

Louisiana CAREERS

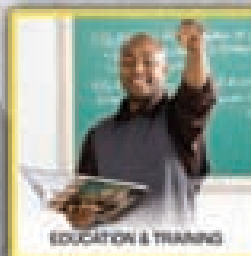
VOLUME 2



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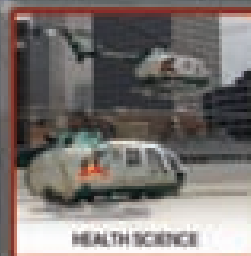
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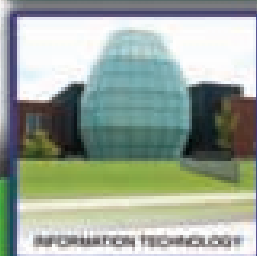
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SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS



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Career Planning Guide

Acknowledgements

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The State of Louisiana

Dear Students, Parents, and Educators:

We are pleased to present the ***Louisiana Career Planning Guide*** for educational preparation using Career Clusters. Career Clusters are groupings of occupations/career specialties that are used as an organizing tool for curriculum and instruction. This guide is designed as a tool to assist students at all levels in choosing the classes they need not only to graduate, but ultimately gain employment in a high-skill/wage or high-demand job in targeted sectors within the regions.

To support these efforts, we want to ensure that students and their parents have the most timely and accurate information available to help students make informed decisions about their educational path and career choices. In line with the College and Career Ready Core graduation requirements and the Career Diploma requirements, areas of concentration based on Career Clusters will become increasingly relevant. Each Career Cluster and its related pathways requires a common set of knowledge and skills for career success, which provides a foundation that prepares students for a full range of occupations and career specialties, focusing on a blend of technical, academic, and employability knowledge and skills.

The economy and workforce of Louisiana are constantly changing. In today's world, prospective workers require training and retraining throughout their lifetime. The Louisiana Board of Regents, the Louisiana Community and Technical College System, the Louisiana Department of Education, and the Louisiana Workforce Commission are committed to supporting the workforce needs of our state. This guide will assist students, teachers, guidance counselors, faculty, and job seekers in identifying the available career options and help them make career decisions that are led by their interests, clearly defined pathways, and timely employment projections that meet the needs of Louisiana's economy.

Sincerely,

A handwritten signature in black ink, appearing to read "Artis L. Terrell, Jr.", written over a horizontal line.

Artis L. Terrell, Jr.
Chairman
Louisiana Board of Regents

A handwritten signature in black ink, appearing to read "Joe D. May", written over a horizontal line.

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President
Louisiana Community and Technical College System

A handwritten signature in blue ink, appearing to read "Paul G. Pastorek", written over a horizontal line.

Paul G. Pastorek
Superintendent
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Curt Eysink
Executive Director
Louisiana Workforce Commission

How to Use This Guide

Whether you are planning for high school, college, the workforce, or a career change, the *Louisiana Career Planning Guide* will help you determine a path to reach your academic and career goals. Inside this guide, you will learn about your career interests, find Career Clusters that are related to those interests, and be able to review lists of Louisiana's top high-wage, high-demand jobs in each cluster.

Throughout this guide, you also will find interviews with people like you who are preparing for and working in a cluster-related career in Louisiana.

Along with other useful information, the guide will help you create a realistic career plan based on your interests and goals. To access that information, simply take the following steps:

Step One

Review the "Glossary" beginning on page 122. Knowing these terms and definitions will help you complete the steps that follow.

Step Two

Complete "Discover Your Career Personality," the interest inventory that begins on page 4. The results

will help you find Career Clusters and occupations that interest you – the foundation for planning your career future.

Step Three

Explore Career Clusters you would like to pursue on pages 14-111. The table of contents will lead you to the particular clusters you want to review. In each of the 16 Career Cluster sections, you will find educational requirements, total annual demand, and average hourly wages for high-demand jobs in Louisiana.



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Step Four

If you are interested in a career that is nontraditional for your gender, read “Am I a Ground Breaker?” on pages 12 and 13. Then consider the benefits of pursuing whatever career is right for you.

Step Five

Are you a high school student? Be sure to go to pages 8-9 to review and then access LAePortal.com. Also review “Create an Individual Graduation Plan” on pages 112-115 for state graduation requirements.

Step Six

Learn more about “Career and Technical Student Organizations” on pages 116 and 117.

Step Seven

Are you a high school student or an adult returning to school? Review “State Web Sites and Resources” on pages 118 and 119.

Step Eight

To help map out your educational plan, review “Education Map” on pages 120-121. Also find Regional Business & Career Solutions Center locations on page 126.

Step Nine

Find lists of high-demand, high-wage jobs in eight Louisiana regions on page 127.

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This public document was published at a cost of \$54,750. 5,000 copies of this public document were published in this first printing at a cost of \$54,750. This document was published by the agencies as documented in this publication to provide comprehensive career information for Louisiana. This material was printed in accordance with the standards for printing by state agencies established pursuant to R.S. 43:31.

Discover Your Career Personality

The purpose of this career interest survey is to help you discover your “career personality” and some jobs you really might enjoy.

What’s a career interest survey? It’s a simple self-test. This one is based on the Holland Codes. There are no wrong answers!

The quiz begins on the next page. Take it to discover your interests. Simply follow these steps:

1. Check activities that you like.

In part 1, read through the list of activities. Then check the ones that interest you.

2. Add up your scores.

In part 2, total your scores. You’ll begin to see your career personality emerge. It’s important to consider your career personality when planning for the future.

3. Evaluate yourself.

In part 3, you may find that you have more than one career personality. That’s okay. Most people do.

4. Think about the future.

In part 4, on pages 6 and 7, you will find careers related to your personality. You are not limited to jobs just within your personality group. Check out career choices within the other personality types. You might be surprised at your career options!

What Are Career Clusters?

Some people are interested in health care. Other people are interested in information technology.

Interests like these have been grouped into what’s called “Career Clusters.” The term describes knowledge, skills, and interests that connect with industries, jobs, and educational programs.

Louisiana groups careers into 16 Career Clusters. This survey and the information that follows relate to jobs in these 16 clusters.

You will find Career Clusters useful as you look for industries, career fields, and jobs you may like or an educational program you may want to pursue.

1 Check Activities You Like.

Place a check by the activities that interest you. Don't worry if you don't know much about them. Right now it's just important to identify the activities that capture your imagination.

- 1. Save a rainforest or grow organic vegetables
- 2. Solve complicated math problems
- 3. Act in a movie, play, or television show
- 4. Work with people in different cultures and societies
- 5. Research news stories and do interviews for the evening news
- 6. Study the economy and predict economic trends
- 7. Read and use "how-to" manuals
- 8. Perform science experiments in a laboratory
- 9. Manage an art gallery
- 10. Conduct a religious service
- 11. Bargain with vendors at a flea market
- 12. Analyze and create statistical graphs and charts
- 13. Build cabinets or furniture
- 14. Study the environmental impact of pollution or global warming
- 15. Write a movie or television script
- 16. Volunteer to lead a club or scout troop
- 17. Choose and purchase merchandise to sell in a store
- 18. Work in a corporate office
- 19. Operate heavy machinery
- 20. Play chess or games of strategy
- 21. Write articles for music, art or entertainment magazines
- 22. Organize an event for a charity or community organization
- 23. Compete with other salespeople in a fast-paced, high-pressure company
- 24. Design computer programs and/or games
- 25. Work outdoors patrolling or maintaining a national park
- 26. Research legal statutes for a lawsuit
- 27. Play a musical instrument
- 28. Work with infants or children
- 29. Run for political office
- 30. Work an after-school job to save money
- 31. Set up a home theater system or install a car stereo system
- 32. Read science fiction
- 33. Write a short story, play, or novel
- 34. Host and entertain guests at a party
- 35. Work in a politician's office
- 36. Enter information into a computer spreadsheet
- 37. Build a model of a jet aircraft
- 38. Study bacteria using an electron microscope and other high-tech equipment
- 39. Design a new line of clothes
- 40. Read and discuss a book or poem
- 41. Sit on a television panel to discuss political or social issues
- 42. Keep accurate accounting and sales records for a business
- 43. Repair a car or motorcycle motor
- 44. Identify different planets, stars, and constellations
- 45. Create and fire a ceramic pot or vase
- 46. Work with the elderly
- 47. Sell products for a portion of the profit
- 48. Create and oversee a budget for a large company or government agency

2 Add Up Your Scores.

On the grid below, circle the numbers you checked off. Count the number of circles in each row, and write that total in the blank space at the end of each line. These are your scores for each "career personality" type.

Personality Types

Total

a. REALISTS	1	7	13	19	25	31	37	43	
b. INVESTIGATORS	2	8	14	20	26	32	38	44	
c. ARTISTS	3	9	15	21	27	33	39	45	
d. HELPERS	4	10	16	22	28	34	40	46	
e. ENTERPRISERS	5	11	17	23	29	35	41	47	
f. DETAILERS	6	12	18	24	30	36	42	48	

3 Evaluate Yourself.

In the spaces below, write the names of the two personality types in which you received the highest scores.

HOW CAN KNOWING YOUR PERSONALITY TYPE LEAD YOU TO A SATISFYING CAREER FUTURE? READ ON ...

4 Think About The Future.

Look at headlines “a” through “f” at the top of these two pages. Circle the ones that match your top two personality types from page 5. Now, look at the job titles listed below your personality types. Circle jobs you find interesting. Then circle related career clusters. Don’t think you’re limited only to jobs within your “job personality.” For example, if you’re a “Helper” with an interest in “Health Science,” check out Health Science career options within the other job personality types. You might be surprised at what you find.

a. Realist

Realists typically are focused, rugged, mechanical, and direct. Often athletic, they enjoy working outdoors with tools, animals, and plants. Famous “Realists” include primatologist Jane Goodall, hair stylist Vidal Sassoon, and architect Paul Williams.

b. Investigator

Investigators are curious and observant, and they like to research, analyze, and solve problems. Many enjoy science and math – working independently and in teams. Famous “Investigators” include physicist and chemist Marie Curie, anthropologist Margaret Mead, and forensic scientist Dr. Henry Lee.

c. Artist

Creative and imaginative, artists often work best in unstructured environments using words, pictures, music, and dance to create products and communicate ideas. Famous “Artists” include dancer Gregory Hines, painter Salvador Dali, and playwright William Shakespeare.

Career Clusters		a. Realist	b. Investigator
	The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources. Mining and mineral extraction are included in the Agriculture, Food & Natural Resources cluster.	Animal care technician Farmer, grower Forestry worker	Food scientist Forest ranger Wildlife manager
	Careers in designing, planning, managing, building, and maintaining the built environment.	Builder, carpenter Electrician Plumbing, heating, air conditioning installer	Code inspector Preservationist
	Designing, producing, exhibiting, performing, writing, and publishing multi-media content including visual and performing arts and design, journalism, and entertainment services.	Camera operator, photojournalist Set designer Performer	Journalist Playwright Researcher
	Business Management & Administration careers encompass planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. Business Management & Administration career opportunities are available in every sector of the economy.	Accountant Business manager, entrepreneur Customer support specialist	Acquisitions manager Business analyst Collections clerk Management analyst
	Planning, managing, and providing education and training services, and related learning support services.	Elementary teacher Coach Technology teacher	Curriculum developer Educational researcher School psychologist
	Planning, services for financial and investment planning, banking, insurance, and business financial management.	Claims investigator Loan officer Stockbroker	Accountant/auditor Claims examiner Contract administrator Financial officer
	Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration of the local, state, and federal levels.	Elected official Legislative aide Military officer	Military intelligence officer Policy advisor Tax examiner
	Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.	Dentist, dental hygienist Home health aide Nurse, nursing assistant Physician, surgeon Therapist – radiologic	Biomedical engineer, technician Medical assistant Technician, laboratory Pharmacist Research scientist
	Hospitality & Tourism encompasses the management, marketing, and operations of restaurants and other food services, lodging, attractions, recreation events, and travel-related services.	Food service worker Recreation worker Tour guide	Forest ranger Hotel security officer Night auditor
	Preparing individuals for employment in career pathways that relate to families and human needs.	Hair stylist Home care aide Social services worker	Consumer advocate Credit counselor Patient accounts representative
	Building linkages in IT occupations framework: for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multi-media, and systems integration services.	Network systems engineer, technician Telecommunications technician	Computer security specialist Data, systems analyst Information systems architect Programmer Test engineer
	Planning, managing, and providing legal, public safety, protective services, and homeland security, including professional and technical support services.	Crime scene investigator Firefighter Police officer	Detective Forensics examiner, technician Fraud investigator
	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.	Machine operator Industrial maintenance technician Welder	Instrument, process control technician Quality control specialist
	Planning, managing, and performing marketing activities to reach organizational objectives.	Buyer Promotion director Shipping, receiving clerk	Manager – brand, database, forecasting Market researcher
	Planning, managing, and providing scientific research and professional and technical services including laboratory and testing services, and research and development services.	Electrical, electronic installer, repairer Engineer, engineering technician	Engineer, engineering technician – environmental, facility maintenance, industrial
	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.	Automotive, other technician Body repairer – aircraft, automotive Driver, pilot	Automotive technician Inspector – aviation, freight, environmental Logistics analyst

	c. Artist	d. Helper	e. Enterpriser	f. Detailer
	Florist Gardener, landscaper	Agricultural sales agent Animal care technician Farm manager Food, drug inspector	Agricultural sales agent Food broker Food, livestock producer	Bacteriologist, biochemist Food products processor Food, fiber engineer
	CAD operator, drafter, designer Landscape architect Painter, paperhanger	Construction foreman, manager General maintenance contractor Interior designer	Architectural firm owner, consultant Contractor – general, maintenance, specialty craft	Building inspector Cost estimator Electrical, power transmission installer Safety director
	Copywriter Creative director Graphic designer Illustrator Media specialist	A/V equipment installer Interior decorator Performing arts coach, conductor, director	Advertising, design, marketing, publishing company owner Events, performing arts, trade show producer	Animator A/V systems technician Graphics, printing equipment operator Web designer
	Advertising manager Director – marketing communications Meeting planner	Administrative assistant Fundraising director Human resources manager, recruiter, labor specialist Real estate associate	Business owner, entrepreneur Company president, general manager Marketing manager	Administrative assistant Business analyst Data processor Payroll clerk Purchasing agent
	Art teacher Early childhood, elementary teacher Instructional media specialist	Child care specialist Coach School counselor Teacher	Acting, dance, music studio owner, operator Charter school founder, operator Test preparation, learning center franchise owner, operator	Educational researcher Speech-language pathologist, audiologist Test measurement specialist
	Business/financial writer Direct marketing media specialist Fundraiser	Customer service representative Debt counselor Financial advisor Investment planner Loan officer	Banker Financial planner Financial manager Treasurer	Accountant/auditor Actuary Financial manager Insurance appraiser
	Charitable organization executive Lobbyist Public relations specialist	Elected official Legislative aide Military officer	Ambassador Elected official Military combat operations specialist Policy advisor	Census enumerator Emergency planner Military intelligence officer Vital statistics clerk Zoning administrator
	Art, dance, music therapist Athletic trainer Public relations director Plastic surgeon Prosthetist	Home health aide Medical assistant Therapist – physical Psychologist Social worker	Hospital, health agency, laboratory executive director, owner, operator Medical, veterinary practice owner	Biomedical engineer, technician Laboratory technician Medical records manager, coder Pathologist Pharmacist, technician
	Cake decorator Catering director Chef Restaurant concept developer, designer	Food service worker Hotel worker Recreation worker Park ranger Tour guide	Amusement park, tourist attraction developer Hotel, motel franchise owner, operator Restaurateur	Banquet manager Hotel executive Supervisor – housekeeping, laundry, maintenance
	Activities director Child care facility director, assistant Cosmetologist	Counselor – family, mental health, rehabilitation, substance abuse Psychologist Social worker	Counseling, psychology practice owner Day-care center operator Funeral home director Nonprofit agency director	Emergency management specialist Nutrition counselor
	Animator Audiovisual technician Web designer, site developer Webmaster	Computer support specialist Help desk technician Instructional designer Interactive media developer	E-merchandise Information support services provider Interactive media programmer/software developer	Computer programmer Computer security specialist Data processing, documentation specialist Network systems analyst
	Grant writer, coordinator	Corrections educator, counselor Hazardous materials responder Probation officer	Law firm partner Police patrol officer Private detective, security service	Criminal investigator Immigration, customs inspector Lawyer, paralegal, legal secretary
	CAD operator, drafter, designer Product developer, designer	First-line manager, supervisor Quality control specialist	Labor relations manager Manufacturing executive, supervisor Medical appliance, optical goods maker	Failure analyst Industrial maintenance technician Machine tool operator Quality engineer
	Catalog developer Designer – fashion, floral, interior, packaging Manager – e-merchandising, sales promotion	Client relationship manager Customer support specialist Field representative Regional sales manager	Business development manager Buyer Merchandising manager Product developer	Manager – forecasting, fulfillment, inventory Logistics analyst Marketing researcher Statistician
	A/V equipment technician Engineer, engineering technician – broadcast Medical illustrator Technical writer	Environmental scientist Maintenance, repair technician Laboratory technician Medical researcher Oceanographer	Engineering firm owner, consultant Medical research laboratory operator	Electrical, electronic installer, repairer, technician Engineer – industrial, health and safety, maintenance
	Facility architect, designer Urban, regional planner	Cashier, counter clerk Customer service representative Driver Flight attendant Logistics, warehouse manager	Consultant – airfield operations, logistics Government executive Manager – customer service, logistics, warehouse	Air traffic controller Dispatcher – air, rail Inspector – aviation, freight Packer

d. Helper

Do you enjoy helping people? Most “Helpers” enjoy working with others, both individually and in groups. Famous “Helpers” include civil rights leader Martin Luther King, Jr., humanitarian Mother Teresa, and the first black president of South Africa Nelson Mandela.

e. Enterpriser

Do you have strong leadership skills, like to compete, take risks, and persuade others? Enterprisers have both social and hands-on skills. Famous “Enterprisers” include Microsoft co-founder Bill Gates, U.S. President Barack Obama, and TV personality Rachael Ray.

f. Detailer

Detailers analyze numbers and facts, pay careful attention to details, and tend to be structured. Famous “Detailers” include the first female engineer Lillian Gilbreth, inventor of the first practical telephone Alexander Graham Bell, and FBI director J. Edgar Hoover.





LAEPortal.com



ARE YOU READY FOR... CAREER? COLLEGE? LIFE? WORK?

The **LA ePortal** is a lifelong learning college and career preparation tool designed to assist a variety of individuals along the education and workforce continuum. Whether completing an individual graduation plan, creating a professional resume, searching for a college or university, taking career assessments, or exploring job opportunities, there is something for everyone. The LA ePortal facilitates academic and career pursuits to assist citizens in the many transitions they encounter in life.

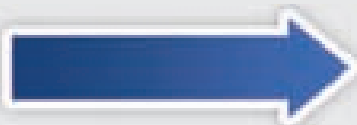
Log in @ www.LAePortal.com



12 Things you'll find @ LAePortal.com

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Brought to you by
the Louisiana
Board of Regents
and BESE



For Your Information ...

What is contained on the following pages of the *Louisiana Career Planning Guide* provides information about Jobs in Demand with High Wages in Louisiana and Top Employing Industry Sectors; Career Pathways/Areas of Concentration; Postsecondary Programs; and Industry-Based Certifications. This information is included for each of the 16 Career Cluster areas and is defined below.

Industry Sectors

Industry sectors are a subset of a market, industry, or economy whose components share similar characteristics. Industry sectors are broken up into different interrelated categories and are sometimes broken down further into subsectors. For example, Health Care is an industry sector, and the allied health field of radiology may be an example of a subsector.

Career Pathway/Areas of Concentration

A Career Pathway/Area of Concentration is defined as a coherent sequence of courses or a field of study that prepares a student for a first job and/or further education and training. Career Pathways/Areas of Concentration also:

- Integrate academic and occupational learning, integrate school-based and work-based learning, and establish linkages between high schools and postsecondary institutions

- Prepare the student for employment in a broad occupational cluster or industry sector
- Typically include at least four years of high school and one or two years of postsecondary education
- Provide the students, to the extent practicable, with strong experience in and understanding of all aspects of the industry
- Result in the award of a high school diploma or its equivalent, a certificate or diploma recognizing successful completion of one or two years of postsecondary education and/or a skill certificate, and
- May lead to further education and training such as entry into a registered apprenticeship program or admission to a two- or four-year college or university.

Postsecondary Programs

A postsecondary program is defined as any education and/or training program that is offered beyond high school. This would include coursework offered at the two- and four-year college level (which includes technical college, community college, and university programs). Possibly, it would include certain training courses beyond high school graduation if college credit was awarded.

Registered Apprenticeship Programs

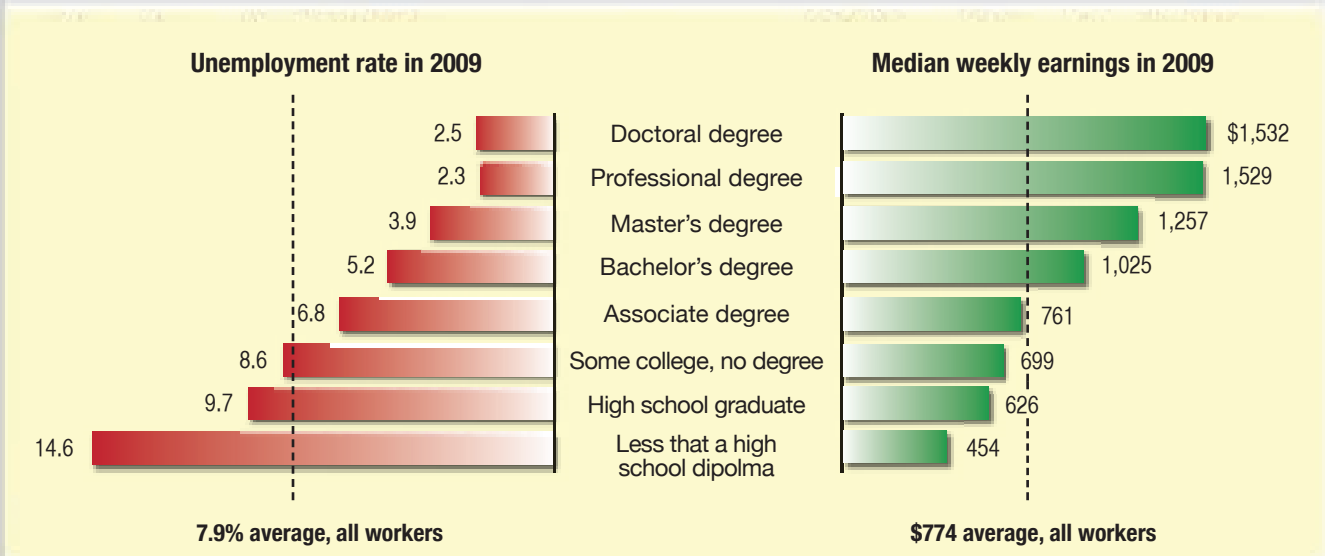
Registered Apprenticeship is a rigorous “earn while you learn” model that provides a combination of on-the-job learning and related classroom instruction in which workers learn the practical and theoretical aspects of a highly skilled occupation.

Industry-Based Certifications (IBCs)

An industry-based certification is tangible evidence that an individual has successfully demonstrated skill competencies in a specific set of work related tasks, a single occupational area, or a cluster/sector of related occupational areas.



Education Pays in Higher Earnings and Lower Unemployment Rates



Source: Bureau of Labor Statistics, Current Population Survey (http://www.bls.gov/emp/ep_chart_001.htm). Data are 2009 annual averages as of May 27, 2010, for persons age 25 and over. Earnings are for full-time wage and salary workers.

Note: For more information on earnings by educational attainment, visit the Bureau of Labor Statistics at <http://www.bls.gov/cps/earnings.htm#education>.

WorkKeys: NCRC & RegiSTAR

The National Career Readiness Certificate (NCRC) can be earned in addition to a traditional educational diploma. The NCRC is the dominant foundational skills credential in the nation, and Louisiana is working to achieve statewide alignment for workforce, education, government, business and industry, and job seekers. The NCRC signifies that an individual has the essential employability skills needed to succeed in the workplace.

To earn an NCRC, an individual must take three WorkKeys assessments (Applied Math, Reading for Information, and Locating Information) provided through ACT. Examinees can complete this assessment using a paper/pencil

version or use a Web-based version. There are four qualification levels used to determine certificate-level eligibility: Platinum (a score of at least 6), Gold (a score of at least 5), Silver (a score of at least 4), and Bronze (a score of at least 3). Scoring the same level in each assessment determines certificate level; however, if different scores are earned in each assessment, the lowest score earned determines certificate level.

For individuals who want to increase their certificate level, KeyTrain® has developed a comprehensive career training course called Career Ready 101®. This is a remediation system that helps improve WorkKeys scores enabling the opportunity

to earn a higher credential. Studies have shown that a higher credential means higher wages.

ACT has developed a new system called RegiSTAR™, which is the driving force behind a more seamless production of the NCRC. Examinees register in the system, which generates an ID number allowing for quicker production of the NCRC and automatic registration in ACT's nationwide database.

Louisiana's overall goal is to cut in half, over the next five years, the number of people with an educational barrier preventing them from succeeding in a middle income job.

Note: For more information on WorkKeys, the National Career Readiness Certificate, and RegiSTAR, visit the following ACT Web sites: www.act.org/workkeys and www.myworkkeys.com.



Am I a Ground Breaker?

By Mimi Lufkin, Chief Executive Officer, National Alliance for Partnerships in Equity

Our world is becoming increasingly smaller and our economy more global. These changes create an ever-widening range of careers.

In working through your career exploration process, you may want to develop skills and gain experiences that will increase your knowledge of occupations and widen your career options. Part of that widening process is being sure that you don't set artificial barriers for yourself regarding your own career choices. Employment in many sectors of our economy has been traditionally segregated by gender, an artificial barrier that many are working to eliminate. Old stereotypes about what careers are for men and what careers are for women do not apply anymore. We cannot afford to lose half the potential workforce in any career field due to outdated notions.

Explore Before You Choose

The 16 Career Clusters provide a framework you can use to explore all aspects of a particular career field. Within each cluster, there are multiple pathways, and within each pathway, there are a variety of occupations. Some of these occupations are considered “nontraditional,” which means that

less than 25% of one gender is employed in that field.

Your career choices should be made based on your interests and skills. The Career Clusters framework provides you with the opportunity to explore a wide range of career options regardless of your particular background. As you consider career options, do not allow yourself to be steered away from a cluster or pathway because of your lack of experience. As you go through the career exploration process, you may take a career interest inventory like the one that begins on page 4 to help you focus your career choices. But be aware that many of these assessments are based on your experience with typical activities within careers. It is very important that you take the opportunity to explore career choices and build your portfolio of experiences before you start to narrow your options.

