribution & Logistics Career Pathways.

Facility & Mobile Equipment Maintenance Career Pathway (TD-MTN)

1. Develop preventative maintenance plans and systems to keep facility and mobile equipment inventory in operation.
2. Design ways to improve facility and equipment system performance.

Health, Safety, & Environmental Management Career Pathway (TD-HSE)

1. Describe the health, safety and environmental rules and regulations in transportation, distribution and logistics workplaces.
2. Develop solutions to improve performance of health, safety and environmental management services.

Logistics Planning & Management Services Career Pathway (TD-LOG)

1. Develop solutions to provide and manage logistics services for the company and customers.
2. Analyze and improve performance of logistics systems to provide logistics planning and management services.

Sales & Service Career Pathway (TD-SAL)

1. Analyze the ongoing performance of transportation, logistics and distribution-related sales and service operations.
2. Demonstrate the use of sales and ongoing service of products and services that are transportation related to promote development of existing and future clients and customers.

Transportation Operations Career Pathway (TD-OPS)

1. Develop and evaluate transportation plans to move people and/or goods to meet customer requirements.
2. Analyze performance of transportation operations in order to improve quality and service levels and increase efficiency.
3. Comply with policies, laws and regulations in order to maintain safety, security and health and mitigate the economic and environmental risk of transportation operations.

Transportation Systems / Infrastructure Planning, Management & Regulation Career Pathway (TD-SYS)

1. Develop plans to maintain and/or improve the transportation infrastructure.
2. Assess, plan and manage the implementation of transportation services.
3. Describe ways to improve the system utilization, flow, safety and environmental performance of transportation systems.

Warehousing & Distribution Center Operations Career Pathway (TD-WAR)

1. Demonstrate efficient and effective warehouse and distribution center operations.
2. Describe ways to improve the performance of warehouse and distribution operations.
3. Analyze compliance with company policies and government laws and regulations in warehouse and distribution operations.

The CCTC is being coordinated by the National Association of State Directors of Career Technical Education Consortium (NASDCTEc), which represents the state and territory heads of secondary, postsecondary and adult CTE across the nation.

www.careertech.org/career-technical-education/cctc/.

© 2012 NASDCTEc | 8484 Georgia Avenue, Suite 320, Silver Spring, Maryland 20910 | 301-588-9630 | www.careertech.org