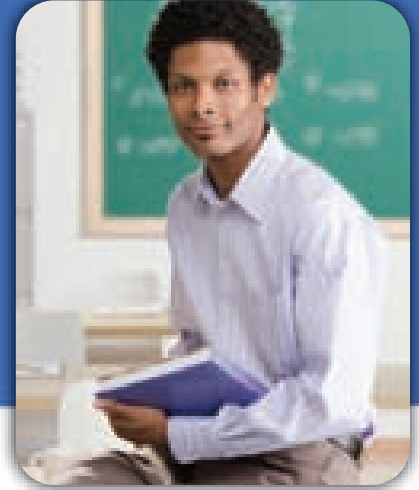
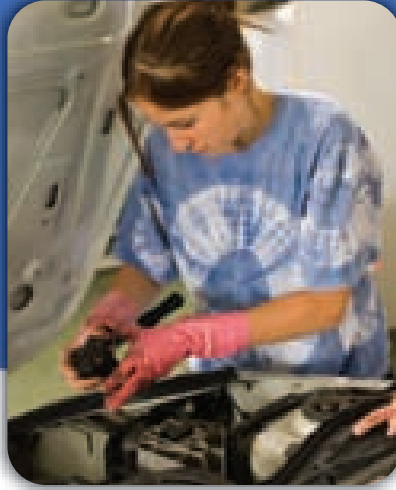
Follow Your Dreams

As you explore the multiple career options within each Career Cluster, listen to your instincts about what careers will utilize your interests and skills, regardless of who is typically employed in that field. There may be times when you

might be discouraged from following your dreams because your career choice does not fit in with traditional gender roles. In the long run, your choice of a career that fits you will provide you with a more satisfying and fulfilling future. And the good news is that research shows that men and women are increasingly moving into, and succeeding in, nontraditional careers. Regardless of the career you chose, do not let anyone's prejudices, including your own, limit you!

Consider a Nontraditional Career

The biggest argument in favor of working in a nontraditional career is the intrinsic benefit of following your dreams and the satisfaction that comes from a job well done. As a “groundbreaker,” you will help overcome gender stereotypes and open the door to others. There is nothing more satisfying than knowing you have made a long-lasting impact on society in addition to doing what you enjoy. For women, participating in a nontraditional career can carry with it significant financial rewards. Male-dominated occupations tend to have higher wages and benefits. When women



are employed in these areas, it can mean over 25% more annual income. For men, nontraditional career choices can also mean higher wages, especially in the health care fields, as compared to many other career choices.

Choosing to be different always carries with it some challenges. However, as daunting as some of these challenges might appear, the workplace is continuing to become much more diverse. A lack of role models and others who support your nontraditional career choices can be discouraging, so it is important to surround yourself with those who support your choices and to find champions who can mentor and guide you. In some traditionally male careers, the physical demands of the job can be significant. But with the proper preparation, understanding of physical dynamics, and the use of appropriate tools and technology, these barriers can be limited. Certainly carrying a 30-pound toddler on your hip while doing housework has its physical challenges, too!

Central to the current global challenges we are facing is the growing need for a workforce with

skills in science, technology, engineering, and mathematics (STEM). A majority of these career fields are nontraditional for women, and in recent years there has been a decline in women's participation in some of the engineering- and math-related career areas, a loss of human potential we cannot afford. As we have seen the performance gap shrink between boys and girls on standardized assessments in math and science, we have not seen the translation of that success to college preparation and career selection. The opportunities for women in STEM careers are endless.

Most of us carry around the image of an engineer as a white male with wild hair, thick black-rimmed glasses, pocket protector, and white dress shirt and tie, who sits in front of a computer all day running endless mathematical equations. But this image is far from reality. Engineers can be any individuals who are willing use their imagination and analytical skills to invent, design, and build things that matter. They are team players with independent minds who ask, "How can we develop a better recycling system to protect the environment, design a school that

can withstand an earthquake, or create cutting-edge special effects for the movies?" By dreaming up creative and practical solutions, engineers are changing the world all the time.

Don't let your preconceived notions of what career is a fit for you limit your choices. Take the opportunities provided to you by exploring all of the 16 Career Clusters to expand the options you want to choose from. Who knows, maybe you might even choose a nontraditional career!

Resources

The National Alliance for Partnerships in Equity
www.napequity.org

The STEM Equity Pipeline project
www.stemequitypipeline.org

Engineer Your Life
www.engineeryourlife.org

Nontraditional Career Resource Center
www.ncrc.rutgers.edu



The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources. Mining and mineral extraction are included in the Agriculture, Food & Natural Resources cluster.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
Food Products and Processing Systems	<ul style="list-style-type: none"> • Agricultural and Food Science Technicians • Agricultural and Food Scientists • Agricultural Inspectors • Agricultural Sciences Teachers, Postsecondary • Chemical Technicians 	<ul style="list-style-type: none"> • Computer Support Specialists • Farm and Ranch Managers • First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers 	<ul style="list-style-type: none"> • Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders • Food Batchmakers • Food Cooking Machine Operators and Tenders • Graders and Sorters, Agricultural Products 	<ul style="list-style-type: none"> • Nonfarm Animal Caretakers • Office Machine Operators, Except Computer • Pest Control Workers • Purchasing Agents and Buyers, Farm Products
Plant Systems	<ul style="list-style-type: none"> • Agricultural and Food Science Technicians • Agricultural and Food Scientists • Agricultural Sciences Teachers, Postsecondary • Biochemists and Biophysicists • Economists • Farm and Home Management Advisors 	<ul style="list-style-type: none"> • Farm and Ranch Managers • Farmers and Ranchers • Farmworkers and Laborers, Crop, Nursery, and Greenhouse • Farmworkers, Farm and Ranch Animals • First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers 	<ul style="list-style-type: none"> • First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers • First-Line Supervisors/Managers of Retail Sales Workers • Floral Designers • Grounds Maintenance Workers 	<ul style="list-style-type: none"> • Landscaping and Groundskeeping Workers • Pesticide Handlers, Sprayers, and Applicators, Vegetation • Retail Salespersons • Tree Trimmers and Pruners
Animal Systems	<ul style="list-style-type: none"> • Agricultural and Food Science Technicians • Agricultural and Food Scientists • Agricultural Sciences Teachers, Postsecondary 	<ul style="list-style-type: none"> • Animal Breeders • Animal Trainers • Farm and Home Management Advisors • Farm and Ranch Managers • Farmers and Ranchers 	<ul style="list-style-type: none"> • Farmworkers, Farm and Ranch Animals • First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers 	<ul style="list-style-type: none"> • Nonfarm Animal Caretakers
Power, Structural, and Technical Systems	<ul style="list-style-type: none"> • Agricultural Equipment Operators • Agricultural Sciences Teachers, Postsecondary 	<ul style="list-style-type: none"> • Aircraft Mechanics and Service Technicians • Farm Equipment Mechanics 	<ul style="list-style-type: none"> • Mobile Heavy Equipment Mechanics, Except Engines 	
Natural Resources Systems	<ul style="list-style-type: none"> • Biological Science Teachers, Postsecondary • Captains, Mates, and Pilots of Water Vessels • Chemical Processing Machine Setters, Operators, and Tenders • Conservation Scientists • Conservation Scientists and Foresters • Conveyor Operators and Tenders • Engineering Technicians, Except Drafters • Environmental Science and Protection Technicians, Including Health 	<ul style="list-style-type: none"> • Environmental Science Teachers, Postsecondary • Environmental Scientists and Specialists, Including Health • Fallers • First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers • Fish and Game Wardens • Fishers and Related Fishing Workers • Forest and Conservation Technicians • Forest and Conservation Workers • Foresters 	<ul style="list-style-type: none"> • Gas Compressor and Gas Pumping Station Operators • Gas Plant Operators • Geological and Petroleum Technicians • Industrial Truck and Tractor Operators • Loading Machine Operators, Underground Mining • Log Graders and Scalars • Logging Equipment Operators • Logging Workers • Mechanical Engineering Technicians • Petroleum Pump System Operators, Refinery Operators, and Gaugers 	<ul style="list-style-type: none"> • Plant and System Operators • Pump Operators, Except Wellhead Pumps • Pumping Station Operators • Recreation and Fitness Studies Teachers, Postsecondary • Recreation Workers • Refuse and Recyclable Material Collectors • Service Unit Operators, Oil, Gas, and Mining • Shuttle Car Operators • Tank Car, Truck, and Ship Loaders • Wellhead Pumps • Zoologists and Wildlife Biologists
Environmental Service Systems	<ul style="list-style-type: none"> • Environmental Engineering Technicians • Hazardous Materials Removal Workers 	<ul style="list-style-type: none"> • Heating, Air Conditioning, and Refrigeration Mechanics and Installers 	<ul style="list-style-type: none"> • Occupational Health and Safety Specialists and Technicians 	<ul style="list-style-type: none"> • Water and Liquid Waste Treatment Plant and System Operators
Agribusiness Systems	<ul style="list-style-type: none"> • Agricultural and Food Scientists • Agricultural Sciences Teachers, Postsecondary 	<ul style="list-style-type: none"> • Audio and Video Equipment Technicians • Farm and Home Management Advisors • Graphic Designers 	<ul style="list-style-type: none"> • News Analysts, Reporters and Correspondents 	

*National career pathways

A Rewarding Career in Agriculture



Meetings and events are part of a typical day on the job for Mike Strain, DVM, Commissioner of the Louisiana Department of Agriculture & Forestry.

As Commissioner of the Louisiana Department of Agriculture & Forestry, Mike Strain, DVM, oversees a 30 billion dollar portion of the state's economy. An achievement like this reflects years of education, experience, and service that began in high school.

A graduate of Covington High School in Covington, Louisiana, Strain was a member of FFA and earned the State FFA Degree. He did undergraduate and graduate work at Louisiana State University, where he received his Doctor of Veterinary Medicine degree. Later he and his wife, Susan Searcy Strain, DVM, opened Claiborne Hill Veterinary Hospital in Covington, which they still own and operate today.

Years of membership and service followed in professional

associations, community organizations, and the legislature. As a legislator, Strain served eight years on the Agriculture, Environmental, Commerce, and Health and Welfare Committees, as Chairman of the Rural Caucus, and on the Rural Taskforce under two governors.

Certainly long-time experience and hard work led to Strain's position today as Commissioner of Agriculture and Forestry. However, this new position appears even more interesting and challenging.

A typical day includes at least a four-hour drive back and forth to work from the Strains' home on the second floor of their veterinary hospital, plus the likelihood of extensive travel by plane to meetings with commissioners

and secretaries from other states and with the Louisiana Congressional delegation in Washington, D.C. His calendar also includes office and field work that involves meetings with and testimony in front of various state government committees, work on numerous task forces, and multiple meetings across the state with local mayors, state senators, and other political figures on topics that pertain to agriculture, the timber industry, and related issues and projects.

Strain's career in agriculture is both rewarding and challenging, and his experiences provide helpful insights for students.

"Agriculture is a science and a vocation," said Strain. "Modern agriculture requires that we not only be good stewards of the land, but we must also be on the cutting edge of technology in order to be profitable."

Strain added that agriculture is responsible for 16 percent of the U.S. economy and that qualified and trained people are needed for jobs in the agricultural industry that go unfilled on an annual basis. "Students involved with agriculture need a good background in agriculture technology in order to compete in a global market," he said.

The reward? According to Strain, "A long-term career in agriculture will provide a good quality of life for the individual and his or her family."

Did You Know?

One of the 10 key industries in Louisiana, agriculture is a multibillion-dollar industry, creating jobs and generating income in every region of the state, according to an industry overview by Louisiana Economic Development (LED) at <http://www.louisianaeconomicdevelopment.com>. That industry includes several important segments that involve the production and processing of animal, fishery, and plant commodities.



One-third of U.S. seafood comes from Louisiana, making the state the top seafood-producing state in the nation. Louisiana is also among the 10 largest producers in the U.S. of cotton, sugarcane, yams, rice, and pecans. And Louisiana's forests support a large pulp and paper industry, as well as production of pine plywood and lumber for construction, according to the LED overview.



Related businesses, including processing, manufacturing, and transportation of these commodities, contribute to Louisiana agriculture in a major way. For example, according to the LED overview, food processors throughout the state have access to convenient, well-developed air, rail, and interstate systems, and to the state's ports.



However, traditional agriculture isn't the only field within Agriculture, Food & Natural Resources. This Career Cluster also supports another key industry – energy. Louisiana is the Number 1 producer of crude oil and the Number 2 producer of natural gas in the U.S., according to LED. And, when it comes to the green energy movement, Louisiana agriculture provides materials to make biofuels such as sugarcane for ethanol and chicken fat for jet fuel.



For more information about Louisiana go to the Louisiana Department of Agriculture & Forestry at <http://www.ldaf.louisiana.gov>.



NATURAL RESEARCH

Career Guide to Industries: <http://www.bls.gov/oco/cg/cgs001.htm>

O*NET™ OnLine: <http://online.onetcenter.org/find/career>

Occupational Outlook Handbook: <http://www.bls.gov/oco>

U.S. Department of Agriculture: <http://www.usda.gov/wps/portal/usdahome>

Farm Service Agency: <http://www.fsa.usda.gov>

Natural Resources Conservation Service: <http://www.nrcs.usda.gov>

Rural Development: <http://www.rurdev.usda.gov>

USA Jobs: The Official Job Site of the Federal Government: <http://www.usajobs.opm.gov>

AgrowKnowledge, the National Center for Agriscience and Technology Education:

<http://www.agrowknow.org/about-agrowknowledge.html>

National FFA Organization: <http://ffa.org>; type "Career Explorer" in the search box

LOUISIANA
Opportunities in



2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Occupational Health and Safety Specialists	Bachelor's degree	20	\$31.26
	Rotary Drill Operators, Oil and Gas	Moderate-term training and experience ⁴	30	29.10
	Geological and Petroleum Technicians	Associate degree	40	28.62
	Petroleum Pump System Operators, Refinery Operators, and Gaugers	Long-term training and experience ⁵	200	28.32
	Earth Drillers, Except Oil and Gas	Moderate-term training and experience	30	27.75
	Pump Operators, Except Wellhead Pumpers	Moderate-term training and experience	40	22.35
	Derrick Operators, Oil and Gas	Moderate-term training and experience	30	21.87
	Service Unit Operators, Oil, Gas, and Mining	Moderate-term training and experience	110	20.48
	Wellhead Pumpers	Moderate-term training and experience	130	17.84
	First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers	Work experience in a related occupation	30	16.49
	Roustabouts, Oil and Gas	Short-term training and experience ³	170	15.30
	Helpers – Extraction Workers	Moderate-term training and experience	40	15.23
	Logging Equipment Operators	Long-term training and experience	60	14.85
	Butchers and Meat Cutters	Short-term training and experience	70	12.85
	Veterinary Assistants and Laboratory Animal Caretakers	Short-term training and experience	30	10.95
	Landscaping and Groundskeeping Workers	Short-term training and experience	180	10.64
	Food Batchmakers	Short-term training and experience	30	10.51
	Nonfarm Animal Caretakers	Moderate-term training and experience	60	10.50
	Farmworkers, Farm and Ranch Animals	Short-term training and experience	20	10.41
	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	Long-term training and experience	30	9.39
	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	Short-term training and experience	110	9.28

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

O*Net OnLine: <http://online.onetcenter.org/>

For detailed information on any occupational title, go online to the O*Net Web site, type it into the **Occupation Search** box, and click the **search button**. Next, click on the occupation from the list of search results. The search results will show which of the occupations in this section are defined as high-skilled. The summary report starts with a description and includes information for tasks, tools and technology, related occupations, wages and much more.

Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Support Activities for Mining	41,992	48,574	6,582	15.7%
Food Manufacturing	15,794	15,245	-549	-3.5%
Professional, Scientific, and Technical Services	83,683	94,904	11,221	13.4%

Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Agriculture Production & Management
Animal Science
Forestry and Conservation
Horticulture

Postsecondary Programs

(A sample listing)

Agricultural Business
Agricultural Economics
Agriculture/Agricultural Science
Agronomy
Animal, Dairy, and Poultry Science
Animal Science
Environmental Management Systems
Environmental Science
Food Science
Food Science and Technology
Forestry
Forestry and Related Sciences
Forestry Technology
Horticulture
Horticulture/Landscape
Horticulture Technology
Natural Resource Conservation Management
Natural Resource Ecology/Management
Plant and Soil Systems
Sustainable Agriculture
Veterinary Assistant
Veterinary Technology
Wildlife
Wildlife Habitat Management

Industry-based Certifications

(A sample listing)

Certified Landscape Technician
Certified Nursery Professional
Horticulture License
Meat Processing
NCCER Certifications
Retail Florist License

Sample Job Profile for National Career Readiness Certificate

Roustabouts, Oil and Gas

Roustabouts assemble or repair oil field equipment using hand and power tools and perform other tasks as needed. The job requires:

- Knowledge of machines and tools
- Knowledge of practical application of engineering, science, and technology
- Knowledge of materials, methods, and tools involved in the construction or repair of houses, buildings, or other structures

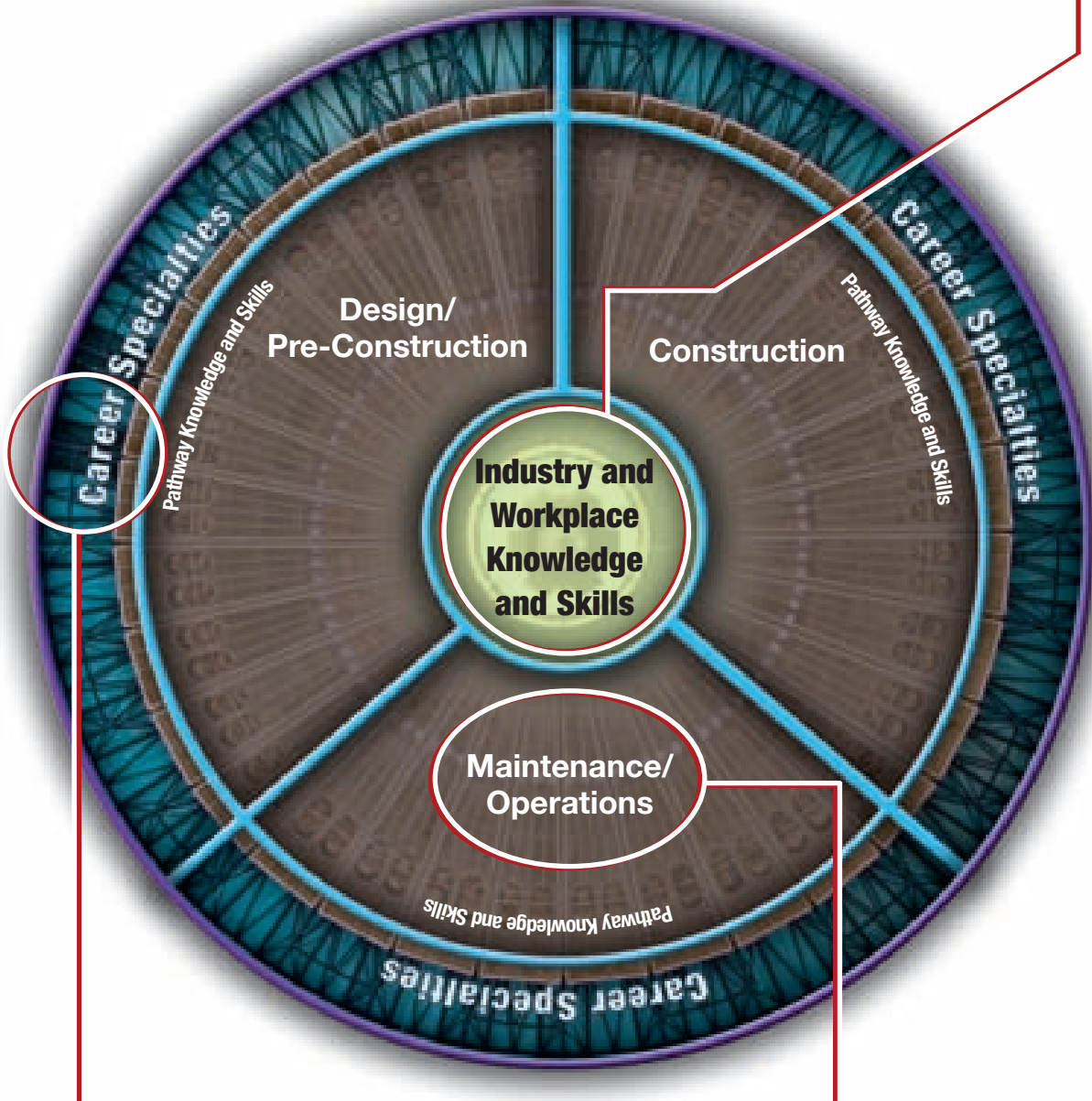
For information on required NCRC Certificate level, please visit WorkKeys® at www.myworkkeys.com.





Careers in designing, planning, managing, building, and maintaining the built environment.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

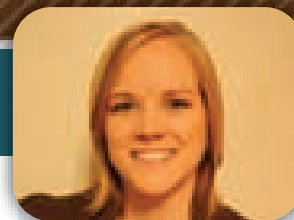
High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
<p>Design/ Pre-Construction</p>	<ul style="list-style-type: none"> • Architects, Except Landscape and Naval • Architectural and Civil Drafters • Architecture Teachers, Postsecondary • Cartographers and Photogrammetrists 	<ul style="list-style-type: none"> • Civil Engineering Technicians • Computer Software Engineers, Systems Software • Drafters • Electrical and Electronics Drafters • Engineering Managers 	<ul style="list-style-type: none"> • Engineering Teachers, Postsecondary • Engineering Technicians, Except Drafters • Engineers • Historians • Interior Designers • Landscape Architects 	<ul style="list-style-type: none"> • Mechanical Drafters • Operations Research Analysts • Surveying and Mapping Technicians • Surveyors
<p>Construction</p>	<ul style="list-style-type: none"> • Airline Pilots, Copilots, and Flight Engineers Related Workers • Brickmasons and Blockmasons • Carpenters • Carpet Installers • Cement Masons and Concrete Finishers • Commercial Pilots • Construction and Building Inspectors • Construction and Related Workers • Construction Laborers • Construction Managers • Continuous Mining Machine Operators • Cost Estimators • Crane and Tower Operators • Derrick Operators, Oil and Gas • Dredge Operators • Dredge, Excavating, and Loading Machine Operators • Drywall and Ceiling Tile Installers • Earth Drillers, Except Oil and Gas • Electrical and Electronics Repairers, Powerhouse, Substation and Relay • Electrical Power-Line Installers and Repairers • Electricians • Electromechanical Equipment Assemblers 	<ul style="list-style-type: none"> • Engineering Technicians, Except Drafters • Excavating and Loading Machine and Dragline Operators • Explosives Workers, Ordnance Handling Experts, and Blasters • First-Line Supervisors/Managers of Construction Trades and Extraction Workers • Flight Attendants • Floor Layers, Except Carpet, Wood, and Hard Tiles • Floor Sanders and Finishers • Glaziers • Heating, Air Conditioning, and Refrigeration Mechanics and Installers • Helpers, Construction Trades • Helpers – Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters • Helpers – Carpenters • Helpers – Electricians • Helpers – Painters, Paperhangers, Plasterers, and Stucco Masons • Helpers – Pipelayers, Plumbers, Pipefitters, and Steamfitters • Helpers – Roofers 	<ul style="list-style-type: none"> • Highway Maintenance Workers • Insulation Workers • Maintenance and Repair Workers, General • Manufactured Building and Mobile Home Installers • Mine Cutting and Channeling Machine Operators • Mining Machine Operators • Operating Engineers and Other Construction Equipment Operators • Other Extraction Workers • Painters, Construction and Maintenance • Paperhangers • Paving, Surfacing, and Tamping Equipment Operators • Pile-Driver Operators • Pipelayers • Plasterers and Stucco Masons • Plumbers, Pipefitters, and Steamfitters • Rail Transportation Workers • Railroad Conductors and Yardmasters • Rail-Track Laying and Maintenance Equipment Operators • Reinforcing Iron and Rebar Workers • Riggers 	<ul style="list-style-type: none"> • Roofers • Rotary Drill Operators, Oil and Gas • Security and Fire Alarm Systems Installers • Segmental Pavers • Septic Tank Servicers and Sewer Pipe Cleaners • Signal and Track Switch Repairers • Stationary Engineers and Boiler Operators • Stonemasons • Structural Iron and Steel Workers • Subway and Streetcar Operators • Tapers • Terrazzo Workers and Finishers • Tile and Marble Setters • Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders • Woodworking Machine Setters, Operators, and Tenders, Except Sawing
<p>Maintenance/ Operations</p>	<ul style="list-style-type: none"> • Coin, Vending, and Amusement Machine Servicers and Repairers • Heating, Air Conditioning, and Refrigeration Mechanics and Installers 	<ul style="list-style-type: none"> • Home Appliance Repairers • Security and Fire Alarm Systems Installers 		

*National career pathways

Career Spotlight

Jennifer Wilkins



Jennifer Wilkins, Architect

Architect's Career Begins with CTE

Jennifer Wilkins credits the career and technical education (CTE) classes she took at Central High School in Baton Rouge, Louisiana, as the reason she went into architecture. Today, she is an architect at Bradley-Blewster & Associates in Baton Rouge. However, her path from high school student to professional architect wasn't quick or easy.

In high school, Wilkins took three years of drafting, where she learned basic drafting skills and beginners' AutoCAD, and she acquired a job in architecture. Her knowledge, the help of her teacher, and her job experience gave her an advantage over other students during her first year of architecture in college. She

advises future architects to become very familiar with math, science, and English as well. "Architecture is a competitive field, and any advantage is a commodity," Wilkins said.

To be an architect, college is a must, and, according to Wilkins, students should enroll in a university with good academic credentials, especially in architecture. Also look at portfolios of graduates, and make sure the university is current in technology, programs, and what's going on in architecture today, she added.

"When time and school permit, intern in architecture offices to acquire all the experience you can and stick with it," said Wilkins.

"School will be tough, but it will be well worth it on the day you design your first building."

Long, hard days spent in school are just the beginning. A typical workday for Wilkins starts at 7:00 a.m. and usually ends by 5:00 p.m. "During this time, I work on floor plans using the design program called AutoCAD, talk to clients and contractors about projects and problems, and visit the job sites to measure, take notes, check on progress, and assess problems," she said.

"Although being an architect may seem stressful at times, I get satisfaction at the completion of a project knowing that I have served the community," Wilkins said.

Career Spotlight

Kevin Washington

Building Homes for Families

Kevin Washington helps to build homes for families in Louisiana's Ouachita Parish. A Construction Worker Helper for Ouachita Habitat for Humanity, his job offers a wide variety of activities.

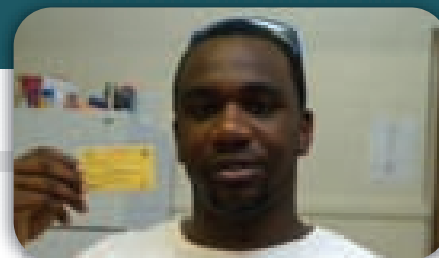
Kevin received OSHA training through Louisiana Technical College – Delta Ouachita Campus. He received assistance with tuition and books through the Ouachita Business and Careers Solutions Center. The center also helped Kevin with a summer job through its Summer Youth Program.

"My typical workday is 7:45 a.m. – 3:00 p.m., and I have a combination

of outdoors and indoors duties," said Washington. Those duties include reading the blueprints for the home, getting the tools ready for the worksite, and preparing the area for the day by making sure it is well cleaned and organized. He also helps with the siding, baseboards, and cabinetry at the worksite.

Knowledge, organizational skills, attention to detail, job-related abilities, and personal effort are important qualities for success at Washington's job. He mentioned several of those qualities:

- You must have good communication skills and a good eye for detail.



Kevin Washington, Construction Worker Helper

- You must be prepared to work. It takes discipline, and you must follow instructions.
- You must remember that there will be challenges on the job, but you must stay focused because this is a learning process.

Based on his experiences, Washington said, "If you have an interest in building homes, you will get excitement out of your work."

Career Spotlight

John Martin

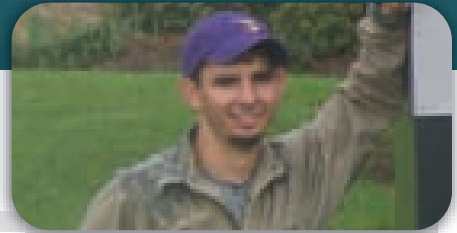
Welding Program Worthwhile for 2009 Graduate

John Martin, a 2009 graduate of Central High School in Baton Rouge, decided long ago on a career in welding. To follow this career path, Martin enrolled in Central High's Welding Program. While in school, he also took a job as a welder's helper in a local welding shop to become familiar with the craft and to make sure this was the right decision for his future.

While still in high school, Martin enrolled in night and daytime classes offered by Associated Builders & Contractors (ABC), Pelican Chapter, an industrial craft training facility in Baton Rouge. After high school graduation, Martin enrolled in the ABC Summer Day Weld Program.

The program is a 12-week, 40-hour-per-week course where students gain certification in pipe welding. "The ABC Summer Day Welding Program was well worth the time and effort," Martin said.

When he completed the ABC program, Martin was hired by Performance Contractors, Inc., and is currently working at Dow Chemical Company in Plaquemine. A merit shop general industrial contractor, the company provides construction and maintenance services to refinery, chemical, petrochemical, power, fertilizer, and pulp and paper industries. An active sponsor of ABC and a partner with local high school welding



John Martin, Certified Combination Welder

programs, the company recruited Martin for the ABC courses. Today, the 19-year-old is a Certified Combination Welder. After a few years working as a welder, he plans to take courses to become a Certified Welding Instructor.

"Each day comes with new challenges and every weld made is different," said Martin. He added that the biggest challenges come when he has to make a weld in a tight place.

Martin's advice to others who want to follow his career path is, "Decide what you want to do in life and go for it. Keep in mind where it could take you later on in life."

Career Spotlight

Mindy Pepitone

Electrical Apprenticeship Earns While She Learns

Upon graduating from Ponchatoula High School in 1998, Mindy Pepitone was unsure what her next steps would be. In early 2005, after a few false career starts, Pepitone decided to follow in the footsteps of several male relatives and apply to the Baton Rouge IBEW (International Brotherhood of Electrical Workers) Joint Apprenticeship Training Committee (JATC) for admission into their registered apprenticeship program. Pepitone was accepted and began in August 2005.

The Baton Rouge Electrical JATC is a joint partnership between IBEW Local Union 995 and area contractors.

The apprentices work a regular 40-hour-per-week job as a paid electrical apprentice, receiving valuable on-the-job training. In addition, each apprentice receives related instruction in the classroom. This is a rigorous five-year, postsecondary educational program, where students "earn while they learn."

Apprentices are dual-enrolled in the local Louisiana Technical College, where Pepitone earns college credit hours that can be applied toward an associate degree. Additionally, Pepitone receives assistance with tuition, books and tools through the



Mindy Pepitone, Electrical Apprentice

Louisiana Workforce Commission's Baton Rouge Business & Career Solutions Center. She will not have any college loans to worry about after graduation, because – as is true for most registered apprenticeship programs – there are little to no costs for apprenticeship participation.

"I have had some incredible instructors both on the work site and in the classroom. I am looking forward to being a Journey Wireman. This is a career that I love," Pepitone said.



2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Environmental Engineers	Bachelor's degree	20	\$35.14
	Construction Managers	Bachelor's degree	120	33.80
	Architects, Except Landscape and Naval	Bachelor's degree	40	32.84
	Electrical and Electronics Drafters	Postsecondary vocational training	20	27.57
	Cost Estimators	Bachelor's degree	70	27.33
First-Line Supervisors/Managers of Construction Trades and Extraction Workers		Work experience in a related occupation	180	27.33
Construction and Building Inspectors		Work experience in a related occupation	40	24.41
Surveyors		Bachelor's degree	60	24.27
Electrical Power-Line Installers and Repairers		Long-term training and experience ⁵	90	23.63
Architectural and Civil Drafters		Postsecondary vocational training	40	21.51
Crane and Tower Operators		Moderate-term training and experience ⁴	60	21.46
Plumbers, Pipefitters, and Steamfitters		Long-term training and experience	290	21.15
Electricians		Long-term training and experience	340	20.93
Brickmasons and Blockmasons		Long-term training and experience	30	20.05
Structural Iron and Steel Workers		Long-term training and experience	80	18.34
Heating, Air Conditioning, and Refrigeration Mechanics and Installers		Long-term training and experience	100	18.31
Operating Engineers and Other Construction Equipment Operators		Moderate-term training and experience	200	17.94
Carpenters		Long-term training and experience	250	17.89
Insulation Workers, Mechanical		Moderate-term training and experience	60	17.56
Sheet Metal Workers		Moderate-term training and experience	80	17.08
Cement Masons and Concrete Finishers		Long-term training and experience	50	17.05
Security and Fire Alarm Systems Installers		Postsecondary vocational training	20	16.75
Reinforcing Iron and Rebar Workers		Long-term training and experience	20	16.41
Excavating and Loading Machine and Dragline Operators		Moderate-term training and experience	40	16.17
Paving, Surfacing, and Tamping Equipment Operators		Moderate-term training and experience	20	15.97
Drywall and Ceiling Tile Installers		Moderate-term training and experience	30	15.89
Painters, Construction and Maintenance		Moderate-term training and experience	230	15.84
Pipelayers		Moderate-term training and experience	20	15.75
Glaziers		Long-term training and experience	20	15.49
Tile and Marble Setters		Long-term training and experience	20	15.28
Roofers		Moderate-term training and experience	20	14.90
Highway Maintenance Workers		Moderate-term training and experience	30	14.33

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Specialty Trade Contractors	65,485	67,018	1,533	2.3%
Heavy and Civil Engineering Construction	40,359	40,011	-348	-0.9%
Professional, Scientific, and Technical Services	83,683	94,904	11,221	13.4%

Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Air Conditioning and Refrigeration, Heating, and Ventilation
 Architecture
 Cabinetmaking
 Carpentry and Construction
 Drafting
 Electrical/Electronics
 Masonry
 Plumbing

Postsecondary Programs

(A sample listing)

Air Conditioning/Refrigeration
 Architectural Studies
 Architecture
 Building Engineering Technology
 Cabinet and Furniture Construction
 Carpentry
 Construction Engineering
 Construction Management
 Drafting
 Electrician
 Industrial Maintenance Technology
 Interior Design
 Landscape Architecture
 Major Appliance Repair
 Masonry
 Plumbing

Registered Apprenticeship

Industry-based Certifications

(A sample listing)

Autodesk AutoCAD 2009
 Certified Drafter
 EPA Certification Exam for Refrigerant Handling
 NCCER Certifications

Sample Job Profile for National Career Readiness Certificate

Electricians

Electricians install, maintain, and repair electrical wiring, equipment, and fixtures. They ensure that work is in accordance with relevant codes. They may also install or service street lights, intercom systems, or electrical control systems. The job requires:

- A license
- Knowledge of the practical application of engineering science and technology
- Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications

Required NCRC Certificate Level: Gold

WorkKeys®: For more information, visit www.myworkkeys.com



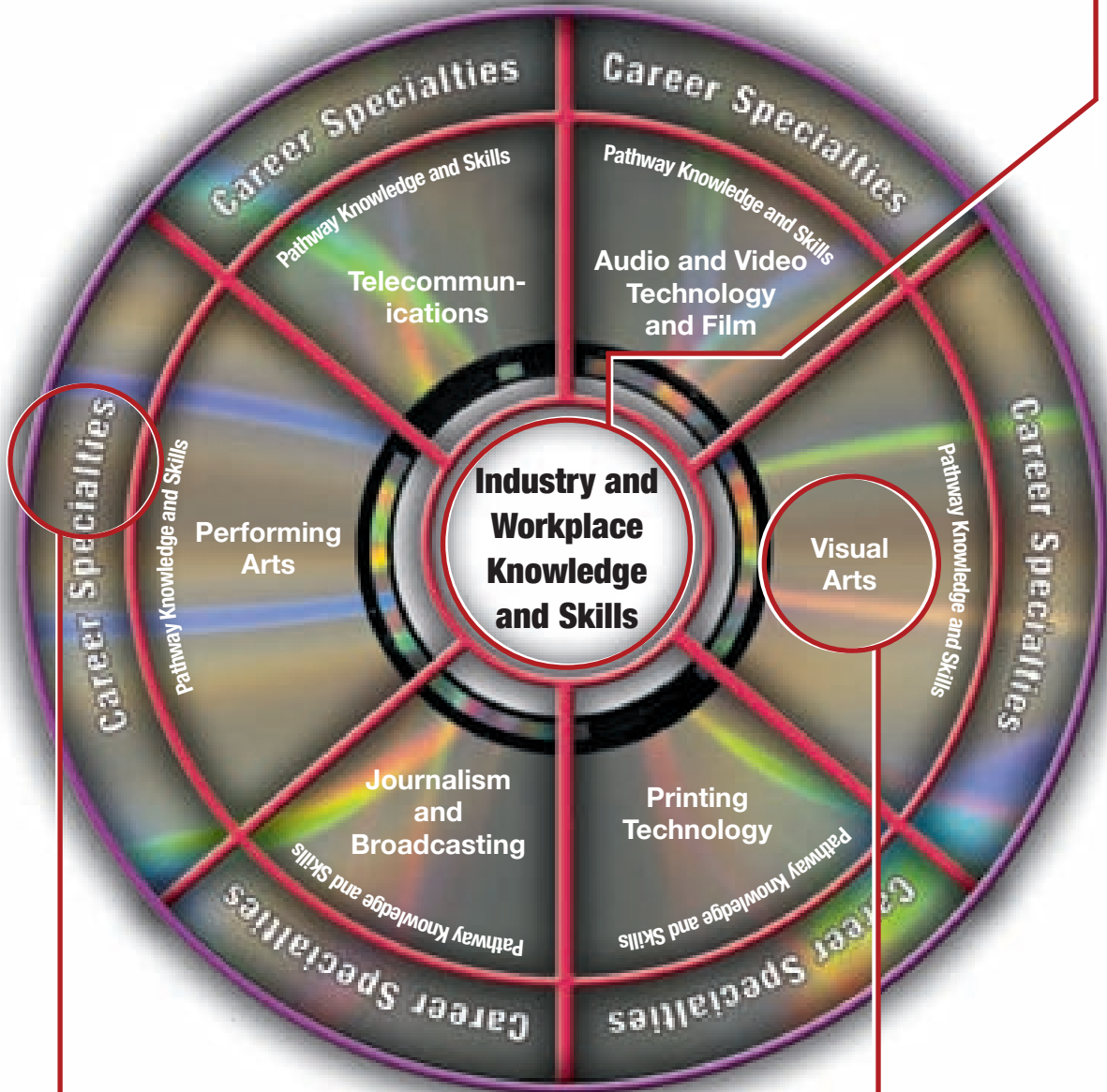
O*Net OnLine: <http://online.onetcenter.org/>

For detailed information on any occupational title, go online to the O*Net Web site, type it into the **Occupation Search** box, and click the **search button**. Next, click on the occupation from the list of search results. The search results will show which of the occupations in this section are defined as high-skilled. The summary report starts with a description and includes information for tasks, tools and technology, related occupations, wages and much more.



Designing, producing, exhibiting, performing, writing, and publishing multi-media content including visual and performing arts and design, journalism, and entertainment services.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.

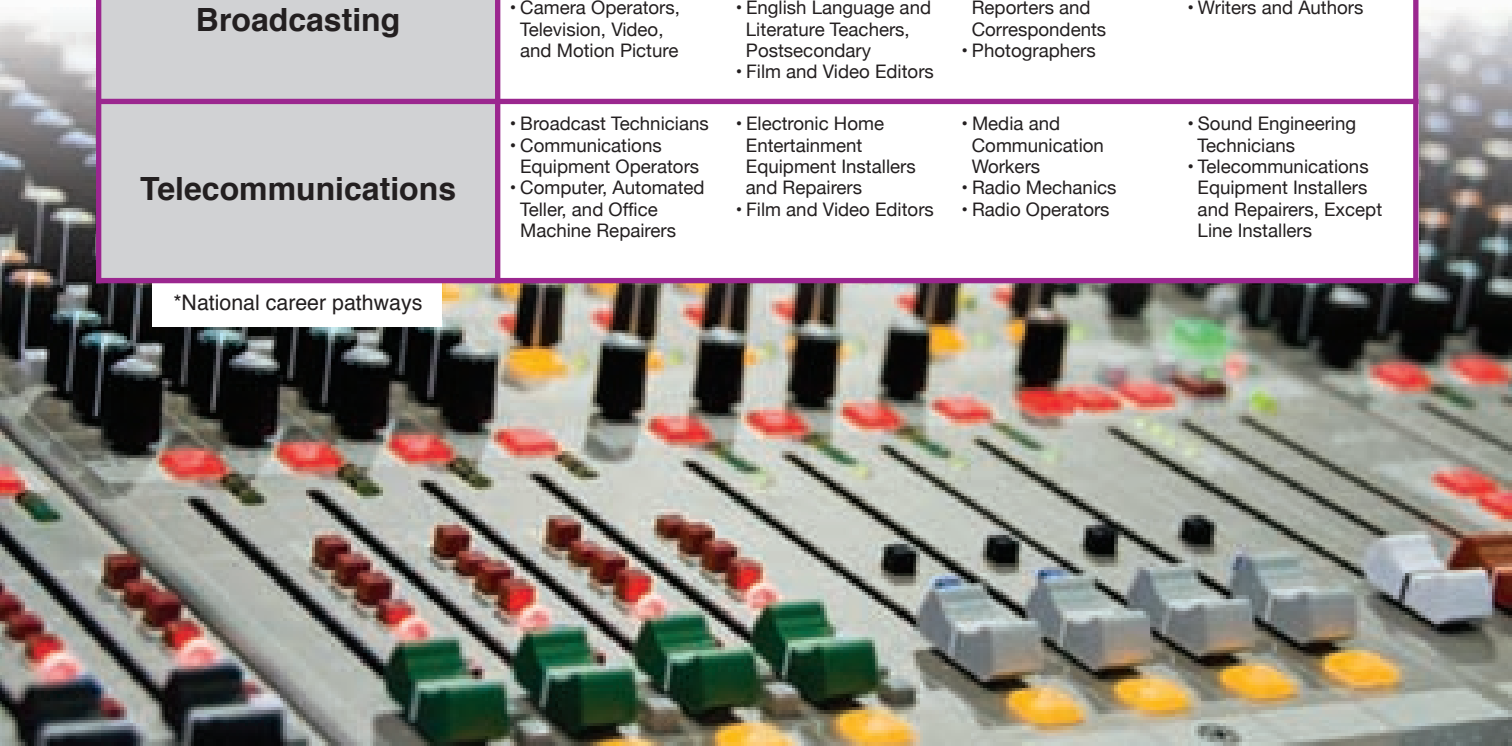


Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
Audio and Video Technology and Film	<ul style="list-style-type: none"> • Agents and Business Managers of Artists, Performers, and Athletes • Archivists, Curators, and Museum Technicians • Art, Drama, and Music Teachers, Postsecondary • Artists and Related Workers 	<ul style="list-style-type: none"> • Broadcast Technicians • Camera Operators, Television, Video, and Motion Picture • Choreographers • Commercial and Industrial Designers • Computer Programmers • Craft Artists • Dancers • Film and Video Editors 	<ul style="list-style-type: none"> • Fine Artists, Including Painters, Sculptors, and Illustrators • Graphic Designers • Historians • Managers • Media and Communication Equipment Workers 	<ul style="list-style-type: none"> • Media and Communication Workers • Multi-Media Artists and Animators • Photographers • Producers and Directors • Set and Exhibit Designers
Printing Technology	<ul style="list-style-type: none"> • Art, Drama, and Music Teachers, Postsecondary • Bindery Workers • Craft Artists • Data Entry Keyers 	<ul style="list-style-type: none"> • Desktop Publishers • Etchers and Engravers • Fine Artists, Including Painters, Sculptors, and Illustrators 	<ul style="list-style-type: none"> • Job Printers • Multi-Media Artists and Animators • Prepress Technicians and Workers 	<ul style="list-style-type: none"> • Printing Machine Operators
Visual Arts	<ul style="list-style-type: none"> • Art Directors • Art, Drama, and Music Teachers, Postsecondary • Artists and Related Workers • Audio and Video Equipment Technicians • Commercial and Industrial Designers 	<ul style="list-style-type: none"> • Craft Artists • Fashion Designers • Fine Artists, Including Painters, Sculptors, and Illustrators • Graphic Designers • Interior Designers • Locomotive Engineers • Locomotive Firers • Motorboat Operators 	<ul style="list-style-type: none"> • Multi-Media Artists and Animators • Painting, Coating, and Decorating Workers • Photographers • Photographic Process Workers • Photographic Processing Machine Operators 	<ul style="list-style-type: none"> • Prepress Technicians and Workers • Set and Exhibit Designers
Performing Arts	<ul style="list-style-type: none"> • Actors • Art, Drama, and Music Teachers, Postsecondary • Artists and Related Workers • Choreographers • Craft Artists 	<ul style="list-style-type: none"> • Dancers • Entertainers and Performers, Sports and Related Workers • Fine Artists, Including Painters, Sculptors, and Illustrators 	<ul style="list-style-type: none"> • Managers • Music Directors and Composers • Musicians and Singers • Producers and Directors • Set and Exhibit Designers • Writers and Authors 	
Journalism and Broadcasting	<ul style="list-style-type: none"> • Announcers • Audio and Video Equipment Technicians • Broadcast Technicians • Camera Operators, Television, Video, and Motion Picture 	<ul style="list-style-type: none"> • Communications Teachers, Postsecondary • Editors • English Language and Literature Teachers, Postsecondary • Film and Video Editors 	<ul style="list-style-type: none"> • Media and Communication Workers • News Analysts, Reporters and Correspondents • Photographers 	<ul style="list-style-type: none"> • Producers and Directors • Sound Engineering Technicians • Technical Writers • Writers and Authors
Telecommunications	<ul style="list-style-type: none"> • Broadcast Technicians • Communications Equipment Operators • Computer, Automated Teller, and Office Machine Repairers 	<ul style="list-style-type: none"> • Electronic Home Entertainment Equipment Installers and Repairers • Film and Video Editors 	<ul style="list-style-type: none"> • Media and Communication Workers • Radio Mechanics • Radio Operators 	<ul style="list-style-type: none"> • Sound Engineering Technicians • Telecommunications Equipment Installers and Repairers, Except Line Installers

*National career pathways



Express Yourself!

People usually think about entertainment industry jobs when they first hear about Arts, A/V Technology and Communications. However, this Career Cluster offers many other opportunities to express yourself in a variety of communications and technology fields.

In the performing arts, you will find actors, musicians, and dancers, of course. And you will find producers, directors, and choreographers. But there wouldn't be a show without specialists such as lighting and sound technicians, set designers and builders, camera operators and videographers, installers, engineers, and technicians.

In the business, nonprofit, and political worlds, communicators create advertising, marketing, and public relations messages. Coupled with engaging graphic design, these

messages introduce us to new products and services, encourage us to make a purchase, and inspire us to take action.

In the broadcasting, Internet, and print media, you will find news anchors and reporters, animators, graphic designers, webmasters, writers, and producers. You also will find sound and video technicians, printing machine operators, computer specialists, and a variety of related engineers and technicians.

But did you know that the field includes telecommunication technicians; telecommunication equipment, cable, and line repairers/installers; telecommunication computer programmers; and systems analysts? Without them, you wouldn't see favorite sporting events or "live at the scene" reports.

Also consider careers in the A/V industry itself – careers for the technicians who handle sound, video, and data transmission for hotels, convention centers, theme parks, stadiums and museums, and major events.

Careers like these require intellectual curiosity; great language arts, design, and technical skills; and childhood training if you want to be a performer. Usually, they also require career and technical education, a certificate, and an associate or bachelor's degree, depending on job requirements.

So if you like to perform, write, express yourself visually, or handle the technology involved in arts and communications fields, this Career Cluster may be for you.



Did You Know?

Digital media and entertainment are two of Louisiana's 10 key industries, according to the Louisiana Economic Development Web site at <http://www.louisianaeconomicdevelopment.com>. In an article on the site, Elliott Adams, Digital Media Industry Director, said that "... the state is actively building upon its well-known culture to establish a thriving infrastructure for both traditional and digital arts. Beyond digital media, incentives also support live performance, sound recording, and motion picture productions."

In addition to the digital and performing arts, there are many other good jobs in Arts, Audio/Video Technology & Communications. Start your search for occupations in this Career Cluster at O*NET™ OnLine. Go to <http://online.onetcenter.org/find/career>, and follow these links:

- At the right of the Career Cluster title in the menu, you will find an arrow. Click on it, and you'll go to a screen where you can choose "Arts, Audio/Video Technology and Communications." Then click on "Go."
- On the new screen, you will see a long list of careers in this field. Click on a career you might like, and you will go to a screen that has a lot of information about the career.
- At the bottom of that screen, there's a "State and National" menu. Find your state, and click on "Go." On the new screen, you will see national and state wages and trends charts.
- To learn more about needed education and training, check that item in the "Modify Occupation Profile Content" box at the bottom of the page. Then click on "Update."
- Under the "Education and Training" box on the new page, there's a link to "colleges, training schools, and instructional programs." Click on it, and you'll find links to Louisiana schools with related programs.

For More Information

O*NET™ OnLine is a good place to find more information about occupations in many fields. Also see the *Occupational Outlook Handbook* at <http://www.bls.gov/oco>.

CREATIVE RESEARCH

Animation: <http://www.disneyanimation.com>

A/V technologies: <http://www.infocomm.org>

Broadcast engineering: <http://www.smpete.org/home>; click on "Membership," then "Student"

Dance: <http://www.danceusa.org> and <http://nasd.arts-accredit.org>

Film: <http://www.afi.com>

Graphic design: <http://www.gag.org>

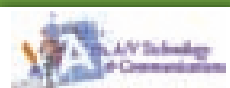
Journalism: <http://www.spj.org>

Music: <http://www.afm.org> and <http://nasm.arts-accredit.org>

Public relations: <http://www.prssa.org>



LOUISIANA
Opportunities in



2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Multimedia Artists and Animators	Bachelor's degree	30	\$25.83
	Reporters and Correspondents	Bachelor's degree	20	22.33
	Producers and Directors	Work experience plus bachelor's or higher degree	30	21.64
	Editors	Bachelor's degree	20	20.26
	Writers and Authors	Bachelor's degree	20	19.55
Telecommunications Line Installers and Repairers		Long-term training and experience ⁵	80	18.58
Graphic Designers		Bachelor's degree	70	17.60
Audio and Video Equipment Technicians		Long-term training and experience	20	15.27
Broadcast Technicians		Postsecondary vocational training	20	14.59
Printing Machine Operators		Moderate-term training and experience ⁴	40	13.58
Photographers		Long-term training and experience	30	13.26
Radio and Television Announcers		Long-term training and experience	20	13.21

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

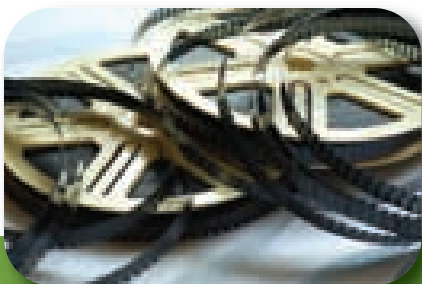
5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

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Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Amusement, Gambling, and Recreation Industries	27,011	28,066	1,055	3.9%
Telecommunications	12,335	13,696	1,361	11.0%
Motion Picture and Sound Recording Industries	5,349	6,191	842	15.7%



Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Commercial Arts
 Entertainment Production
 Graphic Arts
 Interiors and Furnishings
 Journalism
 Liberal Arts
 Mass Communications
 Performing Arts
 Photography
 Printing Technology

Postsecondary Programs

(A sample listing)

Commercial Art
 Communication
 Communication Studies
 Drama – Communication
 Entertainment Technician
 Entertainment Technologies
 Film and Production
 Fine Arts
 Graphic and Editing
 Graphic Communications
 Graphic Designer
 Graphics and Editing Assistant
 Graphics Communication/Desktop Publishing
 Interior Design
 Journalism
 Liberal Arts
 Mass Communication
 Music
 Music Technology
 Organizational Communications
 Performance and Media Arts
 Photo Assistant
 Public Relations
 Telecommunications
 Television Production
 Theatre
 Visual Communication – Graphic Design

Industry-based Certifications

(A sample listing)

PrintED

Sample Job Profile for National Career Readiness Certificate

Graphic Designers

Graphic designers create designs, concepts, and sample layouts based on knowledge of layout principles and esthetic design concepts through the use of rough sketches, illustrations, and computer software and artwork. They also may manage design projects and oversee their organization, scheduling, and implementation. The job requires:

- Knowledge of design theory, techniques, tools, and principles involved in production of visual media and arts
- Ability to use computer software to generate new images
- Knowledge of media production, communication, and dissemination techniques and methods

Required NCRC Certificate Level: Silver

WorkKeys®: For more information, visit www.myworkkeys.com





Business Management & Administration careers encompass planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. Business Management & Administration career opportunities are available in every sector of the economy.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
<p>General Management</p>	<ul style="list-style-type: none"> • Administrative Services Managers • Advertising and Promotions Managers • Agents and Business Managers of Artists, Performers, and Athletes • Business Teachers, Postsecondary • Chief Executives • Communications Teachers, Postsecondary 	<ul style="list-style-type: none"> • Computer and Information Systems Managers • Construction Managers • Cost Estimators • Economics Teachers, Postsecondary • Economists • First-Line Supervisors/Managers of Mechanics, Installers, and Repairers • First-Line Supervisors/Managers of Office and Administrative Support Workers 	<ul style="list-style-type: none"> • First-Line Supervisors/Managers of Production and Operating Workers • General and Operations Managers • Industrial Production Managers • Logisticians • Management Analysts • Managers • Market Research Analysts • Operations Research Analysts • Public Relations Managers 	<ul style="list-style-type: none"> • Public Relations Specialists • Purchasing Managers • Sales Managers • Social and Community Service Managers • Survey Researchers • Transportation, Storage, and Distribution Managers
<p>Business Information Management</p>	<ul style="list-style-type: none"> • Accountants and Auditors • Billing and Posting Clerks and Machine Operators • Bookkeeping, Accounting, and Auditing Clerks 	<ul style="list-style-type: none"> • Brokerage Clerks • Budget Analysts • Business Teachers, Postsecondary • Credit Analysts • Financial Analysts • Financial Examiners • Financial Managers 	<ul style="list-style-type: none"> • Gaming Cage Workers • Managers • Mathematical Science Teachers, Postsecondary • Natural Sciences Managers 	<ul style="list-style-type: none"> • Payroll and Timekeeping Clerks • Statistical Assistants • Statisticians • Tax Examiners, Collectors, and Revenue Agents • Tax Preparers
<p>Human Resources Management</p>	<ul style="list-style-type: none"> • Business Teachers, Postsecondary • Compensation, Benefits, and Job Analysis Specialists 	<ul style="list-style-type: none"> • Employment, Recruitment, and Placement Specialists • Human Resources Managers 	<ul style="list-style-type: none"> • Human Resources, Training, and Labor Relations Specialists 	<ul style="list-style-type: none"> • Training and Development Specialists
<p>Operations Management</p>	<ul style="list-style-type: none"> • Computer and Information Systems Managers • Computer Programmers 	<ul style="list-style-type: none"> • Computer Specialists • Database Administrators 	<ul style="list-style-type: none"> • Engineering Teachers, Postsecondary • Natural Sciences Managers 	<ul style="list-style-type: none"> • Operations Research Analysts
<p>Administrative Support</p>	<ul style="list-style-type: none"> • Cargo and Freight Agents • Correspondence Clerks • Court, Municipal, and License Clerks • Customer Service Representatives • Data Entry Keyers • Executive Secretaries and Administrative Assistants • File Clerks • Financial, Information, and Record Clerks 	<ul style="list-style-type: none"> • Human Resources Assistants, Except Payroll and Timekeeping • Insurance Claims and Policy Processing Clerks • Interviewers, Except Eligibility and Loan • Mail Clerks and Mail Machine Operators, Except Postal Service • Office and Administrative Support Workers • Office Clerks, General 	<ul style="list-style-type: none"> • Office Machine Operators, Except Computer • Order Clerks • Postal Service Clerks • Postal Service Mail Carriers • Postal Service Mail Sorters, Processors, and Processing Machine Operators • Procurement Clerks • Receptionists and Information Clerks 	<ul style="list-style-type: none"> • Secretaries, Except Legal, Medical, and Executive • Shipping, Receiving, and Traffic Clerks • Switchboard Operators, Including Answering Service • Telephone Operators • Weighers, Measurers, Checkers, and Samplers, Recordkeeping • Word Processors and Typists

*National career pathways



Successful Realty Career Begins with Business Education



Josline Gosserand Frank, Realtor

Josline Gosserand Frank’s career path is all business. Frank is co-owner of Russell Frank Realty Group in Gretna, Louisiana, where she also serves as office manager for the firm and as a realtor. However, her career began in high school where she focused on business subjects: Typing I and II, bookkeeping and accounting, recordkeeping and all of the core subjects.

Her college concentration was all business as well. She earned a bachelor’s degree from Southern University and a master’s degree from Northwestern State University, both in Business Education, plus additional education in computer literacy, marketing, cooperative office education, and principalship.

Frank knows that it is not necessary to obtain a college degree in order to become a realtor. However, she said, “I highly recommend continuing your postsecondary education.” She also recommends work experience.

“During my high school and college years, I always had a job,” said Frank. Those jobs included retail, fast food, and summer youth work-related programs, which gave her a well-rounded variety of experiences. Through these experiences, she developed a good work ethic; met people who would be her mentors and internship sponsors; learned how to budget money, which prepared her for family life; and worked as part of a team with different races and age groups.

To succeed as a realtor, Frank says, “You must be a highly organized team player, with excellent verbal and written communication skills, have an eye for detail, be a good listener, and have the necessary persistence to conceive, package, and bring the big deals home.” She also wants future realtors to know that:

- Being a realtor is not a nine-to-five job. It means setting your own schedule and being your own boss.
- Success requires professionalism, diligence, and an ability to work with others.
- Realty is a career for high-energy types who have a way with people.

- Realtors need to know their way around a computer.
- Most realtors work on a commission basis. Their salary depends on their performance, not the company’s staffing budget.

In all, business education, work experience, and hard work have provided Frank with a sense of accomplishment. “Being a realtor can be a very rewarding business in terms of both personal satisfaction and financial success,” she said.

Realty Advice

Josline Gosserand Frank has 25 years of experience both in commercial and residential real estate sales and leasing and in property management and rehabilitation. She also teaches real estate and provides realtors-to-be with some need-to-know information:

- Realtors are licensed and regulated by their respective states. The licensing process is intended to protect the public by having the state ensure that realtors are competent and trustworthy.
- Most states require that a state-administered test be taken and passed. The tests generally cover the rules and regulations governing real estate transactions within the state.
- Upon passing the test and paying the required fee, the person is awarded a license to sell real estate. The license generally has to be renewed at periodic intervals. This usually involves simply paying a fee and filing a renewal application. Many states require that the renewal also show evidence of continuing professional education and will also deny a license renewal if there is evidence of the applicant having engaged in unethical practices.

“Becoming a realtor is not that difficult or complicated,” said Frank. “And it remains a profession that is open to anyone, with or without a college education, who is willing to take the time to learn what is needed to pass the test and work hard to build their business,” she added.

Did You Know?

Louisiana Economic Development provides a host of opportunities for relocating and growing a business in the state. If you go to the agency's Web site at <http://www.louisianaeconomicdevelopment.com>, you will find pages of information.

On the "Incentive Finder" page, for example, you can learn about Louisiana FastStart™, the Digital Media Incentive, the Economic Development Award Program, Motion Picture Industry Development Tax Credit, a Quality Jobs rebate, and more.

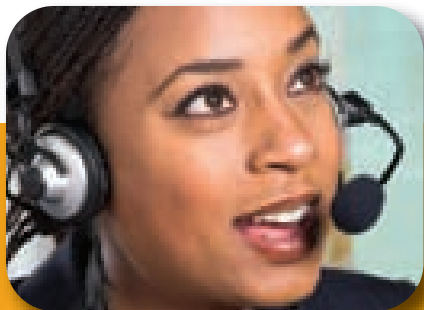
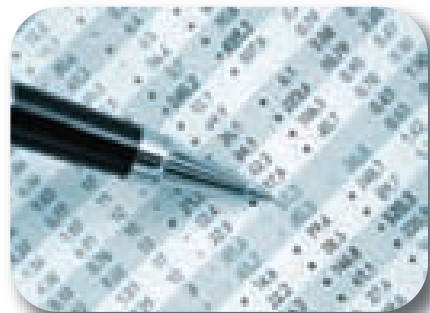
On the "Key Industries" page, you will find a list of business investment opportunities available in Louisiana's industries – industries that include the strong traditional ones, such as petrochemicals and shipbuilding, and newer growth industries with foundations in technology and research.

Also go to the "Louisiana Business Success Stories." You will see that Louisiana has many in-demand jobs on the horizon if you are looking for a career in the Business Management and Administration Career Cluster. Some of those include jobs like these:

- General and operations managers
- Accountants and auditors
- Administrative support workers
- Executive secretaries and administrative assistants
- Bookkeeping, accounting and auditing clerks
- Receptionists and information clerks

In fact, on the next two pages, you will find many more in-demand jobs in Louisiana for people who are interested in business careers.

For more information about business careers, go to *Career Guide to Industries* (<http://www.bls.gov/oco/cg>), and access the variety of industries in the index at the left. To find postsecondary schools that offer related courses, go to *CareerOneStop* (<http://www.careerinfonet.org/edutraining>).





2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Chief Executives	Work experience, plus bachelor's or higher degree	50	\$70.77
	General and Operations Managers	Work experience, plus bachelor's or higher degree	850	46.86
	Management Analysts	Work experience, plus bachelor's or higher degree	70	33.33
	Logisticians	Bachelor's degree	20	30.03
	Administrative Services Managers	Work experience, plus bachelor's or higher degree	100	29.53
Budget Analysts		Bachelor's degree	20	27.24
Accountants and Auditors		Bachelor's degree	380	26.49
Public Relations Specialists		Bachelor's degree	40	23.08
Compensation, Benefits, and Job Analysis Specialists		Bachelor's degree	30	22.90
Training and Development Specialists		Bachelor's degree	70	22.03
Market Research Analysts		Bachelor's degree	20	21.64
Employment, Recruitment, and Placement Specialists		Bachelor's degree	40	20.98
First-Line Supervisors/Managers of Office and Administrative Support Workers		Work experience in a related occupation	540	19.55
Executive Secretaries and Administrative Assistants		Moderate-term training and experience ⁴	390	17.21
Legal Secretaries		Postsecondary vocational training	80	17.03
Procurement Clerks		Short-term training and experience ³	20	16.80
Human Resources Assistants, Except Payroll and Timekeeping		Short-term training and experience	30	16.12
Payroll and Timekeeping Clerks		Short-term training and experience	80	15.37
Bookkeeping, Accounting, and Auditing Clerks		Moderate-term training and experience	710	15.20
Word Processors and Typists		Moderate-term training and experience	20	14.21
Shipping, Receiving, and Traffic Clerks		Short-term training and experience	200	13.74
Billing and Posting Clerks and Machine Operators		Short-term training and experience	90	13.53
Order Clerks		Short-term training and experience	50	13.17
Secretaries, Except Legal, Medical, and Executive		Moderate-term training and experience	620	12.80
Medical Secretaries		Postsecondary vocational training	80	12.28
Interviewers, Except Eligibility and Loan		Short-term training and experience	80	12.24
Data Entry Keyers		Moderate-term training and experience	90	12.21
Mail Clerks and Mail Machine Operators, Except Postal Service		Short-term training and experience	20	11.68
Switchboard Operators, Including Answering Service		Short-term training and experience	70	10.85
Couriers and Messengers		Short-term training and experience	60	10.55

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Administrative and Support Services	89,699	97,601	7,902	8.8%
Management of Companies and Enterprises	23,460	24,227	767	3.3%
Waste Management and Remediation Service	7,574	7,996	422	5.6%

Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Administrative Support
Business Administration

Postsecondary Programs

(A sample listing)

Accounting
Accounting Technology
Administrative Office Technology
Business
Business Administration
Business Technology
Computer Information Technology
Computer Specialist – Applications
Entrepreneurship
Human Resource Management
Logistics Technology
Office Information Systems
Office Systems Technician
Office Systems Technology
Payroll Clerk
Word Processing Operator

Industry-based Certifications

(A sample listing)

Certified Webmaster (CIW)
CISCO
Comptia A+
IC3
Intuit QuickBooks Certified User
Microsoft Office Specialist (MOS)

Sample Job Profile for National Career Readiness Certificate

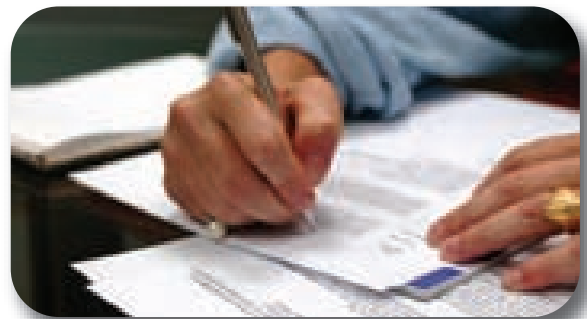
Human Resources Assistants, Except Payroll & Timekeeping

Human resources assistants compile and keep personnel records, provide reports from employment records, and furnish information to authorized persons. The job requires:

- Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems
- Knowledge of computer hardware and software

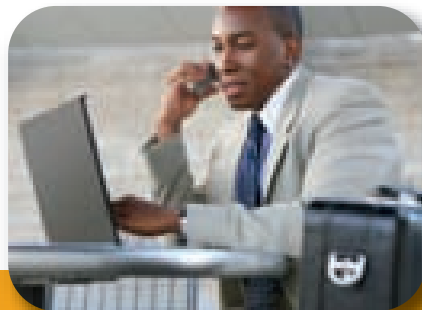
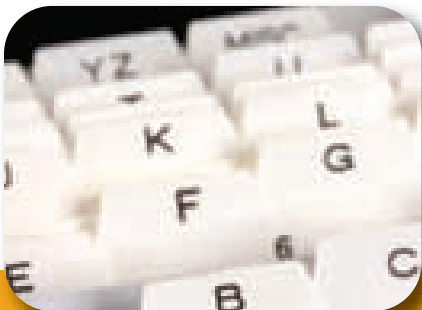
Required NCRC Certificate Level: Silver

WorkKeys®: For more information, visit
www.myworkkeys.com



O*Net OnLine: <http://online.onetcenter.org/>

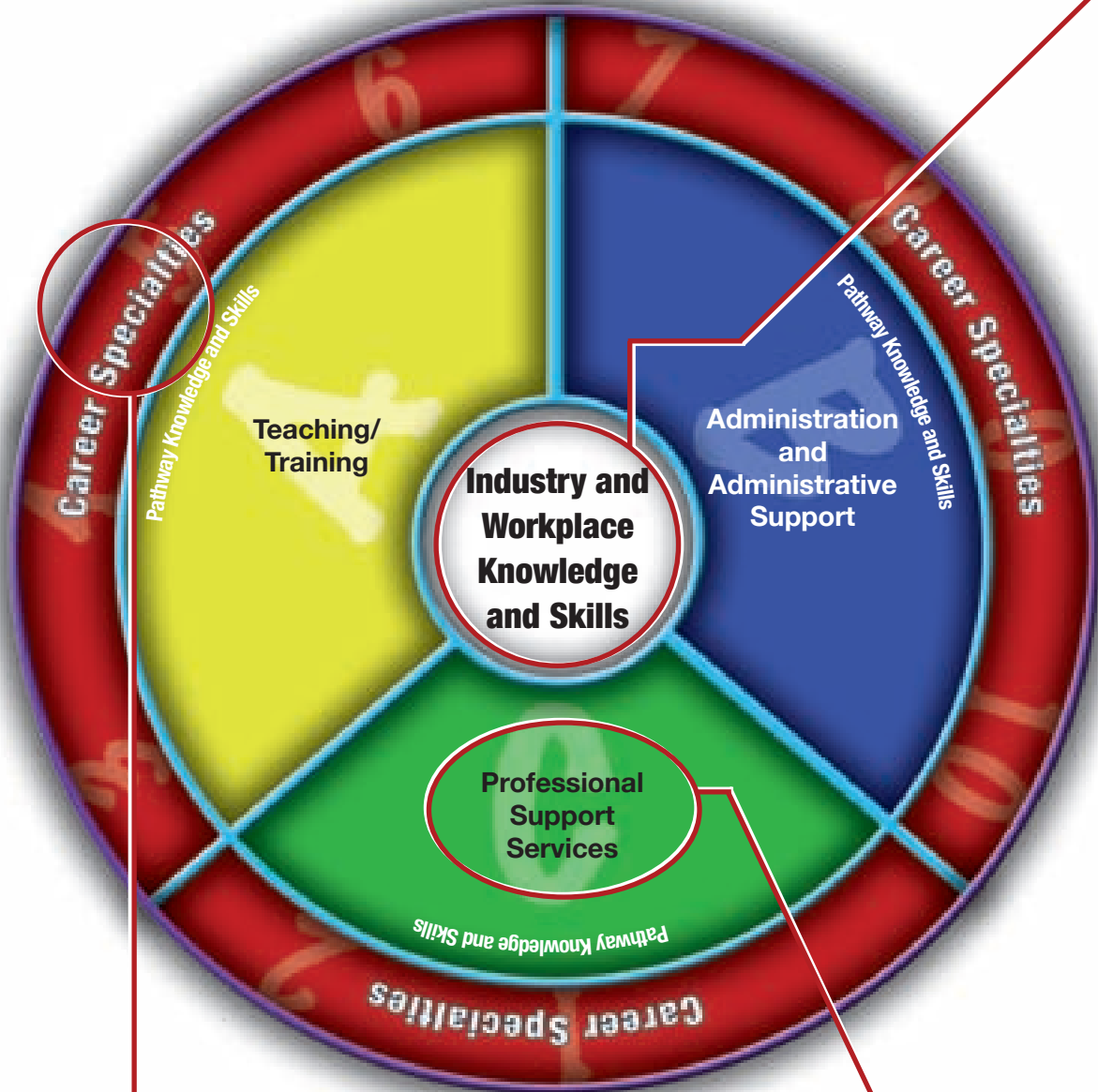
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Planning, managing, and providing education and training services, and related learning support services.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations		
Administration and Administrative Support	<ul style="list-style-type: none"> • Coaches and Scouts • Education Administrators • Education Administrators, Elementary and Secondary School 	<ul style="list-style-type: none"> • Education Administrators, Postsecondary • Education Administrators, Preschool and Child Care Center/Program 	<ul style="list-style-type: none"> • Fitness Trainers and Aerobics Instructors • Instructional Coordinators • Recreation and Fitness Studies Teachers, Postsecondary
Professional Support Services	<ul style="list-style-type: none"> • Educational, Vocational, and School Counselors • Librarians • Library Assistants, Clerical 	<ul style="list-style-type: none"> • Library Science Teachers, Postsecondary • Library Technicians 	<ul style="list-style-type: none"> • Postsecondary Teachers
Teaching/Training	<ul style="list-style-type: none"> • Adult Literacy, Remedial Education, and GED Teachers and Instructors • Agricultural Sciences Teachers, Postsecondary • Architecture Teachers, Postsecondary • Athletes and Sports Competitors • Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary • Business Teachers, Postsecondary • Coaches and Scouts • Criminal Justice and Law Enforcement Teachers, Postsecondary • Dietitians and Nutritionists • Education Teachers, Postsecondary • Elementary School Teachers, Except Special Education • Engineering Teachers, Postsecondary 	<ul style="list-style-type: none"> • English Language and Literature Teachers, Postsecondary • Environmental Science Teachers, Postsecondary • Fitness Trainers and Aerobics Instructors • Foreign Language and Literature Teachers, Postsecondary • Forestry and Conservation Science Teachers, Postsecondary • Geography Teachers, Postsecondary • Health Specialties Teachers, Postsecondary • Historians • Home Appliance Repairers • Instructional Coordinators • Interpreters and Translators • Kindergarten Teachers, Except Special Education • Librarians 	<ul style="list-style-type: none"> • Library Science Teachers, Postsecondary • Middle School Teachers, Except Special and Vocational Education • Postsecondary Teachers • Preschool and Kindergarten Teachers • Preschool Teachers, Except Special Education • Psychology Teachers, Postsecondary • Recreation and Fitness Studies Teachers, Postsecondary • Recreation Workers • Secondary School Teachers, Except Special and Vocational Education • Self-Enrichment Education Teachers • Social Work Teachers, Postsecondary • Special Education Teachers, Middle School

*National career pathways



Teacher Achieves Childhood Dream

Ashley Pellegrin always knew she wanted to be a teacher, but first she chose to explore the pathway in a high school class for students who wanted to be teachers. “I thoroughly enjoyed this opportunity because it confirmed my decision to pursue my degree in education,” Pellegrin said.

After graduation, Pellegrin earned her bachelor’s degree in elementary education at Louisiana State University in Shreveport. Today, she teaches at Herndon Magnet School in the Caddo Parish School District. “I am so lucky to teach the best subject of all – reading,” said Pellegrin, who also continues to participate in and complete professional development courses that allow her to grow and mature as an educator.

A typical workday for Pellegrin is from 7:20 in the morning to 4 or 5 o’clock in the afternoon – longer than required work hours. “Every second I spend with my students is so valuable. It is my responsibility to teach and prepare them to be successful not only in school, but also in their lives in the ‘real world.’ That is why I not only teach the state’s curriculum,” she said, “but also prepare activities that show the students how they will use reading every day for the rest of their lives.”

According to Pellegrin:

- The day begins with activities such as journal writing, analogies, or problems of the day. “We look through the newspaper, search for numbers in a phone book, and even order from a restaurant menu. Through activities such as these, my students will hopefully



Ashley Pellegrin, Reading Teacher

develop a desire to be a good reader,” she said.

- After morning activities, the class moves right into reading instruction.
- As the day goes on, lunch and recess come and go so quickly it’s like they never happened, she added.
- Then Pellegrin teaches reading all over again for two other classes of students.
- Finally, at the end of the day, Pellegrin has the class reflect on what they have learned and then pack up to head home.

Sometimes, however, the days are not very typical. “No matter how well you planned your day, something will happen to change its course,” Pellegrin said. She cited a fire drill, an assembly, a sick

child, a parent phone call, lost lunch money, school pictures, and more. “Just be ready to be flexible!”

Challenges included, every day on the job also provides immense satisfaction for Pellegrin. “I am greeted first thing in the morning with 20 second grade students who are very excited to see me and always bring a smile to my face. And each day I go home, I know that I have impacted the life of a child in some way. I have helped children learn to do something that will change their life forever. It is the most rewarding job I think anyone can have.”

Did You Know?

Educational Services is the second largest U.S. industry. It accounted for about 13.5 million jobs in 2008, according to the *Career Guide to Industries*. Across the nation, the job growth rate for this industry is expected to be 12 percent over the next decade.

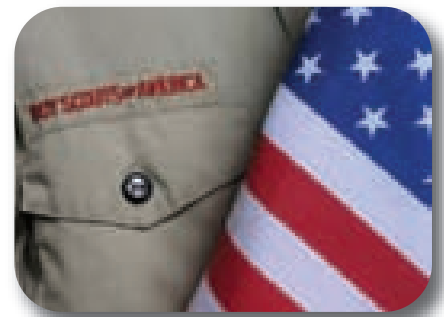
Why are jobs in education growing? Greater numbers of children and adults are enrolling in all types of schools. And a large number of retirements will provide additional job openings.

In Louisiana, the news about job growth in the Educational Services industry is even better than the national data. In Louisiana, the field is experiencing a faster-than-average growth rate of nearly 17 percent.

As you will see on page 42 of this publication, there are good job prospects for elementary school teachers and for many more educators at every level. But not all jobs in education require four or more years of college. Postsecondary vocational education can lead to jobs as library technicians and preschool teachers.

There are other jobs in Educational Services as well. The *Career Guide* mentions jobs for teacher assistants, secretaries, administrative assistants, and general office clerks.

For more information about careers in education, go to *Career Guide to Industries* (<http://www.bls.gov/oco/cg/cgs034.htm>). To find postsecondary schools that offer related courses, go to *CareerOneStop* (<http://www.careerinfonet.org/edutaining>).



BECOMING A TEACHER

The traditional route to becoming a public school teacher involves several steps.

Typically those include:

- Completing a bachelor's degree from a teacher education program
- Obtaining a license
- Proficiency in the use of computers and other technologies
- A student-teaching internship
- Passing a basic skills competency test
- Proficiency in a subject area
- Continuing education and demonstrated satisfactory performance for license renewal
- A minimum grade point average in some states
- A master's degree in some states

For those who have a college degree in other fields, most states now offer alternative routes to licensure. And preschool and vocational education teachers often need experience in their field rather than a specific degree. For more information, see the *Occupational Outlook Handbook* at <http://www.bls.gov/oco/ocos069.htm>.



2008 – 2018 Projected Occupations in Demand

	Occupational Title	Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Law Teachers, Postsecondary	Doctoral degree	20	\$125,287*
	Education Administrators, Elementary and Secondary School	Work experience plus bachelor's or higher degree	130	67,394*
	Nursing Instructors and Teachers, Postsecondary	Master's degree	30	59,305*
	Education Teachers, Postsecondary	Doctoral degree	20	58,162*
	Health Specialties Teachers, Postsecondary	Doctoral degree	30	55,805*
	Mathematical Science Teachers, Postsecondary	Doctoral degree	20	52,868*
	English Language and Literature Teachers, Postsecondary	Doctoral degree	20	52,675*
	Vocational Education Teachers, Secondary School	Bachelor's degree	40	46,815*
	Special Education Teachers, Secondary School	Bachelor's degree	240	46,290*
	Special Education Teachers, Preschool, Kindergarten, and Elementary School	Bachelor's degree	50	46,244*
	Secondary School Teachers, Except Special and Vocational Education	Bachelor's degree	440	46,159*
	Middle School Teachers, Except Special and Vocational Education	Bachelor's degree	40	45,818*
	Vocational Education Teachers, Middle School	Work experience plus bachelor's or higher degree	20	45,742*
	Elementary School Teachers, Except Special Education	Bachelor's degree	950	44,622*
	Kindergarten Teachers, Except Special Education	Bachelor's degree	100	44,476*
	Graduate Teaching Assistants	Bachelor's degree	30	33,671*
	Teacher Assistants	Short-term training and experience ³	380	17,990*
	Education Administrators, Postsecondary	Work experience plus bachelor's or higher degree	80	45.12
	Vocational Education Teachers, Postsecondary	Work experience in a related occupation	40	28.71
	Educational, Vocational, and School Counselors	Bachelor's degree	180	24.26
	Librarians	Master's degree	70	23.17
	Instructional Coordinators	Master's degree	80	23.09
	Health Educators	Master's degree	20	22.01
	Self-Enrichment Education Teachers	Work experience in a related occupation	110	19.49

* Wages for teachers are only available annually.

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

O*Net OnLine: <http://online.onetcenter.org/>

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Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Educational Services	168,575	183,650	15,075	8.9%

Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Advanced Studies
Education
General Studies*

Postsecondary Programs

(A sample listing)

Administration
Adult Education
Child Care
Counseling and Guidance
Early Childhood Education
Education (Specialization Areas)
Human Resource Education
Occupational Education
Special Education
Teaching

Industry-based Certifications

(A sample listing)

Customer Service
IC3
Microsoft Certifications
NCCER Certifications
Students Teaching and Reaching (STAR)
*Students must complete at least one industry-based certification course to complete this Career Pathway/ Area of Concentration.

Sample Job Profile for National Career Readiness Certificate

Middle School Teachers, Except Special & Vocational Education

Middle school teachers teach students in public or private schools in one or more subjects at the middle, intermediate, or junior high level. The job requires:

- Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects
- Knowledge of the structure and content of the English language

Required NCRC Certificate Level: Silver

WorkKeys®: For more information, visit
www.myworkkeys.com





Planning, services for financial and investment planning, banking, insurance, and business financial management.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

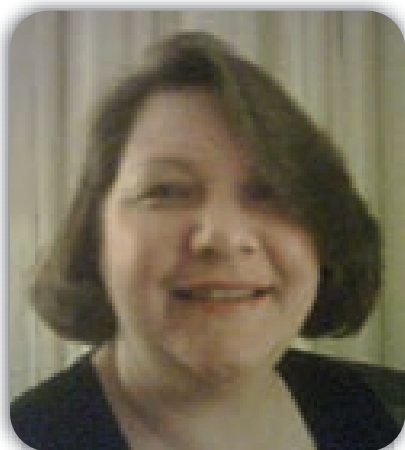
High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
Securities and Investments	<ul style="list-style-type: none"> • Personal Financial Advisors • Tax Preparation Specialists 	<ul style="list-style-type: none"> • Sales Agents-Securities, Commodities • Investment Advisors 	<ul style="list-style-type: none"> • Brokerage Representatives • Development Officers 	<ul style="list-style-type: none"> • Securities/Investments Analysts • Stock Brokers
Business Finance	<ul style="list-style-type: none"> • Accountants • Financial Analysts • Treasurers, Controllers and Chief Revenue Agents 	<ul style="list-style-type: none"> • Auditors • Economists • Tax Auditors • Collectors 	<ul style="list-style-type: none"> • Revenue Agents • Benefits Specialists • Real Estate Analysts 	<ul style="list-style-type: none"> • Certified Purchasing Professionals • Client Managers
Banking Services	<ul style="list-style-type: none"> • Credit Analysts • Loan Officers • Account Representatives • Tellers 	<ul style="list-style-type: none"> • Loan Processors • Customer Service Representatives • Data Processors • Internal Auditors 	<ul style="list-style-type: none"> • Compliance Officers • Title Researchers and Examiners • Abstractors • Repossession Agents 	<ul style="list-style-type: none"> • Network Service Representatives • Operations Managers • Debt Counselors
Insurance	<ul style="list-style-type: none"> • Claims Representatives, Examiners, and Investigators • Insurance Appraisers • Underwriters 	<ul style="list-style-type: none"> • Actuaries • Sales Agents • Customer Service Agents 	<ul style="list-style-type: none"> • Processing Clerks • Direct Marketing Representatives • Insurance Brokers 	<ul style="list-style-type: none"> • Loss Prevention Specialists

*National career pathways



Education and Experience Lead to Top Finance Job



Alerise Linette Guillory, Chief Financial Officer

Alerise Linette Guillory has important career advice to share: “Ninety-five percent of my job is performed on a computer using various software programs including Microsoft Office and our core system that tracks our members’ accounts and loan balances and the credit union’s financials,” explained Guillory. “Teamwork, a strong code of ethics, attention to detail, and organizational skills are required for me to perform my job duties each day.”

As Chief Financial Officer at the Heart of Louisiana Federal Credit Union in Pineville, Guillory is in the

perfect position to give that kind of advice. “I use knowledge and experience gained throughout my career every day on the job. My experience, education, training, and knowledge help me make decisions daily,” she said.

Guillory described the path she took to gain a top financial job. “My job required me to have a bachelor’s degree in business administration, accounting, or finance. I earned my bachelor’s degree in business administration from Louisiana State University – Alexandria with assistance from the Rapides Business and Career Solutions Center. They assisted with my tuition, books, and fees.” Before earning her degree, she was a bookkeeper for 12 years.

To continue her education, Guillory travels across the country to six to eight conferences a year for specific credit union training. Otherwise, she typically works from 8:00 a.m. - 4:00 p.m. Monday through Thursday and 8:00 a.m. - 5:30 p.m. on Fridays. On any given day in the office, she will:

- Prepare financial statements
- Compile budget data for analysis for the next year’s budget
- Read government regulation to ensure compliance

- Read and help rewrite company policies and procedures to reflect changes in government laws and regulations
- Participate in management and executive meetings to work with other management members to keep the credit union running efficiently
- Attend the monthly board meeting
- Manage the daily activities of three employees

Guillory’s parting words of advice include:

- Gain all the education and knowledge available to you; you never know when it will come in handy.
- Work hard and you will be rewarded for your efforts.
- Make contacts from everywhere you can; they usually prove to be helpful in the future.
- Be flexible and willing to adjust so that you can succeed in any type of environment since economic conditions can become unstable at any given moment.
- In other words, become an asset – the one person the company could not do without, no matter what!

Did You Know?

Across the nation, many jobs can be found in the Finance Career Cluster in areas that include banking, insurance, and securities and investments.

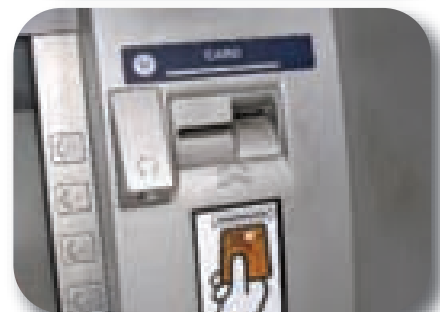
In the banking industry, office and administrative support workers hold nearly two out of three jobs. Tellers hold the largest number of positions in this group, according to the *Career Guide to Industries*, and many job opportunities are expected to open up because of high turnover. A high school diploma is usually the minimum education required for most office and administrative occupations. But banks also look for people in these roles who have good basic math and communication skills, enjoy public contact, and feel comfortable handling large amounts of money.

Management positions in banking often are filled by promoting experienced, technically skilled professionals who achieve various levels of certification. Typically, management, business, and financial positions also require a bachelor's and sometimes a master's degree. Good communication and customer service skills are necessary for these and all other occupations in the banking industry.

Similar kinds of education and skills are needed in the insurance industry. According to the *Career Guide*, numerous job openings will arise from the need to replace workers who leave or retire. And job growth will be found in the medical services and health insurance fields.

In the financial services sector, which involves securities, commodities, and other investments, about two out of three workers have at least a bachelor's degree. According to the *Career Guide*, employment is expected to grow along with a growing need for investment services and investment advice. However, if you want to be a sales agent or investment banker, you will find keen competition for these high-dollar positions.

For more information, go to the *Career Guide to Industries* at <http://www.bls.gov/oco/cg>, and click on "Financial Activities."



FINANCIAL CAREER INFORMATION

American Institute of Certified Public Accountants: <http://www.aicpa.org>
(click on "Career Development and Workplace Issues"); also <http://www.startheregoplaces.com>

Business Professionals of America: <http://www.bpa.org>

Future Business Leaders of America: <http://www.fbla-pbl.org>



2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Financial Managers	Work experience plus bachelor's or higher degree	130	\$38.89
	Securities, Commodities, and Financial Services Sales Agents	Bachelor's degree	80	35.08
	Financial Analysts	Bachelor's degree	20	33.81
	Claims Adjusters, Examiners, and Investigators	Long-term training and experience ⁵	150	30.67
	Tax Examiners, Collectors, and Revenue Agents	Bachelor's degree	20	24.45
Personal Financial Advisors		Bachelor's degree	30	24.30
Loan Officers		Bachelor's degree	100	22.81
Insurance Underwriters		Bachelor's degree	20	22.65
Insurance Sales Agents		Bachelor's degree	260	21.59
Bill and Account Collectors		Short-term training and experience ³	110	14.27
Tax Preparers		Moderate-term training and experience ⁴	30	14.13
Insurance Claims and Policy Processing Clerks		Moderate-term training and experience	20	13.98
Loan Interviewers and Clerks		Short-term training and experience	50	13.63
New Accounts Clerks		Work experience in a related occupation	40	12.74
Credit Authorizers, Checkers, and Clerks		Short-term training and experience	30	11.65
Tellers		Short-term training and experience	610	10.48

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

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Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Credit Intermediation and Related Activities	33,066	35,615	2,549	7.7%
Insurance Carriers and Related Activities	20,391	21,476	1,085	5.3%
Securities, Commodity Contracts, and Other Financial Investments and Related Activities	3,748	4,320	572	15.3%



Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Banking and Finance
Economics

Postsecondary Programs

(A sample listing)

Accounting
Banking and Finance
Business Administration
Economics
Finance
International Trade and Finance
Intuit QuickBooks Certified User

Sample Job Profile for National Career Readiness Certificate

Bill and Account Collectors

Bill and account collectors locate and notify customers of delinquent accounts by mail, telephone, or personal visit to solicit payment. The job requires:

- Knowledge of administrative and clerical procedures and systems
- Knowledge of economic and accounting principles and practices, financial markets, banking, and the analysis and reporting of financial data

Required NCRC Certificate Level: Silver

WorkKeys®: For more information, visit www.myworkkeys.com

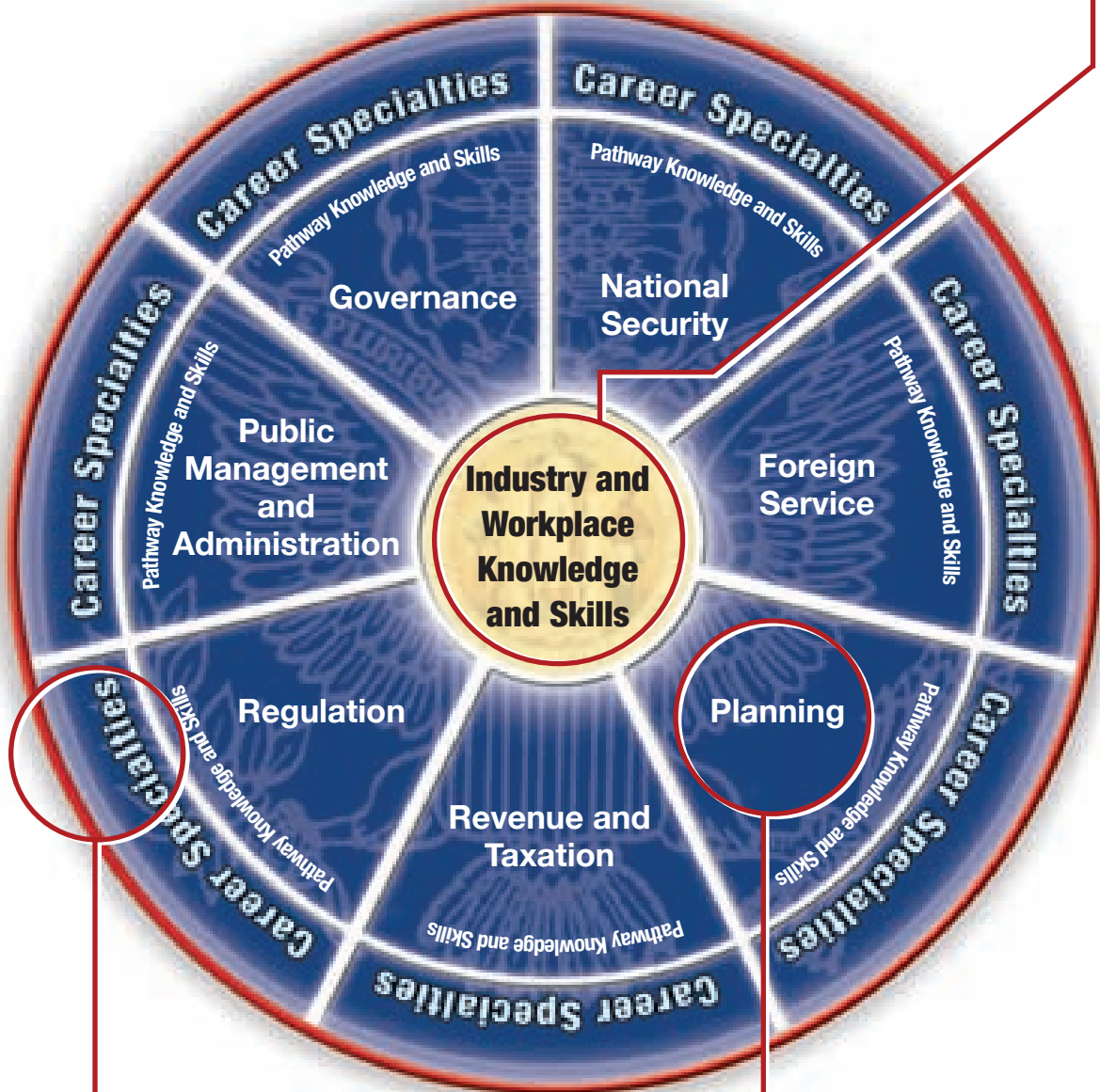




Government & Public Administration

Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration of the local, state, and federal levels.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
Governance	<ul style="list-style-type: none"> • President • Vice President • Governor • Lieutenant Governor • Mayor • Cabinet Level Secretary (Federal/ State) 	<ul style="list-style-type: none"> • Representative (Federal/State) • Senator (Federal/State) • Assistants, Deputies, and Chiefs of Staff • Commissioner (County, Parish, City) 	<ul style="list-style-type: none"> • Commissioner (State Agency) • Congressional Aide • Legislative Aide 	<ul style="list-style-type: none"> • Legislative Assistant • Specialist • Lobbyist • Policy Advisor
National Security	<ul style="list-style-type: none"> • National Security Advisor • Staff or Field Officer • Officer/Specialist: Electronic Warfare Operations • Combat Operations • Infantry Field Artillery 	<ul style="list-style-type: none"> • Air Defense Artillery • Special Forces • Armor • Munitions • Nuclear Weapons • Missile and Space Systems • Military Intelligence 	<ul style="list-style-type: none"> • Signals Intelligence • Surface Ship Warfare Officer • Submarine Officer • Combat Control Officer • Combat Engineer • Combat Aircraft Pilot/Crew 	<ul style="list-style-type: none"> • Airborne Warning/Control Specialist • Intelligence/Counterintelligence • Agent/Specialist • Intelligence Analyst • Cryptographer
Foreign Service	<ul style="list-style-type: none"> • Ambassador • Foreign Service Officer: Consular Officer 	<ul style="list-style-type: none"> • Administrative Officer • Political Officer 	<ul style="list-style-type: none"> • Economic Officer • Diplomatic Courier 	
Planning	<ul style="list-style-type: none"> • Business/Enterprise Official • Chief of Vital Statistics • Commissioner 	<ul style="list-style-type: none"> • Director (Various Agencies) • Economic Development Coordinator 	<ul style="list-style-type: none"> • Federal Aid Coordinator • Census Clerk • County Director • Census Enumerator 	<ul style="list-style-type: none"> • Planner • Program Associate • Global Imaging Systems Specialist
Revenue and Taxation	<ul style="list-style-type: none"> • Assessor • Tax Auditor • Internal Revenue Investigator 	<ul style="list-style-type: none"> • Revenue Agent/Officer • Tax Examiner/Assistant/Clerk • Inspector General 	<ul style="list-style-type: none"> • Tax Attorney • Tax Policy Analyst 	
Regulation	<ul style="list-style-type: none"> • Business Regulation Investigator • Chief of Field Operations • Code Inspector/Officer 	<ul style="list-style-type: none"> • Director • Equal-Opportunity Officer • Inspector • Investigator/Examiner 	<ul style="list-style-type: none"> • Chief Bank Examiner • Bank Examiner • Aviation Safety Officer • Border Inspector • Cargo Inspector 	<ul style="list-style-type: none"> • Election Supervisor • Enforcement Specialist • Immigration Officer
Public Management and Administration	<ul style="list-style-type: none"> • City Manager • City Council • City or County Clerk • Court Administrator or Clerk 	<ul style="list-style-type: none"> • Executive Director/Officer/Associate: Foundation, Association, Charitable Organization, Industrial Foundation 	<ul style="list-style-type: none"> • Chamber of Commerce • General Service Officer • Management Analysis Officer 	<ul style="list-style-type: none"> • Program Administration Officer

*National career pathways



Government Jobs Can Be Found Close to Home

With more than 1.8 million civilian employees, the federal government, excluding the Postal Service, is the nation's largest employer, according to the *Career Guide to Industries* at <http://www.bls.gov/oco/cg>. About 9 out of 10 federal employees work outside Washington, D.C., and some of those jobs can be found in Louisiana.

However, there is an even more important statistic for citizens of every state. According to the guide, a publication of the Bureau of Labor Statistics, state and local governments employ about 8 million workers, placing them among the largest employers in the economy. Seven out of 10 of these employees work for local governments, such as counties and parishes, cities, special districts, and towns. So you

might want to start your search for a government job close to home.

If you want a state-level job, consider the story of Mike Strain, DVM, whose career spotlight appears on page 16. As Commissioner of the Louisiana Department of Agriculture & Forestry, Strain oversees 30 billion dollars of the state's economy as well as the department's many responsibilities. But one person can't do all of that without help.

State employees from many occupational fields support the efforts of more than 100 Louisiana state government agencies. To explore what they do, go to the state Web site at <http://www.louisiana.gov>. There you will find several helpful links at the left:

- Under "Agencies," you can

access a set of links that lead to an agency index, branches, departments, boards and commissions, and other organizations and contacts.

- Click on the organization chart, and you will find the Louisiana State Government Executive Branch and all of its related units. There's also a link to each agency on the chart.
- Go to the "Local Governments" link at <http://www.louisiana.gov/Government/Local>. You will find links to information about parish governments and to a Municipal Directory.

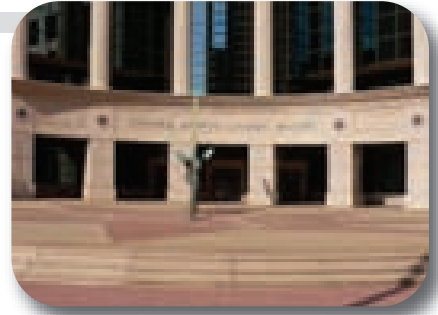
Whatever government Web sites you review – national, state, or local – you may very well link to a government job close to home in Louisiana.



Did You Know?

Government jobs aren't just for politicians. Millions more professionals do the work of government. In fact, about 2 million people, in careers that span every career cluster, are federal government employees, according to the Bureau of Labor Statistics (<http://www.bls.gov/oco/cg/cgs041.htm>). Many of the following federal jobs are available in your state and locality as well:

Accountants, auditors	Licensed practical and licensed vocational nurses
Aircraft mechanics, service technicians	Management analysts
Biological scientists	Management, business and financial occupations
Business operations specialists	Natural sciences managers
Compliance officers	Nursing aides, orderlies, attendants
Computer specialists	Office and administrative support occupations
Conservation scientists, foresters	Physicians and surgeons
Construction, extraction occupations	Police and sheriff's patrol officers
Correctional officers, jailers	Production occupations
Detectives, criminal investigators	Professional and related occupations
Drafters, engineering and mapping technicians	Purchasing agents
Electrical and electronic equipment mechanics, installers and repairers	Registered nurses
Engineers and engineering managers	Secretaries
Environmental scientists and geoscientists	Service occupations
Forest and conservation technicians	Tax examiners, collectors and revenue agents
Inspectors, testers, sorters, samplers, weighers	Transportation and material moving occupations
Installation, maintenance and repair occupations	
Judges, magistrates, lawyers, law clerks and other judicial workers	



LOOKING FOR A GOVERNMENT JOB?

Many federal, state, parish, and local government agencies have Web sites that list job opportunities. Search the following sites for government jobs in Louisiana and for jobs and student internships at the federal level:

- Louisiana Department of State Civil Service: <http://www.civilservice.la.gov/jobseekers.asp>
- Federal Government "e-Scholar" Programs: <http://www.studentjobs.gov/e-scholar.asp>
- Federal Government Student Jobs: <http://www.studentjobs.gov>
- USA Jobs: <http://www.usajobs.opm.gov>

Remember that most federal jobs are located in communities across the nation, so it's a wise idea to search the USA Jobs site.

LOUISIANA
Opportunities in



2008 – 2018 Projected Occupations in Demand

	Occupational Title	Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Four	Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation	Long-term training and experience ⁵	80	\$24.08
	Court, Municipal, and License Clerks	Short-term training and experience ³	60	14.79
	Social and Community Service Managers	Bachelor's degree	60	28.73
	Legislators	Work experience plus bachelor's or higher degree	20	18,485*

* Wages are only available annually.

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

O*Net OnLine: <http://online.onetcenter.org/>

For detailed information on any occupational title, go online to the O*Net Web site, type it into the **Occupation Search** box, and click the **search button**. Next, click on the occupation from the list of search results. The search results will show which of the occupations in this section are defined as high-skilled. The summary report starts with a description and includes information for tasks, tools and technology, related occupations, wages and much more.

Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Total Federal Government Employment	22,491	25,574	3,083	13.7%
State, Excluding Education and Hospitals	47,793	50,103	2,310	4.8%
Local, Excluding Education and Hospitals	84,145	91,255	7,110	8.4%

Pathways, Degrees & Certificates

LOUISIANA

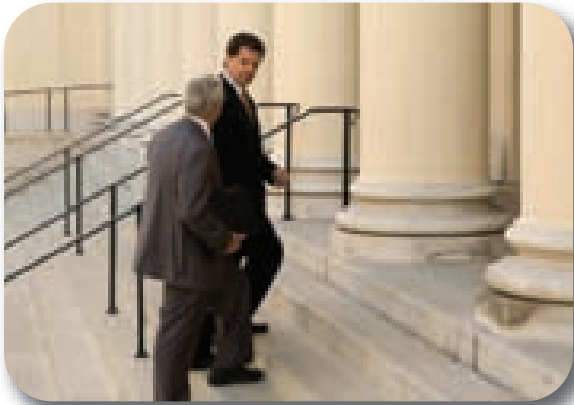
Career Pathways/Areas of Concentration

JROTC

Postsecondary Programs

(A sample listing)

Government
 Political Science
 Public Administration
 Sociology
 Urban Studies and Planning



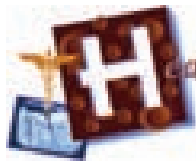
Sample Job Profile for National Career Readiness Certificate

Court, Municipal, and License Clerks

Court, municipal, and license clerks perform clerical duties in courts of law, municipalities, and governmental licensing agencies and bureaus. The job requires:

- Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.
- Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- Knowledge of principles and processes for providing customer and personal services.
- Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process

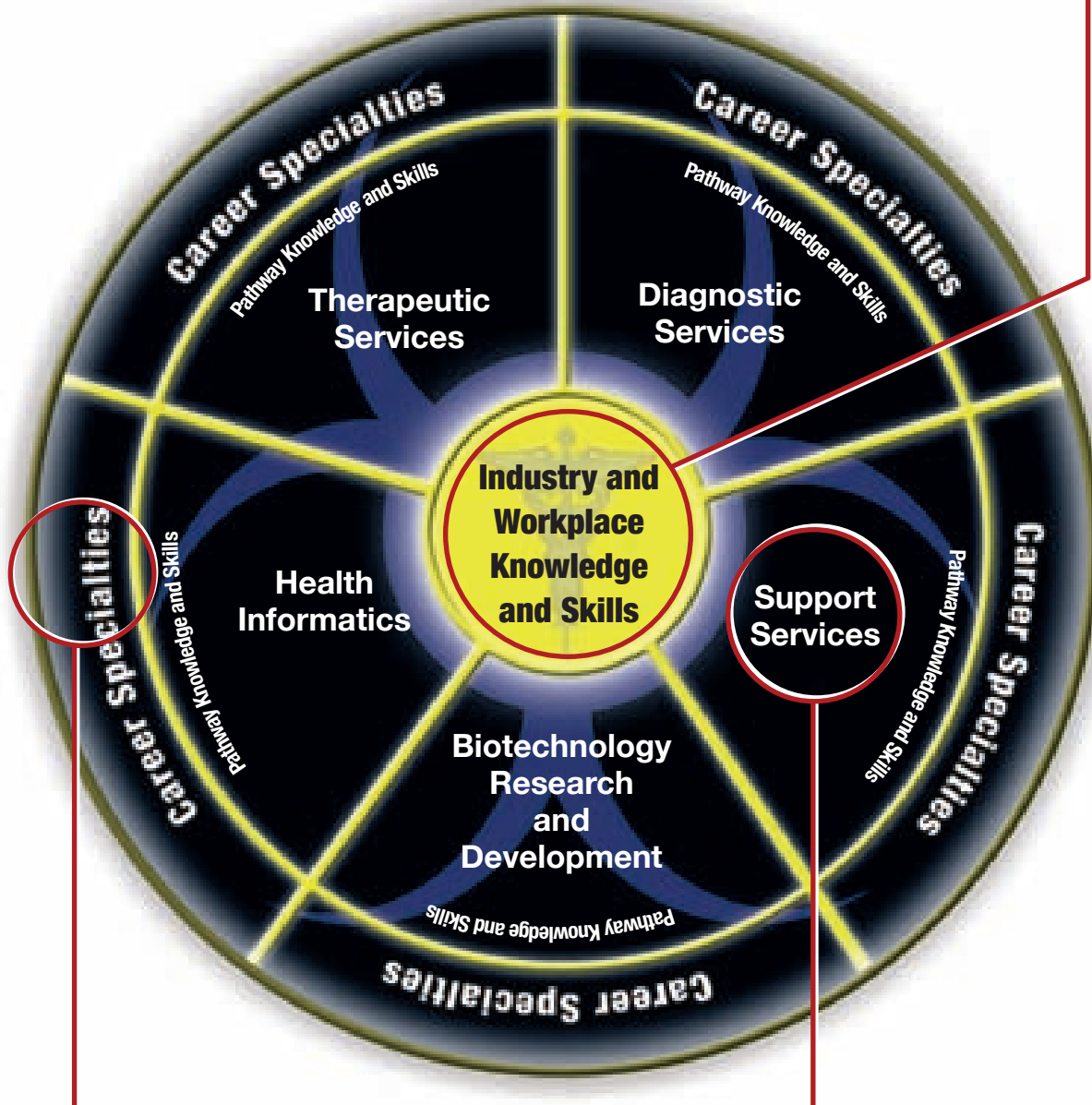
For information on required NCRC Certificate level, please visit WorkKeys® at www.myworkkeys.com.



Health Science

Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
<h2>Therapeutic Services</h2>	<ul style="list-style-type: none"> Anesthesiologists Art/Music/Dance Therapist(s) Audiologists Chiropractors Clinical, Counseling, and School Psychologists Community and Social Service Specialists Counselors Dental Assistants Dental Hygienists Dentists Diagnostic Medical Sonographers Dietetic Technicians Dietitians and Nutritionists Family and General Practitioners Health Diagnosing and Treating Practitioners Health Professionals and Technicians Health Specialties Teachers, Postsecondary 	<ul style="list-style-type: none"> Health Technologists and Technicians Healthcare Support Workers Home Health Aides Industrial-Organizational Psychologists Internists, General Licensed Practical and Licensed Vocational Nurses Life, Physical, and Social Science Technicians Massage Therapists Medical and Clinical Laboratory Technicians Medical and Health Services Managers Medical Equipment Preparers Medical Scientists, Except Epidemiologists Medical Secretaries Musicians and Singers Nuclear Medicine Technologists Nuclear Technicians 	<ul style="list-style-type: none"> Nursing Aides, Orderlies, and Attendants Nursing Instructors and Teachers, Postsecondary Obstetricians and Gynecologists Occupational Health and Safety Specialists and Technicians Occupational Therapist Aides Occupational Therapist Assistants Opticians, Dispensing Optometrists Pediatricians, General Pharmacists Pharmacy Aides Pharmacy Technicians Physical Therapist Aides Physical Therapist Assistants 	<ul style="list-style-type: none"> Physicians and Surgeons Podiatrists Psychiatric Aides Psychiatrists Psychologists Psychology Teachers, Postsecondary Radiologic Technologists and Technicians Registered Nurses Respiratory Therapists Social and Human Service Assistants Speech-Language Pathologists Substance Abuse and Behavioral Disorder Counselors Surgeons Therapists Veterinarians Veterinary Technologists and Technicians
<h2>Diagnostics Services</h2>	<ul style="list-style-type: none"> Ambulance Drivers and Attendants, Except Emergency Medical Technicians Athletic Trainers Cardiovascular Technologists and Technicians Diagnostic Medical Sonographers Emergency Medical Technicians and Paramedics Health Diagnosing and Treating Practitioners 	<ul style="list-style-type: none"> Health Professionals and Technicians Health Specialties Teachers, Postsecondary Health Technologists and Technicians Medical and Clinical Laboratory Technicians Medical and Clinical Laboratory Technologists Medical and Health Services Managers Medical Assistants 	<ul style="list-style-type: none"> Medical Equipment Preparers Medical, Dental, and Ophthalmic Laboratory Technicians Nuclear Medicine Technologists Nuclear Technicians Ophthalmic Laboratory Technicians Physical Scientists 	<ul style="list-style-type: none"> Physician Assistants Radiation Therapists Radiologic Technologists and Technicians Respiratory Therapy Technicians Surgical Technologists Veterinary Assistants and Laboratory Animal Caretakers
<h2>Health Informatics</h2>	<ul style="list-style-type: none"> Administrative Services Managers Claims Adjusters, Examiners, and Investigators Clinical, Counseling, and School Psychologists Communications Teachers, Postsecondary Computer and Information Scientists, Research Computer Programmers Computer Software Engineers, Applications Computer Support Specialists 	<ul style="list-style-type: none"> Dental Laboratory Technicians Editors Engineers Executive Secretaries and Administrative Assistants Fine Artists, Including Painters, Sculptors, and Illustrators First-Line Supervisors/Managers of Office and Administrative Support Workers Health Educators Health Specialties Teachers, Postsecondary 	<ul style="list-style-type: none"> Medical and Health Services Managers Medical Appliance Technicians Medical Assistants Medical Records and Health Information Technicians Medical Secretaries Medical Transcriptionists Mental Health Counselors Occupational Health and Safety Specialists and Technicians Occupational Therapists 	<ul style="list-style-type: none"> Orthotists and Prosthetists Physical Therapists Physicists Psychiatric Aides Psychiatric Technicians Public Relations Specialists Receptionists and Information Clerks Recreational Therapists Rehabilitation Counselors Substance Abuse and Behavioral Disorder Counselors Therapists
<h2>Support Services</h2>	<ul style="list-style-type: none"> Cooks, Institution and Cafeteria Dietetic Technicians 	<ul style="list-style-type: none"> Dietitians and Nutritionists Farm and Home Management Advisors 	<ul style="list-style-type: none"> First-Line Supervisors/Managers of Food Preparation and Serving Workers 	<ul style="list-style-type: none"> Food Batchmakers Home Economics Teachers, Postsecondary
<h2>Biotechnology Research and Development</h2>	<ul style="list-style-type: none"> Biological Scientists, All Other Computer Specialists, All Other 	<ul style="list-style-type: none"> Health Specialties Teachers, Postsecondary 	<ul style="list-style-type: none"> Natural Sciences Managers Pharmacists 	

*National career pathways

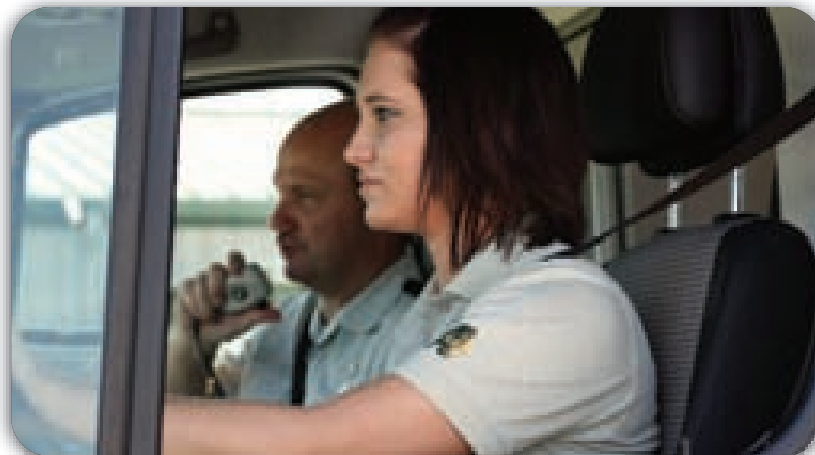
Emergency Medical Technician Makes a Difference Every Day

Kelly Koning began her career as an emergency medical technician during her freshman year at Lafayette High School. At the age of 14, she was introduced to the Academy of Health Careers and the Explorer Post 108 program. According to Koning, these programs give young individuals the opportunity to experience life in the medical field. Koning completed the medical courses available through the Academy. In her senior year, she enrolled in an EMT-Basic class and became a medic right out of high school. “Thankfully, I grasped this chance and ran with it,” Koning said.

Preparing for this type of job is not an easy task. To become an EMT-Basic, you must have a GED or high school diploma, complete the EMT-Basic course, pass a national registry written exam, and successfully complete 10 different medical skills at the national registry level, she explained.

As an EMT-Basic, Koning enjoys making a difference in someone’s life. “The fact that I can make an individual’s worst day a little better pushes me to do the best that I can every minute of my job,” she said.

Koning has an inspiring example. “The best thing that I have experienced as a medic was when an adorable two-year-old female approached me at the hospital with a thank-you card and a kiss on the cheek for saving her father’s life. This very emotional moment has taken hold of my heart and never let go since.”



Kelly Koning, EMT-Basic

That’s just one example of a very busy, very fulfilling career life for Koning. “My job starts at 4 o’clock in the afternoon and ends at 4 o’clock in the morning. During these 12 hours, it is hard to say what will become of my night.” She provides a few on-the-job experiences:

- From sitting at the station waiting on a call to walking through the pouring rain and bottomless mud to reach a patient, my work environment changes with each call I respond to.
- During my 12-hour shift, I am responsible for the medical care of many individuals. My responsibilities begin with providing care for those in a life-threatening situation and end with taking elderly patients back home to be among family members.
- The job comes with many challenges. As a medic, you have to learn to place your personal life aside when dealing with the

emotions of others. You have to be open with people’s many differences in religion, nationality, and morality. To help overcome these challenges, I coach myself not to judge or discriminate against any individual who is slightly different than I am.

“I truly owe much of my success to my family and teachers in the Academy of Health Careers, urging me to strive for the best and nothing but. Not only was I given the knowledge to perform well in the medical field but also advanced in many different personality traits and career-driven skills that aided in my triumph,” said Koning.

“My advice to current and future students would be to give 110 percent in accomplishing every dream or goal that they may have and to never give up. With determination and willingness you can achieve anything possible. So, believe in yourself, and others will follow.”

Career Spotlight

Denise Chriss-Batiste

Registered Nurse Pursues a Bachelor's Degree

Denise Chriss-Batiste began her nursing career as a licensed practical nurse. But neither her education nor her career stopped with her LPN degree. To advance, she decided to become a registered nurse and enrolled in a two-year associate degree program at Our Lady of the Lake College of Allied Health. She obtained financial assistance from the Baton Rouge Business and Career Solutions Center, which paid for skills training.

Chriss-Batiste's skills training and her LPN experience served her well as she pursued higher education. "Being an LPN for 10 years prepared me for succeeding in the registered nursing program," she said. "With the LPN work experience, I was given credit for the clinical skills that I already had, and it knocked

off a semester of RN training." Chriss-Batiste described the prerequisites that she had to take before getting into the program. "For me, I had to have chemistry, anatomy and physiology, microbiology, and labs, as well as classes in English, algebra, philosophy, religion, and history. I had to take all of this before getting into nursing."

Today, Chriss-Batiste works at Baton Rouge General Medical Center and describes a typical day on the job:

- I work with a maximum of six patients and a team of workers. The team includes doctors, nurses, and others.
- I provide patient education and carry out certain procedures given by the patient's doctor(s). Procedures may be breathing



Denise Chriss-Batiste, RN

treatments, for example. Some procedures aren't so pleasant.

I also provide comfort to patients.

- I see patients as young as teenagers up to elderly patients.
- I work 12-hour shifts that begin at 7:00 p.m. and end at 7 a.m. The days vary during the week for me because I'm attending school to pursue my bachelor's degree in nursing.

Her advice to students is, "Don't give up! Persistence definitely pays off. I'm a 38-year old student. Obstacles will come, but they are to be triumphed over. Take advantage of all of the opportunities given to you to gain your educational goals."

Career Spotlight

Lee Studer

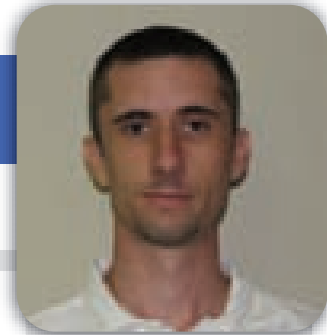
Single Father Becomes LPN

A single father raising two children, Lee Studer was able to pursue a career as a licensed practical nurse with help from the Lafourche Business and Career Solutions Center. The center also provided child care assistance and paid for books, uniforms, and supplies for LPN classes and the NCLEX licensure examination.

Before pursuing his LPN degree, Studer trained and worked as a certified nurse assistant for five years, handling emergencies among

his other duties. After finishing LPN school, he did research on the place he was going to work and knew what was expected of him. Today, he works at the Cardiovascular Institute of the South in Thibodaux.

"I take all patient vital signs, assist doctors with patient exams, call patients with all lab work results, and help schedule appointments for different procedures," he said. "I also call pharmacy with prescriptions for patient medicines, help with



Lee Studer, LPN

insurance companies to get bills paid, and help with emergencies that come up in the office."

Studer has valuable advice for students based on his experience: "Research the job you want to have, what schooling you need to get the job, what they do at the job, and what is going to be expected of you. And get all the schooling you can."

Educational Assistance Pays Off for LPN



Natasha Johnson, LPN

At the Louisiana Business and Career Solutions Center in Calcasieu Parish, Natasha Johnson heard about a National Emergency Grant that assisted individuals who were living or working in the parish. After working at a variety of occupations, including a job as a personal care attendant at Calcasieu Association for Retarded Citizens, she decided to return to school to obtain her associate degree and become a licensed practical nurse.

A needs assessment indicated that Johnson qualified for assistance with tuition as well as a stipend for meals, travel, books, and supplies, such as clinical uniforms and tools, while in school. Johnson enrolled in the practical nursing curriculum at SOWELA Technical Community College, completed her training on May 19, 2009, and began working for Resthaven Nursing Rehabilitation Center the very next day. The Calcasieu

Business and Career Solutions Center also assisted with fees, including the NCLEX license examination fee, and with new uniforms for her new job.

“While I was working at CARC, I received CPR certification which has helped me with my current career as a practical nurse. It also helped in that I was comfortable with dealing with elderly patients,” said Johnson. “To be successful at this job, you must be able to work as a part of a team, multitask, be fast paced in your work, and, most importantly, you must have patience. Every day is a new learning experience,” she added.

Johnson’s days at work vary from week to week, and her hours vary as well, anywhere from 6:30 a.m. to somewhere between 3:00 p.m. and 5:00 p.m. Her duties vary, too. “First, I get a report from the night nurse on how current patients are doing, pass morning medications, complete daily paperwork, pass noon medications, go over doctor’s orders, and assess patients,” she explained.

“The biggest challenge I have is talking with families and doctors. The aspect that I enjoy the most is working and learning with the other nurses and gaining new hands-on knowledge every day,” she added.

If you are a student looking for a future career, Johnson says, “Research before you make a career decision. Nursing needs a lot of dedication that you may not realize until you are actually on the floor caring for patients. Remember, every day presents a different challenge for you to face.”

Did You Know?

As one of the largest industries in 2008, health care provided 14.3 million jobs for wage and salary workers nationally, according to the *Career Guide to Industries*. And if you are interested in health care, you will want to know that 10 of the 20 fastest-growing jobs are in health care. Also the industry will generate 3.2 million new jobs between 2008 and 2018, more than in any other U.S. industry.



The situation is similar in Louisiana, according to the *Louisiana Health Careers* Web site. Click around and you will learn that:

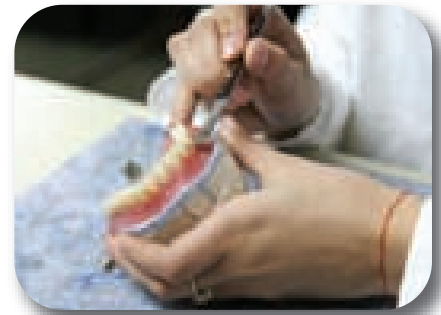
- Health care is one of the largest industries in Louisiana with an estimated 11,336 job vacancies, and opportunities are growing faster than ever.
- Health careers pay well and offer job security. Health care professionals can work anywhere, and there are consistently more available jobs than trained professionals to fill them.
- Preparing for a health career doesn't necessarily take long years of study. Many jobs offer on-the-job training and some require only one to two years of school.



You will also find another good reason to visit the site, which is a cooperative effort of The Governor's Office of the Workforce Commission and the four Louisiana Area Health Education Centers (AHECs). On the home page you can access education and training programs across the state.



For more information, visit the *Career Guide* at <http://www.bls.gov/oco/cg/cgs035.htm> and *Louisiana Health Careers* at <http://www.lahealthcareers.com/why.cfm>.

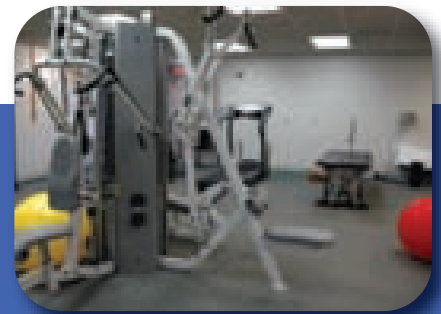


HEALTH CAREER RESEARCH

Careers in Health Care: <http://www.ama-assn.org/ama/pub/education-careers/careers-health-care.shtml>

Health Occupations Student Organization: <http://www.hosa.org>

Occupational Outlook Handbook: <http://www.bls.gov/oco>. Use the A-Z Index to find a list of jobs, including health care jobs.





2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Anesthesiologists	First professional degree	20	\$98.66
	Family and General Practitioners	First professional degree	30	87.88
	Dentists, General	First professional degree	30	64.82
	Pharmacists	First professional degree	170	49.25
	Veterinarians	First professional degree	30	39.37
Physical Therapists		Master's degree	100	37.50
Medical and Health Services Managers		Work experience plus bachelor's or higher degree	130	36.46
Occupational Therapists		Bachelor's degree	60	34.11
Physician Assistants		Bachelor's degree	30	33.81
Speech-Language Pathologists		Master's degree	30	33.43
Registered Nurses		Associate degree	1,660	29.19
Diagnostic Medical Sonographers		Associate degree	30	28.36
Dental Hygienists		Associate degree	80	27.12
Medical and Clinical Laboratory Technologists		Bachelor's degree	70	23.53
Respiratory Therapists		Associate degree	80	23.45
Radiologic Technologists and Technicians		Associate degree	100	23.00
Respiratory Therapy Technicians		Postsecondary vocational training	20	21.84
Dietitians and Nutritionists		Bachelor's degree	30	21.67
Physical Therapist Assistants		Associate degree	40	20.23
Cardiovascular Technologists and Technicians		Associate degree	30	18.84
Surgical Technologists		Postsecondary vocational training	70	18.10
Licensed Practical and Licensed Vocational Nurses		Postsecondary vocational training	730	18.06
Emergency Medical Technicians and Paramedics		Postsecondary vocational training	100	16.20
Medical and Clinical Laboratory Technicians		Associate degree	80	15.64
Opticians, Dispensing		Long-term training and experience ⁵	30	14.36
Massage Therapists		Postsecondary vocational training	30	14.15
Medical Transcriptionists		Postsecondary vocational training	40	14.04
Medical Records and Health Information Technicians		Associate degree	110	13.73
Dental Assistants		Moderate-term training and experience ⁴	170	13.45
Pharmacy Technicians		Moderate-term training and experience	300	13.15
Medical Assistants		Moderate-term training and experience	210	12.26
Veterinary Technologists and Technicians		Associate degree	40	11.40

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Hospitals	99,924	114,823	14,899	14.9%
Ambulatory Health Care Services	80,477	102,545	22,068	27.4%
Nursing and Residential Care Facilities	41,343	49,559	8,216	19.9%

Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Dental
Emergency Health Care
Health Professionals
Nursing
Nutrition and Food
Pharmacy
Sports Medicine

Postsecondary Programs

(A sample listing)

Clinical Laboratory Technician
Dental Hygiene
Dietetics Technician
EMT – Basic, Intermediate, Paramedic
Health Information Management
Health Information Technology
Health Office Services Management
Health Sciences
Medical Assistant
Medical Billing and Coding
Medical Coding
Medical Laboratory Technician
Medical Office Assistant
Medical Office Specialist
Mental Health
Nursing
Nursing Assistant
Occupational Therapy Assisting
Ophthalmic Medical Assisting
Patient Care Technician
Pharmacy Technician
Phlebotomy
Physical Therapy Assisting
Practical Nursing
Procedural Medical Coding
Radiologic Technology
Respiratory Care
Respiratory Therapist
Surgical Technology

Industry-based Certifications

(A sample listing)

Certified Nursing Assistant
CPR – First Aid
EMT – Basic
First Responder
Pharmacist Technician

Sample Job Profile for National Career Readiness Certificate

Registered Nurses

Registered nurses assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. They also administer nursing care to ill, injured, convalescent, or disabled patients. The job requires:

- A license
- Knowledge of the practical application of engineering science and technology
- Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications

Required NCRC Certificate Level: Silver

WorkKeys®: For more information, visit www.myworkkeys.com



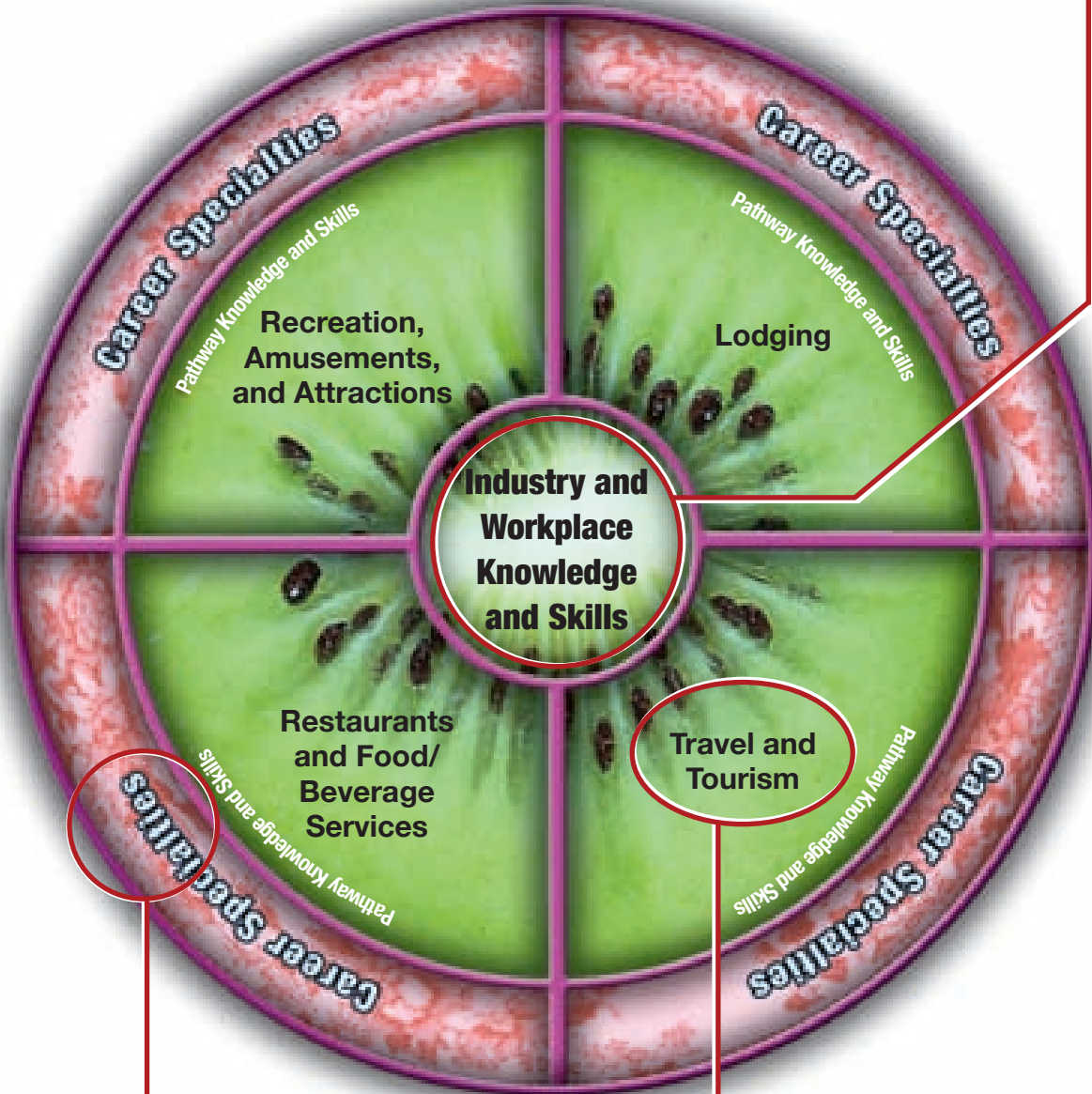
O*Net OnLine: <http://online.onetcenter.org/>

For detailed information on any occupational title, go online to the O*Net Web site, type it into the **Occupation Search** box, and click the **search button**. Next, click on the occupation from the list of search results. The search results will show which of the occupations in this section are defined as high-skilled. The summary report starts with a description and includes information for tasks, tools and technology, related occupations, wages and much more.



Hospitality & Tourism encompasses the management, marketing, and operations of restaurants and other food services, lodging, attractions, recreation events, and travel-related services.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
Restaurants and Food/Beverage Services	<ul style="list-style-type: none"> • Bakers • Bartenders • Butchers and Meat Cutters • Chefs and Head Cooks • Combined Food Preparation and Serving Workers, Including Fast Food • Cooks • Cooks, Fast Food 	<ul style="list-style-type: none"> • Cooks, Institution and Cafeteria • Cooks, Restaurant • Cooks, Short Order • Counter Attendants, Cafeteria, Food Concession, and Coffee Shop • Dining Room and Cafeteria Attendants and Bartender Helpers 	<ul style="list-style-type: none"> • Dishwashers • First-Line Supervisors/Managers of Food Preparation and Serving Workers • Food Preparation Workers • Food Servers, Nonrestaurant • Food Service Managers • Gaming Managers 	<ul style="list-style-type: none"> • Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop • Meat, Poultry, and Fish Cutters and Trimmers • Slaughterers and Meat Packers • Waiters and Waitresses
Lodging	<ul style="list-style-type: none"> • Food Service Managers • Lodging Managers 	<ul style="list-style-type: none"> • Residential Advisors 		
Travel and Tourism	<ul style="list-style-type: none"> • Food Service Managers • Lodging Managers • Managers 	<ul style="list-style-type: none"> • Reservation and Transportation Ticket Agents and Travel Clerks 	<ul style="list-style-type: none"> • Tour Guides and Escorts • Travel Agents 	
Recreation, Amusements, and Attractions	<ul style="list-style-type: none"> • Farm and Home Management Advisors • Lodging Managers 			

*National career pathways



Lifelong Learning Leads to Caterer's Success

Lifelong experience and education built the foundation for a successful catering business for Darrell D. Teats. Describing the services of his business, D. Teats Catering, he said the company caters for any types of functions such as birthdays, anniversaries, rehearsals, weddings, etc., and provides a variety of menus that include both indoor and outdoor cooking.

Teats brings a variety of educational experiences to his work. "My training was done early in life, basically watching my mother cook. From this point, I have been in the restaurant industry since I was 17 years old," Teats said. Teats also attended Winnsboro High School, the University of Louisiana at Monroe (ULM), and took continuing education classes at Louisiana Tech. "I've also worked closely with several professional chefs," he added.

Like any business owner, Teats faces challenges that include:

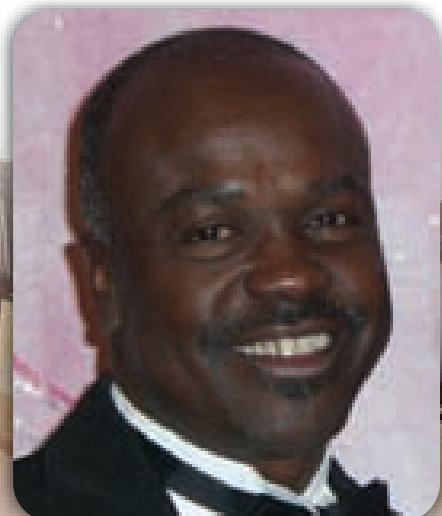
- Preparing meals for a very small or a very large number of people: "I handle this challenge by providing potential customers with a variety of menus and/or services that will accommodate their needs," said Teats.
- Budgeting and planning: As a caterer, he explained, you must be creative and knowledgeable about which foods complement each other, have some knowledge of math in order to do a budget based on different food prices, and be able to plan your meal for the group or function.
- Working with others: "You have to have a friendly temperament to handle potential situations. You also have to be willing to work as a team even though you may be a one-man team," he added.

Based on his experience, Teats can provide important insights for students. "I encouraged my daughter, Bianca Teats, to take

career education classes. Of course, she did. She was an active member and officer in the FBLA (Future Business Leaders of America) organization at her high school in Winnsboro," he said.

And, for future caterers, he said, "Have a love for cooking and people because these two go hand-in-hand. You must be willing to sacrifice your time in order to prepare for different events and willing to share knowledge about certain dishes/menus. Reading, as well as math, communication, and human relations skills, are very important in the catering business."

Catering is a business that continues to provide Teats with personal satisfaction. "The thing that I enjoy the most is being able to see the smile on people's faces once they enjoy the meal and the satisfaction of a job well done."



Darrell D. Teats, Caterer



Did You Know?

Whether traveling for business or pleasure, the first services that visitors think about are lodging and food. Across the nation, those two services alone create millions of jobs for entry-level workers and for highly skilled specialists and managers. They also create thousands of jobs in Louisiana.

The Hospitality & Tourism Career Cluster prepares students to work in the interdependent lodging, food service, tourism, and recreation-related industries. Sample workplaces include:

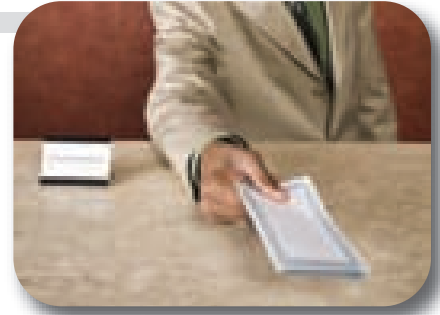
- Theme parks
- Tour operations
- Cultural and natural attractions
- Events and festivals
- Sports and entertainment venues
- Convention and meeting services
- Historic preservation districts
- Hotels and other accommodations and
- Food and beverage services

One of the largest career fields in most of these industry subsectors relates to food. That's why jobs for chefs, head cooks, and restaurant cooks are growing from 5 to 21 percent nationally.

Technology influences food and lodging services as well, so technology skills are a plus. Both food and lodging services rely on technology to enhance efficiency and productivity. And larger hotels rely on computer specialists and information technology and audiovisual technicians to service Web sites and computer and communications networks.

If you are interested in moving up the career ladder to a management job, Career and Technical Education and postsecondary certificates and degrees pay off. For more information, go to the *Career Guide to Industries* at <http://www.bls.gov/oco/cg/cg1009.htm>.

And be sure to check out the Louisiana Department of Culture, Recreation & Tourism Web site at <http://www.crt.state.la.us>. Also see <http://louisianatravel.com> and <http://louisianatravel.com/festivals>. You'll discover a wide variety of cluster-related career opportunities right at home in Louisiana.



LOUISIANA
Opportunities in



2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Lodging Managers	Work experience in a related occupation	30	\$22.90
	Food Service Managers	Work experience in a related occupation	100	22.51
	Gaming Supervisors	Postsecondary vocational training	60	22.17
	Chefs and Head Cooks	Postsecondary vocational training	50	18.26
	First-Line Supervisors/Managers of Personal Service Workers	Work experience in a related occupation	110	16.80
Reservation and Transportation Ticket Agents and Travel Clerks		Short-term training and experience ³	20	15.00
First-Line Supervisors/Managers of Housekeeping and Janitorial Workers		Work experience in a related occupation	80	14.43
Pest Control Workers		Moderate-term training and experience ⁴	50	13.67
First-Line Supervisors/Managers of Food Preparation and Serving Workers		Work experience in a related occupation	320	13.61
Slot Key Persons		Postsecondary vocational training	30	11.91
Gaming Cage Workers		Short-term training and experience	20	11.05
Tour Guides and Escorts		Moderate-term training and experience	30	10.93
Taxi Drivers and Chauffeurs		Short-term training and experience	60	10.73
Gaming Change Persons and Booth Cashiers		Short-term training and experience	50	10.65
Bakers		Long-term training and experience ⁵	60	10.47
Cooks, Restaurant		Long-term training and experience	480	10.21
Hotel, Motel, and Resort Desk Clerks		Short-term training and experience	190	10.07
Gaming Dealers		Postsecondary vocational training	110	9.85
Janitors and Cleaners, Except Maids and Housekeeping Cleaners		Short-term training and experience	880	9.42
Ushers, Lobby Attendants, and Ticket Takers		Short-term training and experience	70	8.82
Food Servers, Nonrestaurant		Short-term training and experience	60	8.77
Laundry and Dry-Cleaning Workers		Moderate-term training and experience	150	8.71
Cooks, Institution and Cafeteria		Long-term training and experience	360	8.68
Waiters and Waitresses		Short-term training and experience	2,340	8.58
Maids and Housekeeping Cleaners		Short-term training and experience	460	8.56
Amusement and Recreation Attendants		Short-term training and experience	80	8.55
Parking Lot Attendants		Short-term training and experience	70	8.46
Cooks, Short Order		Short-term training and experience	120	8.45
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop		Short-term training and experience	350	8.27
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop		Short-term training and experience	380	8.24
Bartenders		Short-term training and experience	420	8.21

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Food Services and Drinking Places	139,175	164,056	24,881	17.9%
Accommodation	23,872	26,754	2,882	12.1%
Educational Services	168,575	183,650	15,075	8.9%

Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Culinary Arts
Tourism and Lodging

Postsecondary Programs

(A sample listing)

Catering
Culinary Arts
Culinary Arts and Occupations
Culinary Arts – Registered Apprenticeship
Culinary Management
Entry Line Cook
Food and Beverage Management
Food Service Production and Management
Hospitality Management
Pastry Arts
Production Cook
Tourism Promotion Operations

Industry-based Certifications

(A sample listing)

American Culinary Federation Certified Junior Culinarian
ProStart
Skills for Success – Food & Beverage Division
Skills for Success – Rooms Division

Sample Job Profile for National Career Readiness Certificate

Food Service Managers

Food service managers plan, direct, or coordinate activities of an organization or department that serves food and beverages. The job requires:

- Knowledge of business and management principles
- Knowledge of principles and processes for providing customer and personal services
- Knowledge of economic and accounting principles and practices
- Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits

Required NCRC Certificate Level: Silver

WorkKeys®: For more information, visit www.myworkkeys.com

O*Net OnLine: <http://online.onetcenter.org/>

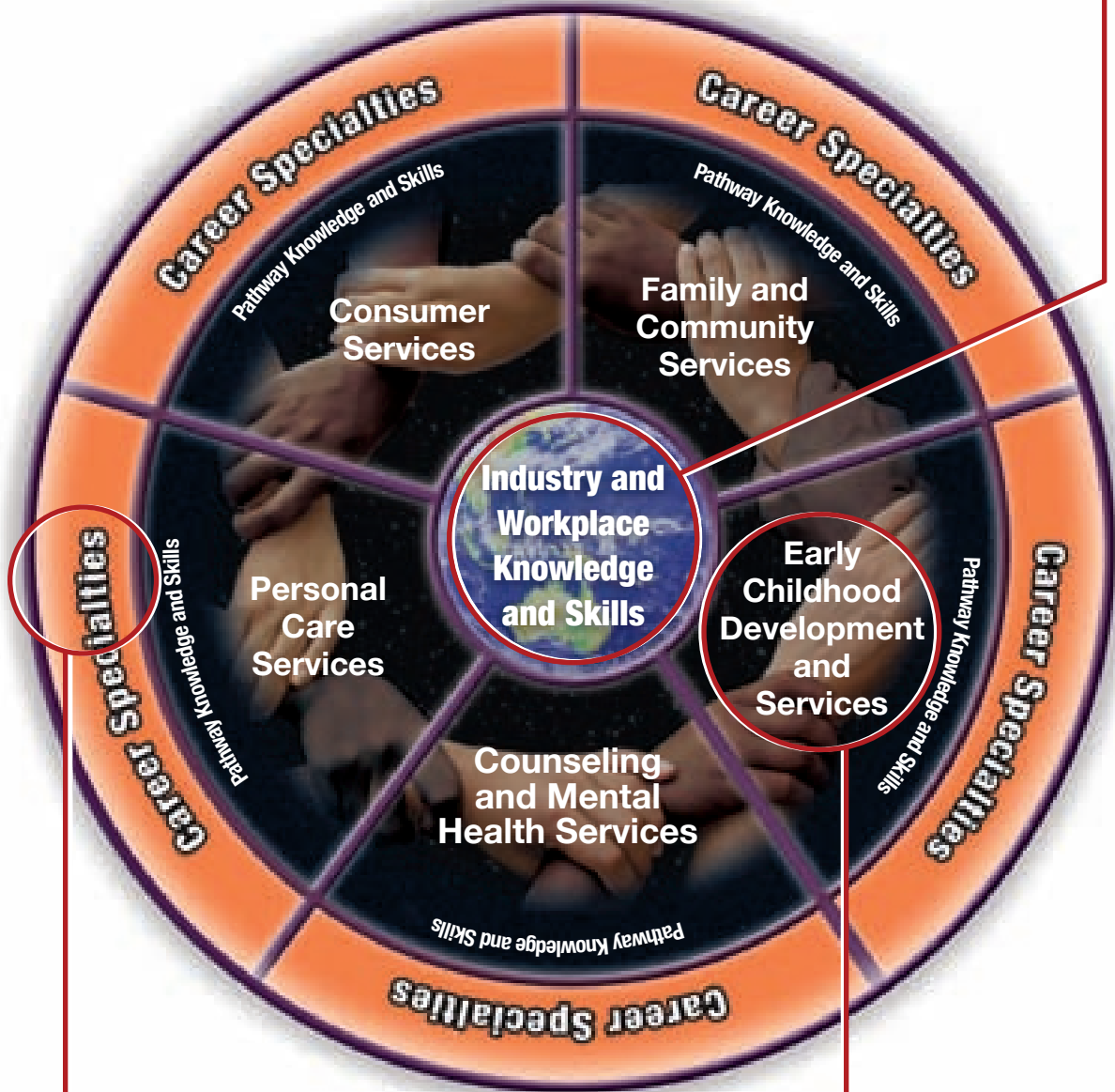
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Preparing individuals for employment in career pathways that relate to families and human needs.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
Early Childhood Development and Services	<ul style="list-style-type: none"> • Child Care Assistants • Directors, Child Care Facilities • Educators for Parents 	<ul style="list-style-type: none"> • Elementary Teachers and Counselors • Family and Consumer Sciences Teachers 	<ul style="list-style-type: none"> • Nannies • Preschool Teachers • Teachers Assistants 	
Counseling and Mental Health Services	<ul style="list-style-type: none"> • Area, Ethnic, and Cultural Studies Teachers, Postsecondary • Clinical, Counseling, and School Psychologists • Counselors • Directors, Religious Activities and Education • Epidemiologists • Health Educators 	<ul style="list-style-type: none"> • Marriage and Family Therapists • Medical and Public Health Social Workers • Mental Health and Substance Abuse Social Workers • Mental Health Counselors • Natural Sciences Managers • Psychologists 	<ul style="list-style-type: none"> • Recreation Workers • Social Work Teachers, Postsecondary • Substance Abuse and Behavioral Disorder Counselors 	
Family and Community Services	<ul style="list-style-type: none"> • Chief Executives • Child Care Workers • Child, Family, and School Social Workers • Clergy • Counselors • Eligibility Interviewers, Government Programs 	<ul style="list-style-type: none"> • Emergency Management Specialists • Family and Consumer Sciences Teachers • Farm and Home Management Advisors • Legislators 	<ul style="list-style-type: none"> • Managers • Marriage and Family Therapists • Political Scientists • Probation Officers and Correctional Treatment Specialists • Protective Service Workers 	<ul style="list-style-type: none"> • Religious Workers • Social and Community Service Managers • Social Science Research Assistants • Social Scientists and Related Workers • Social Workers • Sociologists
Personal Care Services	<ul style="list-style-type: none"> • Barbers • Embalmers • Funeral Attendants • Funeral Directors • Hairdressers, Hairstylists, and Cosmetologists 	<ul style="list-style-type: none"> • Laundry and Dry-Cleaning Workers • Makeup Artists, Theatrical and Performance • Manicurists and Pedicurists 	<ul style="list-style-type: none"> • Pressers, Textile, Garment, and Related Materials • Sewers, Hand • Sewing Machine Operators • Shampooers • Skin Care Specialists 	<ul style="list-style-type: none"> • Tailors, Dressmakers, and Custom Sewers • Tailors, Dressmakers, and Sewers • Textile Bleaching and Dyeing Machine Operators and Tenders
Consumer Services	<ul style="list-style-type: none"> • Bankers • Certified Financial Planners • Consumer Advocates • Consumer Credit Counselors 	<ul style="list-style-type: none"> • Customer Service Representatives • Event Specialists • Farm and Home Management Advisors 	<ul style="list-style-type: none"> • Market Researchers • Marketing Managers • Public Relations Specialists 	<ul style="list-style-type: none"> • Sales Consultants • Sales Managers • Small Business Owners

*National career pathways



Career Spotlight

LaShondra Johnson

Social Work Is 'Adventurous'

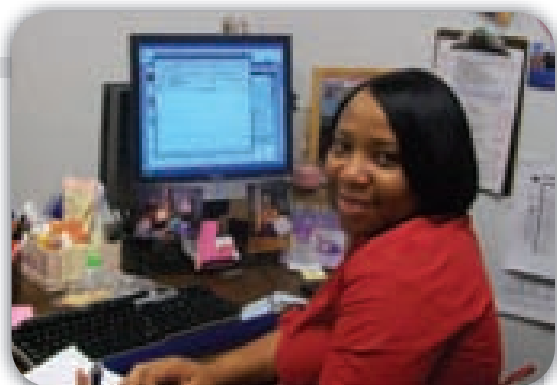
LaShondra Johnson is a Child Welfare Specialist Trainee in the Office of Community Services (OCS) in Alexandria. And, in her own words, Johnson said, "A typical day on the job at OCS is adventurous. No two days are the same."

Those days include work in the field visiting clients and in the office completing paperwork. "My hours are 8:30 a.m. - 5:00 p.m., but I often work a lot of overtime," Johnson said.

"My challenges are working with highly resistant clients," she added.

To achieve at her career, Johnson earned a bachelor's degree in social work with the help of the Rapides Business and Career Solutions Center, which paid for her to attend Northwestern State University. Before joining OCS, she received three weeks of intense training by her employer.

According to Johnson, "General communications, human behavior understanding, and a passion for the helping profession" are assets



LaShondra Johnson, Child Welfare Specialist Trainee

for social workers. She also advised students to "Please be sure of the field you choose to start your career in because there has to be a passion for a successful career, not just the paycheck."

Career Spotlight

Quiana Jones

Seek 'Your Truth' Advises School Social Worker

Quiana Jones is a school social worker at South Lafourche High School working with the Dropout Prevention and Recovery Program. Describing her job, Jones said, "A typical day for me starts with viewing students' attendance records, and meeting individually with students who have excessive absences. The student and I discuss their reasons for lack of attendance and then we contact parents/guardians of the students to inform them of the school board's attendance policy."

Where participation in the program may be harder to obtain, Jones visits students' homes in another effort to demonstrate the importance

of obtaining an education. "Some of the challenges that prospective applicants working a job such as mine may face is understanding that every community is unique and has its own set of issues that may affect the progress and/or regression of an individual or family," Jones explained. But the challenges are what she enjoys most about her job – "being able to interact with the students, working together with them and their families to help them realize their potentials are without bounds."

Jones received a Bachelor of Science degree in Family and Consumer Sciences from Nicholls State University. She received



Quiana Jones, School Social Worker

assistance through the Lafourche Business and Career Solutions Center, which paid for tuition, books, supplies, and child care while Jones was enrolled in the CRT program while at Nicholls. She then earned a master's degree in social work from Tulane University.

Her advice to other students wanting to continue their education? "Remember your possibilities are up to you and not others. It's your **truth!**"

Did You Know?

Sometimes people may need assistance finding a job or appropriate child care, learning skills to find employment, locating safe and adequate housing, and getting nutritious food for their family. Human services personnel help meet these and other human and family needs.

Many jobs in this industry are professional positions that require a bachelor's or master's degree and a state license, according to the *Career Guide to Industries*. Professional and related occupations include social workers, counselors, health educators, and social and human service assistants.

About 36 percent of the jobs in the industry are service occupations, which require little education beyond a high school diploma. These workers include personal and home care aides and home health aides. A number of employers provide in-service training for these workers, such as seminars and workshops. Other employers prefer that workers have an associate or a bachelor's degree in human services or social work.

Home health aides whose employers receive reimbursement from Medicare must pass a competency test. As result, many home health aides receive some training prior to taking the exam. Some states also require aides to be licensed.

For more information, go to the *Career Guide to Industries* at <http://www.bls.gov/oco/cg/cgs040.htm>.

RESEARCH HUMAN SERVICES

American Counseling Association: <http://www.counseling.org>

American Psychological Association: <http://www.apa.org>

American Association for Marriage and Family Therapy:

http://www.aamft.org/index_nm.asp

American Mental Health Counselors Association: <http://www.amhca.org>

National Association for the Education of Young Children: <http://www.naeyc.org>

National Organization for Human Services: <http://www.nationalhumanservices.org>



LOUISIANA
Opportunities in



2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Funeral Directors	Associate degree	20	\$25.02
	Child, Family, and School Social Workers	Bachelor's degree	90	23.56
	Medical and Public Health Social Workers	Bachelor's degree	70	21.49
	Eligibility Interviewers, Government Programs	Moderate-term training and experience ⁴	30	21.37
	Substance Abuse and Behavioral Disorder Counselors	Master's degree	40	19.64
Mental Health and Substance Abuse Social Workers	Master's degree	50	19.48	
Social and Human Service Assistants	Moderate-term training and experience	140	15.41	
Rehabilitation Counselors	Master's degree	30	15.14	
Mental Health Counselors	Master's degree	70	14.96	
Hairdressers, Hairstylists, and Cosmetologists	Postsecondary vocational training	130	12.67	
Skin Care Specialists	Postsecondary vocational training	20	11.65	
Residential Advisors	Moderate-term training and experience	50	11.27	
Recreation Workers	Short-term training and experience ³	70	11.01	
Manicurists and Pedicurists	Postsecondary vocational training	20	10.96	
Child Care Workers	Short-term training and experience	490	8.74	
Personal and Home Care Aides	Short-term training and experience	830	8.56	

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

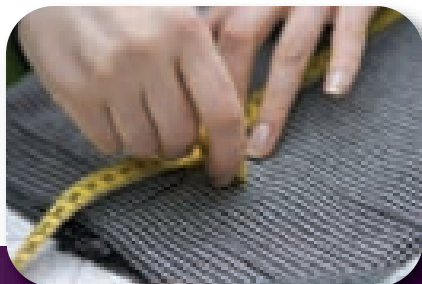
5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

O*Net OnLine: <http://online.onetcenter.org/>

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Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Ambulatory Health Care Services	80,477	102,545	22,068	27.4%
Social Assistance	34,998	44,706	9,708	27.7%
Personal and Laundry Services	16,113	18,084	1,971	12.2%
Self-Employed Workers	140,301	143,665	3,364	2.4%



Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Child Development Services
 Management of Family Resources
 Personal Care Services
 Social Services

Postsecondary Programs

(A sample listing)

American Sign Language Interpreting
 Barbers – Registered Apprenticeship
 Barber Styling
 Care and Development/Young Children
 Child Development – Preschool Management
 Cosmetology
 Early Childhood Education
 Esthetics
 Family and Consumer Science
 Gerontological Studies
 Health Services
 Human Ecology
 Human Services Mental
 Massage Therapy
 Political Science
 Public Administration
 Social Science
 Social Welfare
 Social Work

Industry-based Certifications

(A sample listing)

CDA Childhood Development
 Licensed Cosmetologist
 Louisiana Barbering License

Sample Job Profile for National Career Readiness Certificate

Medical and Public Health Social Workers

Medical and public health social workers provide persons, families, or vulnerable populations with the psychosocial support needed to cope with chronic, acute, or terminal illnesses. The job requires:

- Knowledge of human behavior and performance
- Knowledge of principles and processes for providing customer and personal services
- Knowledge of principles, methods, and procedures for diagnosis, treatment, and rehabilitation of physical and mental dysfunctions

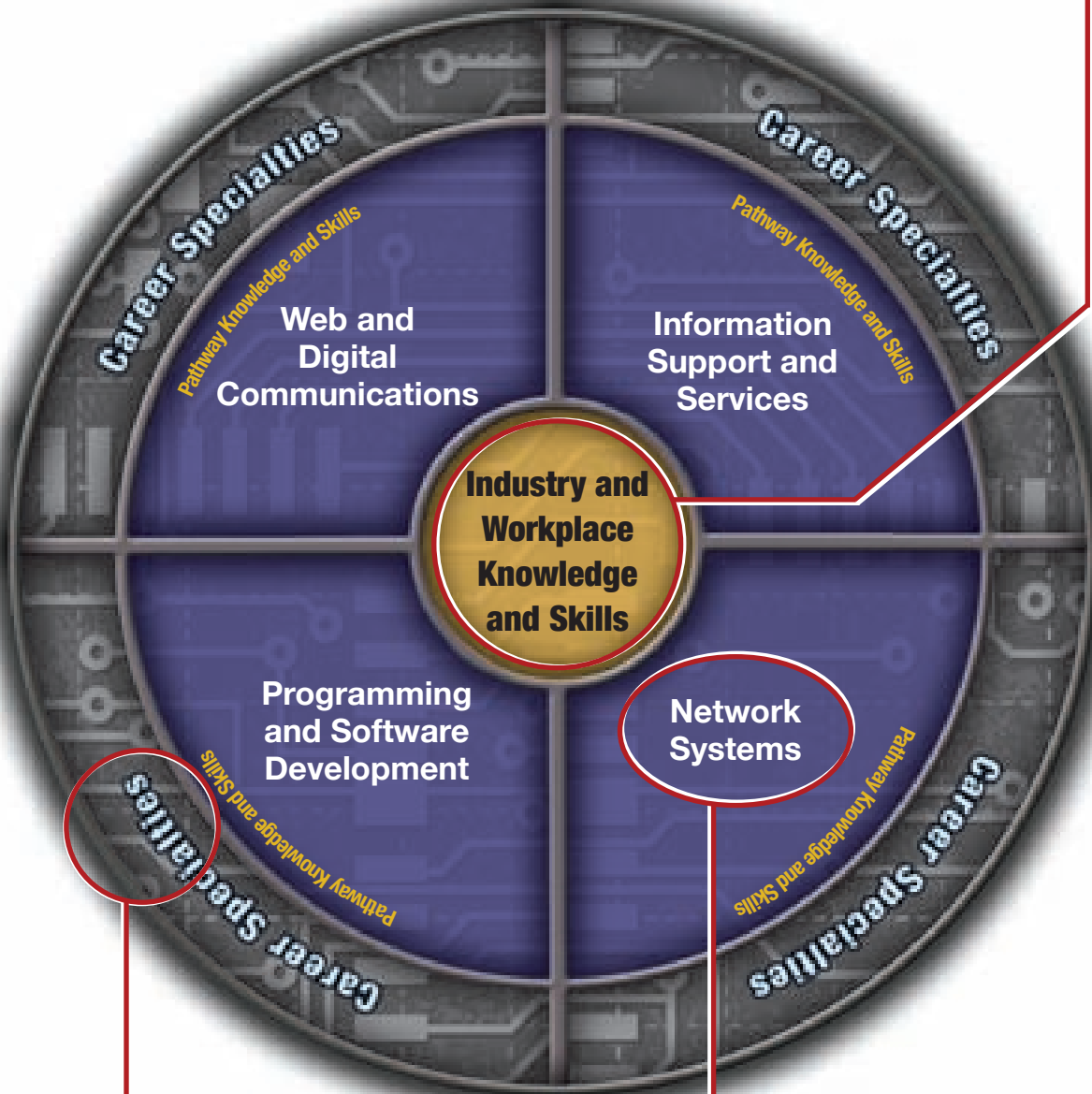
For information on required NCRC Certificate level, please visit WorkKeys® at www.myworkkeys.com.





Building linkages in IT occupations framework: for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multi-media, and systems integration services.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.

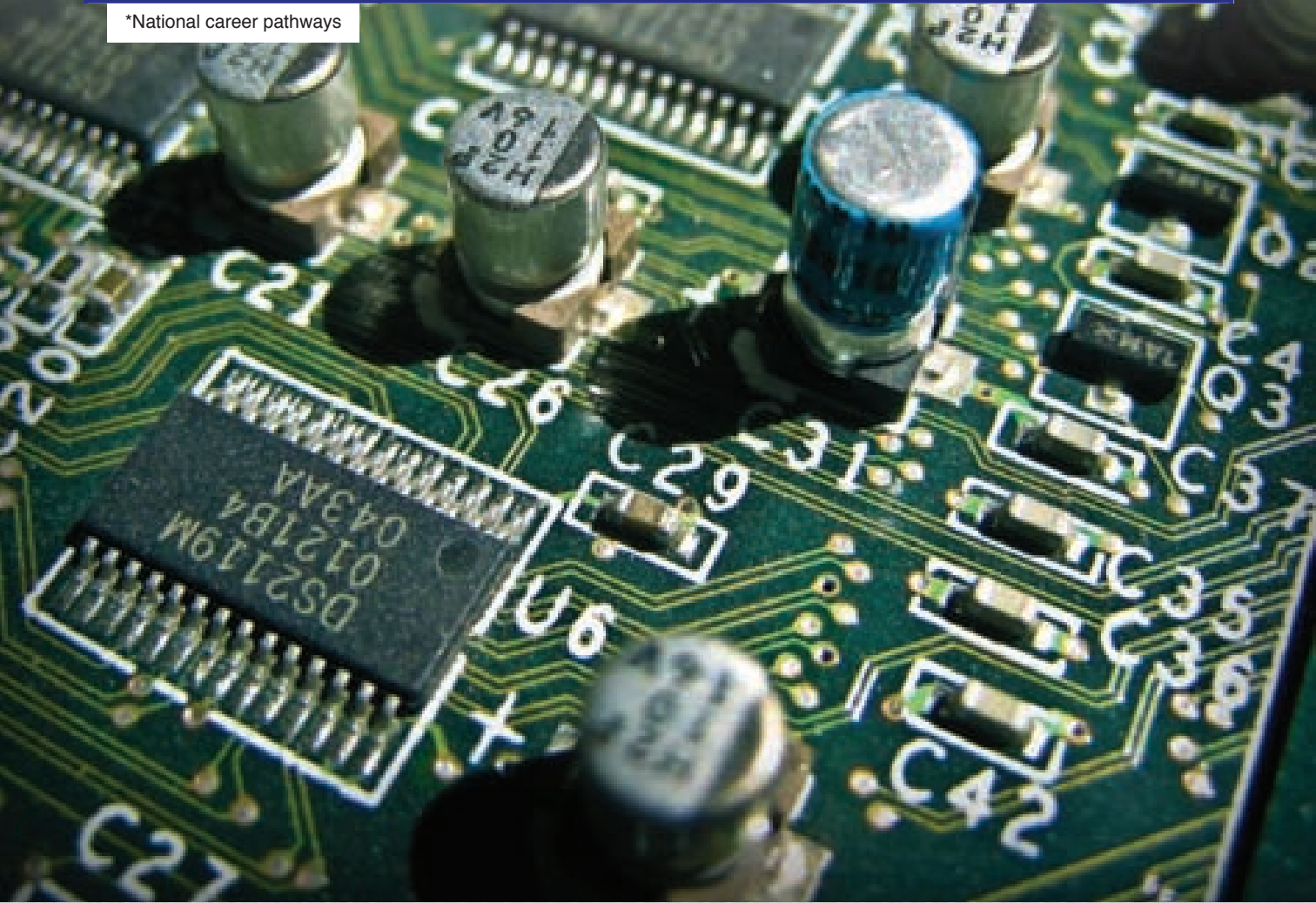


Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
Network Systems	<ul style="list-style-type: none"> • Computer and Information Scientists, Research • Computer and Information Systems Managers 	<ul style="list-style-type: none"> • Computer Programmers • Computer Science Teachers, Postsecondary • Computer Software Engineers, Applications 	<ul style="list-style-type: none"> • Computer Software Engineers, Systems Software • Computer Specialists • Graphic Designers • Multi-Media Artists and Animators 	<ul style="list-style-type: none"> • Network and Computer Systems Administrators • Network Systems and Data Communications Analysts
Information Support and Services	<ul style="list-style-type: none"> • Computer and Information Scientists, Research • Computer and Information Systems Managers • Computer Operators 	<ul style="list-style-type: none"> • Computer Science Teachers, Postsecondary • Computer Software Engineers, Applications • Computer Software Engineers, Systems Software 	<ul style="list-style-type: none"> • Computer Specialists • Computer Support Specialists • Computer Systems Analysts • Database Administrators 	<ul style="list-style-type: none"> • Network and Computer Systems Administrators • Network Systems and Data Communications Analysts • Numerical Tool and Process Control Programmers
Web and Digital Communications	<ul style="list-style-type: none"> • Computer and Information Scientists, Research 	<ul style="list-style-type: none"> • Computer Programmers • Computer Software Engineers, Applications 	<ul style="list-style-type: none"> • Computer Software Engineers, Systems Software 	<ul style="list-style-type: none"> • Computer Systems Analysts
Programming and Software Development	<ul style="list-style-type: none"> • Computer and Information Scientists, Research • Computer Hardware Engineers • Computer Programmers • Computer Science Teachers, Postsecondary 	<ul style="list-style-type: none"> • Computer Software Engineers, Applications • Computer Software Engineers, Systems Software • Computer Systems Analysts • Database Administrators 	<ul style="list-style-type: none"> • Engineering Managers • Engineering Teachers, Postsecondary • Network and Computer Systems Administrators • Network Systems and Data Communications Analysts 	<ul style="list-style-type: none"> • Numerical Tool and Process Control Programmers

*National career pathways



Community College Students **Learn and Earn**

An associate or a bachelor's degree is needed to achieve a career in information technology, said Amanda Lopez. And both she and co-worker Ronnie Campbell Jr. are pursuing their IT degrees at Nunez Community College in Chalmette.

"The classes I took were basic networking and an overall Microsoft course. If it seems complicated, it's really not, once you get to know it," said Campbell.

Internships and other related job experience also help when it comes to succeeding on the job. With the assistance of the St. Bernard Business and Career Solutions Center, both Lopez and Campbell were employed through the Summer Youth Program.

Working as a desktop support technician, Lopez's job involved troubleshooting computer issues and helping co-workers with printers and scanners. Campbell's

job involved troubleshooting computers and hooking up phone ports and jacks.

"Every job is unique," said Campbell. "I fix problems when people need help. I work indoors and outdoors, at a desk and on the road."

For career-seekers, Lopez said, "Study and read more into what you strive to do. Never give up, and always keep trying."



Amanda Lopez and Ronnie Campbell Jr.

Did You Know?

If you are interested in a career in information technology and computing, you are likely to find an employer who's interested in you. The computer systems design and services industry is expected to experience rapid growth, adding about 656,400 jobs between 2008 and 2018, according to the *Career Guide to Industries*.

And professional and related workers will enjoy the best job prospects, reflecting continuing demand for higher-level skills needed to keep up with changes in technology. Among those workers are computer network, systems and database administrators. Jobs in this field are expected to grow from 13-53 percent between 2008-2018.

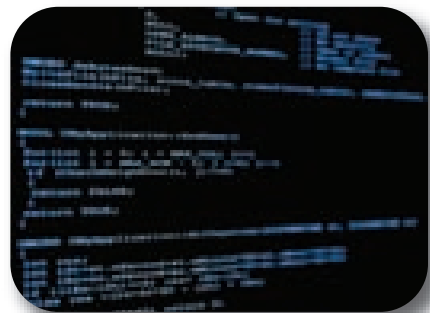
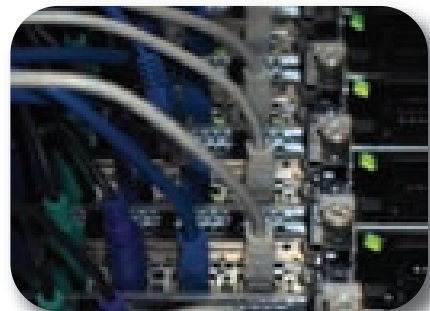
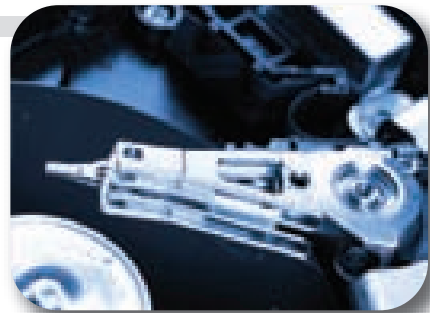
There are many paths of entry to these occupations. However, employers prefer to hire applicants with some formal college education such as an associate or a bachelor's degree. For some jobs, employers may substitute relevant computer experience and certifications for formal education.

For more information about IT careers, go to the *Career Guide to Industries* at <http://www.bls.gov/oco/cg/cgs033.htm> and the *Occupational Outlook Handbook* at <http://www.bls.gov/oco/ocos305.htm>.

EXPLORE INFORMATION TECHNOLOGY

To find Louisiana postsecondary schools that offer courses related to information technology, go to *CareerOneStop* at <http://www.careerinfonet.org/edutaining>.

For certification information, go to <http://www.microsoft.com/learning/mcp/default.mspx> and <http://certification.comptia.org>.



LOUISIANA
Opportunities in



2008 – 2018 Projected Occupations in Demand

Occupational Title		Minimum Education Requirements or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Computer Systems Analysts	Bachelor's degree	160	\$27.65
	Computer Support Specialists	Associate degree	160	20.85
	Network Systems and Data Communications Analysts	Bachelor's degree	80	26.45
	Computer Programmers	Bachelor's degree	60	27.95
	Computer Software Engineers, Applications	Bachelor's degree	60	33.67
Telecommunications Equipment Installers and Repairers, Except Line Installers		Postsecondary vocational training	60	21.80
Network and Computer Systems Administrators		Bachelor's degree	60	26.97
Computer and Information Systems Managers		Work experience plus bachelor's or higher degree	40	39.12
Computer Software Engineers, Systems Software		Bachelor's degree	30	36.55
Computer Operators		Moderate-term training and experience ⁴	20	17.05

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

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Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Telecommunications	12,335	13,696	1,361	11.0%
Professional, Scientific, and Technical	83,683	94,904	11,221	13.4%
Broadcasting (except Internet)	4,687	4,766	79	1.7%

Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

AOIT (NAF Information Technology Academy)
 Computer Electronics
 Computer Engineering Systems
 Computer Science
 Information Systems
 Network Service & Operations

Postsecondary Programs

(A sample listing)

Application Design Apprentice
 Applications Apprentice
 Applications Development Specialist
 Basic Digital Electronics
 Basic Electronic Technician
 Basic Industrial Electronic Technician
 Biomedical Equipment Technician
 Biomedical Equipment Technology
 Communications Electronics
 Computer Electronics
 Computer Electronics Technology
 Computer Information Systems
 Computer Information Technology
 Computer Networking
 Computer Operations
 Computer Programming
 Computer Science
 Computer Support
 Computer Technology
 Electrical Service Technology
 Electronics Engineering Technology
 Information Network Security
 Information Programmer
 Information Systems Administration
 Industrial Electronics Technology
 IT Network Apprentice
 PC Software Apprentice
 Web Analyst Programmer
 Web Development
 Web Site Designer

Industry-based Certifications

(A sample listing)

CompTIA Certification A+
 CompTIA Network+
 Corel Certified Proficient User
 IC3
 Microsoft Certified Professional
 Microsoft Certified Systems Engineer
 Microsoft Office Specialist
 Mobile Electronics Certification

Sample Job Profile for National Career Readiness Certificate

Computer Systems Analysts and Computer Software Engineers, Applications

Computer systems analysts analyze science, engineering, business, and all other data processing problems for application to electronic data processing systems. Computer applications software engineers develop, create, and modify general computer applications software or specialized utility programs. These jobs require:

- Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software
- Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Knowledge of business and management principles

Required NCRC Certificate Level: Silver

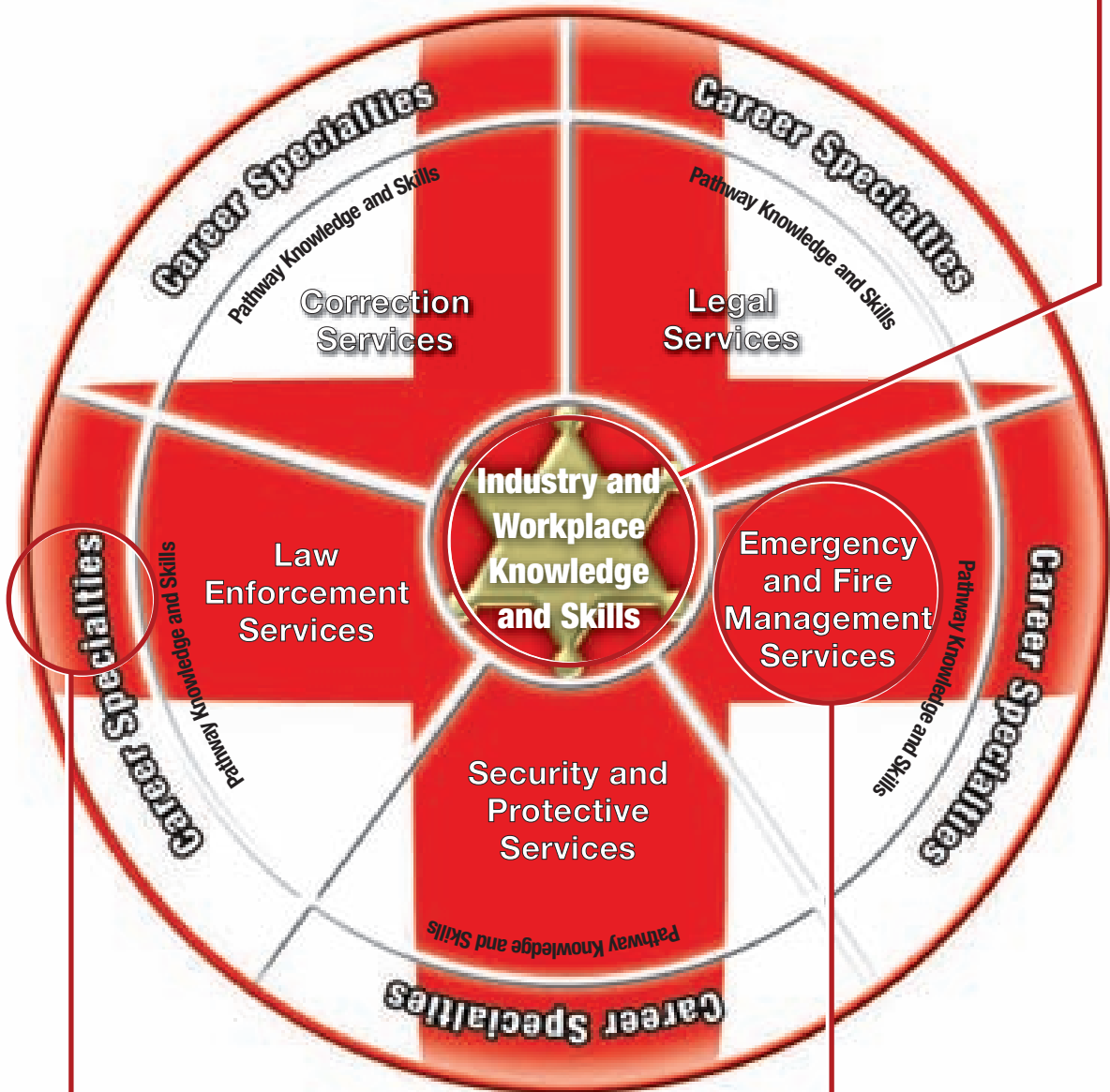
WorkKeys®: For more information, visit www.myworkkeys.com





Planning, managing, and providing legal, public safety, protective services, and homeland security, including professional and technical support services.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
Correction Services	<ul style="list-style-type: none"> • Child, Family, and School Social Workers • Criminal Justice and Law Enforcement Teachers, Postsecondary 	<ul style="list-style-type: none"> • First-Line Supervisors/Managers of Correctional Officers • First-Line Supervisors/Managers of Police and Detectives 	<ul style="list-style-type: none"> • Lifeguards • Protective Service Workers • Psychology Teachers, Postsecondary • Security Guards 	
Emergency and Fire Management Services	<ul style="list-style-type: none"> • Correctional Officers and Jailers • Fire Fighters • Fire Inspectors and Investigators 	<ul style="list-style-type: none"> • First-Line Supervisors/Managers of Fire Fighting and Prevention Workers 	<ul style="list-style-type: none"> • Forest Fire Inspectors and Prevention Specialists 	
Security and Protective Services	<ul style="list-style-type: none"> • Animal Control Workers • Criminal Justice and Law Enforcement Teachers, Postsecondary • Crossing Guards • Fire Fighters • First-Line Supervisors/Managers of Protective Service Workers, Except Police, Fire and Corrections 	<ul style="list-style-type: none"> • Lifeguards, Ski Patrol • Parking Enforcement Workers • Police and Sheriff's Patrol Officers • Private Detectives and Investigators • Recreational Protective Service Workers 	<ul style="list-style-type: none"> • Security Guards • Transit and Railroad Police 	
Law Enforcement Services	<ul style="list-style-type: none"> • Anthropology and Archeology Teachers, Postsecondary • Bailiffs • Correctional Officers and Jailers 	<ul style="list-style-type: none"> • Criminal Justice and Law Enforcement Teachers, Postsecondary • Detectives and Criminal Investigators 	<ul style="list-style-type: none"> • First-Line Supervisors/Managers of Police and Detectives • Forensic Science Technicians 	<ul style="list-style-type: none"> • Police and Sheriff's Patrol Officers
Legal Services	<ul style="list-style-type: none"> • Administrative Law Judges, Adjudicators, and Hearing Officers • Arbitrators, Mediators, and Conciliators • Court Reporters 	<ul style="list-style-type: none"> • Farm and Home Management Advisors • Judges, Magistrate Judges, and Magistrates • Law Clerks 	<ul style="list-style-type: none"> • Law Teachers, Postsecondary • Lawyers • Legal Secretaries • Legal Support Workers 	<ul style="list-style-type: none"> • Paralegals and Legal Assistants • Title Examiners, Abstractors, and Searchers

*National career pathways



A Firefighter's Day on the Job

A firefighter for the St. Bernard Parish Fire Department in Chalmette, Rebecca Stechmann described what it's like on her job.

"A day at work is always different. You never know what will happen. There could be a car fire or house fire and even a cat stuck in a tree that you need to help free. Your job is to help people any way you can."

The St. Bernard Business and Career Solutions Center provided for Stechmann's on-the-job training. She attended LSU Fire School and passed the examinations for the Fire Fighter I and Fire Fighter II certifications.



Rebecca Stechmann, Firefighter

She also is certified as a first responder. "It's a 14-week school with a lot of hard work you need to put into it to make it through," she said.

For anyone who wants to pursue her career, Stechmann's advice is "Never give up!"

Law and Public Safety Jobs Require Solid Math Skills

There are thousands of jobs in the Law, Public Safety, Corrections & Security Career Cluster, and students need a solid background in math, science and technical skills to prepare for these careers, according to a brochure published by the States' Career Clusters Initiative. Education and training can be obtained in high school Career and Technical Education programs, at two- and four-year colleges and at technical schools and institutes. To find and view the brochure, go to <http://www.careerclusters.org>, click on "Resources," then "Career Clusters Brochures."

Under the "Resources" tab, also click on "Career Cluster Models." There you'll find a list of many jobs that fall into five different career cluster pathways:

- Correction Services
- Emergency and Fire Management Services
- Security and Protective Services
- Law Enforcement Services
- Legal Services

For more information about jobs that interest you, go to the *Occupational Outlook Handbook* at <http://www.bls.gov/oco>.



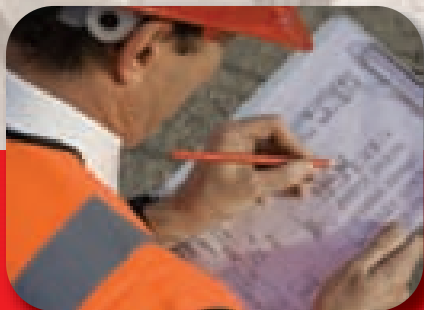
Did You Know?

Many careers in Law, Public Safety, Corrections & Security contribute to the national Homeland Security initiative. Twenty-four of Louisiana's community colleges and 18 of its four-year colleges offer courses related to this Career Cluster.

For more information, go to the Department of Homeland Security at <http://www.dhs.gov/dhspublic>. To review current jobs, go to <http://www.usajobs.opm.gov/homeland.asp>.

For other careers in Law, Public Safety, Corrections & Security, go to:

- American Bar Association: <http://www.abanet.org/home.html>
- Federal Bureau of Investigation: <https://www.fbijobs.com>
- Forensic Sciences Foundation: <http://www.forensicsciencesfoundation.org>
- Legal assistants, legal secretaries and paralegals: <http://www.nala.org> and <http://www.legalsecretaries.org>
- Louisiana State Police: <http://www.lsp.org>; click on "Recruiting"



LOUISIANA
Opportunities in



2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Lawyers	First professional degree	250	\$45.49
	First-Line Supervisors/Managers of Police and Detectives	Work experience in a related occupation	90	29.53
	First-Line Supervisors/Managers of Correctional Officers	Work experience in a related occupation	80	26.44
	Detectives and Criminal Investigators	Work experience in a related occupation	80	24.92
	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers	Work experience in a related occupation	70	24.31
Probation Officers and Correctional Treatment Specialists		Bachelor's degree	30	21.89
Paralegals and Legal Assistants		Associate degree	110	20.50
Police and Sheriff's Patrol Officers		Long-term training and experience ⁵	390	18.13
Court Reporters		Postsecondary vocational training	20	18.10
Correctional Officers and Jailers		Moderate-term training and experience ⁴	480	17.12
Fire Fighters		Long-term training and experience	180	15.23
Bailliffs		Moderate-term training and experience	20	14.70
Gaming Surveillance Officers and Gaming Investigators		Moderate-term training and experience	20	14.47
Police, Fire, and Ambulance Dispatchers		Moderate-term training and experience	60	12.86
Security Guards		Short-term training and experience ³	470	11.27
Crossing Guards		Short-term training and experience	20	9.98
Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers		Short-term training and experience	50	8.52

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

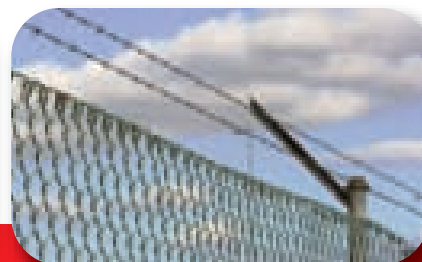
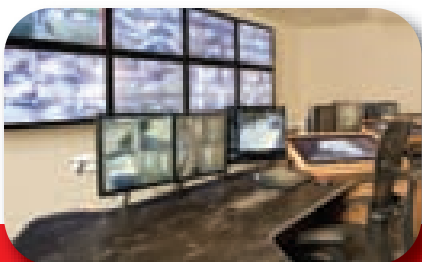
5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

O*Net OnLine: <http://online.onetcenter.org/>

For detailed information on any occupational title, go online to the O*Net Web site, type it into the **Occupation Search** box, and click the **search button**. Next, click on the occupation from the list of search results. The search results will show which of the occupations in this section are defined as high-skilled. The summary report starts with a description and includes information for tasks, tools and technology, related occupations, wages and much more.

Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Total Federal Government Employment	22,491	25,574	3,083	13.7%
State, Excluding Education and Hospitals	47,793	50,103	2,310	4.8%
Local, Excluding Education and Hospitals	84,145	91,255	7,110	8.4%



Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Law Enforcement Services
Legal Services

Postsecondary Programs

(A sample listing)

Arson Investigation
Criminal Justice
Criminal Justice Administration
Emergency Management
Evidence Recovery Technology
Fire and Emergency Services
Fire Science
Law
Legal Office Assistant
Legal Secretary
Paralegal Studies
Political Science
Public and Industrial Security
Security

Sample Job Profile for National Career Readiness Certificate

Detectives and Criminal Investigators

Detectives and criminal investigators conduct investigations related to suspected violations of Federal, state, or local laws to prevent or solve crimes. This job requires:

- Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process
- Knowledge of relevant equipment, policies, procedures, and strategies to promote effective security operations for protection

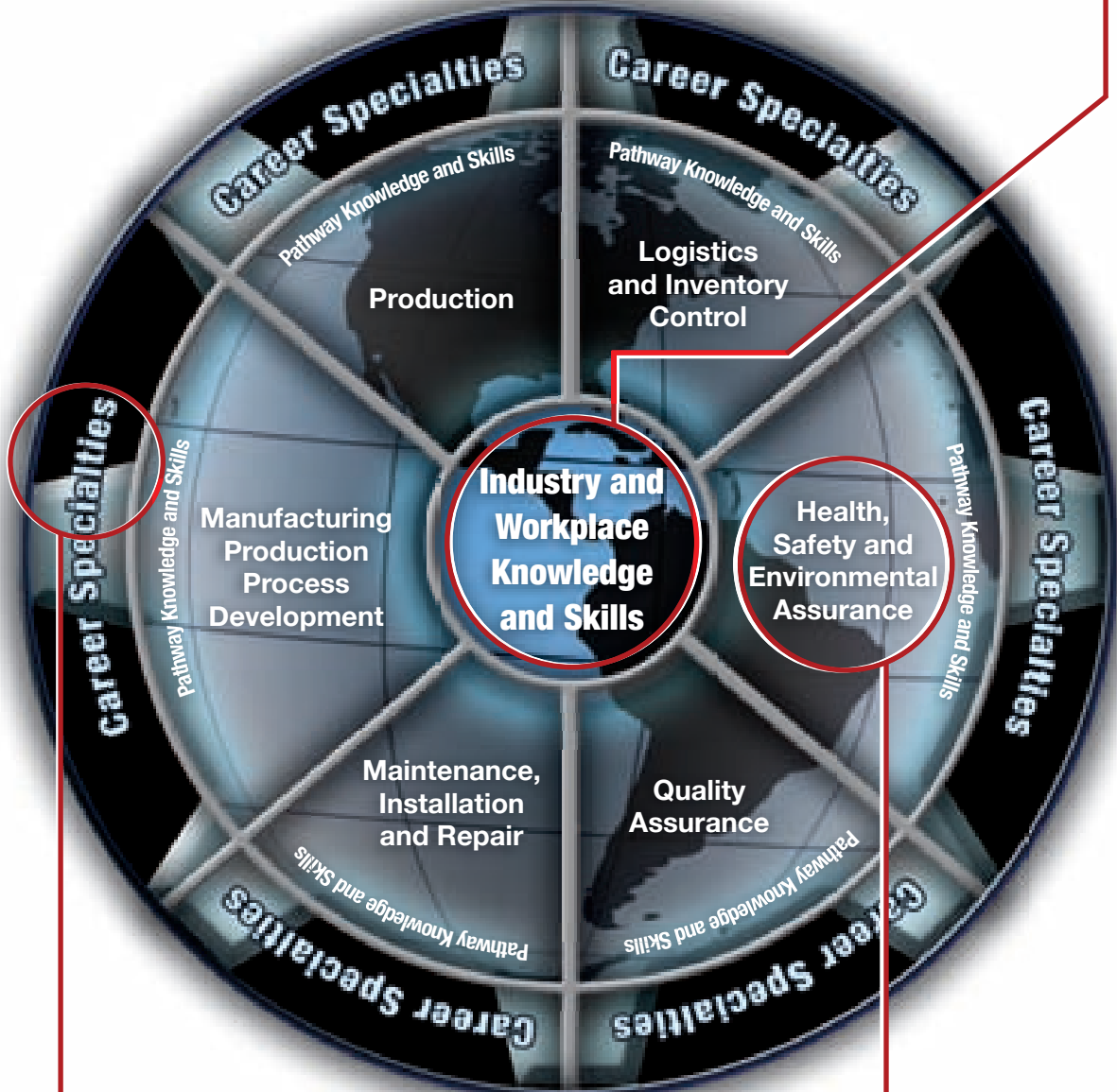
For information on required NCRC Certificate level, please visit WorkKeys® at www.myworkkeys.com.





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.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
Production	<ul style="list-style-type: none"> • Assembler • Automated Manufacturing Technician • Calibration Technician • Electrical Installer and Repairer • Electromechanical Equipment Assembler • Extruding and Drawing Machine Setter/Set-Up Operator 	<ul style="list-style-type: none"> • Extrusion Machine Operator • Foundry Worker • Grinding, Lapping, and Buffing Machine Operator • Hand Packers and Packager • Hoist and Winch Operator • Instrument Maker 	<ul style="list-style-type: none"> • Large Printing Press Machine Setter and Set-Up Operator • Machine Operator • Manager, Supervisor • Medical Appliance Maker • Milling Machine Setter, Set-Up Operator • Millwright • Operator, Tender, Cutter/Brazer, Solderer, Machine Operator 	<ul style="list-style-type: none"> • Painter • Pattern & Model Maker • Precision Layout Worker • Precision Optical Goods Worker • Production Associate • Sheet Metal Worker • Solderer and Brazer • Tool and Die Maker • Welder
Manufacturing Production Process Development	<ul style="list-style-type: none"> • Design Engineer • Electrical and Electronics Technician and Technologist • Electronics Engineer 	<ul style="list-style-type: none"> • Engineering and Related Technician and Technologist • Engineering Technician • Industrial Engineer • Labor Relations Manager 	<ul style="list-style-type: none"> • Manufacturing Engineer • Manufacturing Technician • Power Generating and Reactor Plant Operator • Precision Inspector, Tester, and Grader 	<ul style="list-style-type: none"> • Process Improvement Technician • Production Manager • Purchasing Agent • Supervisor
Maintenance, Installation and Repair	<ul style="list-style-type: none"> • Biomedical Equipment Technician • Boilermaker • Communication System Installer/Repairer • Computer Installer/Repairer • Computer Maintenance Technician • Electrical Equipment Installer/Repairer 	<ul style="list-style-type: none"> • Facility Electrician • Industrial Electronic Installer/Repairer • Industrial Facilities Manager • Industrial Machinery Mechanic • Industrial Maintenance Electrician • Industrial Maintenance Mechanic 	<ul style="list-style-type: none"> • Industrial Maintenance Technician • Instrument Calibration and Repairer • Instrument Control Technician • Job/Fixture Designer • Laser Systems Technician • Maintenance Repairer 	<ul style="list-style-type: none"> • Major Appliance Repairer • Meter Installer/Repairer • Millwright • Plumber, Pipefitter and Steamfitter • Security System Installer/Repairer
Quality Assurance	<ul style="list-style-type: none"> • Calibration Technician • Inspector • Lab Technician 	<ul style="list-style-type: none"> • Process Control Technician • Quality Control Technician 	<ul style="list-style-type: none"> • Quality Engineer • SPC Coordinator 	
Logistics and Inventory Control	<ul style="list-style-type: none"> • Communications, Transportation and Utilities Manager • Dispatcher • Freight, Stock, and Material Mover 	<ul style="list-style-type: none"> • Industrial Truck and Tractor Operator • Logistical Engineer • Logistician • Material Associate • Material Handler 	<ul style="list-style-type: none"> • Material Mover • Process Improvement Technician • Quality Control Technician 	<ul style="list-style-type: none"> • Traffic Manager • Traffic, Shipping, and Receiving Clerk
Health, Safety and Environmental Assurance	<ul style="list-style-type: none"> • Environmental Engineer • Environmental Specialist • Health and Safety Representative • Safety Coordinator • Safety Engineer 	<ul style="list-style-type: none"> • Safety Team Leader • Safety Technician 		

*National career pathways



Career Spotlight

Donald Hull

Appliance Repair a ‘High-Demand Field’

At Mitch Romero’s Appliance & Air Conditioning Repair Service in Maurice, appliance technician Donald Hull works in a shop environment troubleshooting problems and performing repairs on home appliances. Typically, Hull works on refrigerators, freezers, stoves, washers, dryers, and dishwashers.

What does it take to perform this type of work? In Hull’s experience, he found that “You need to be mechanically inclined. You need to know how to properly use hand tools and would need training on specialty tools. And you must be focused and able to concentrate.”

When it comes to learning to be an appliance technician, Hull said, “Most people in this field need some type of training such as a technical college or trade school unless they have transferable skills from a similar occupation.”

Hull received assistance through the Lafayette Business and Career Solutions Center. There he was administered the WorkKeys® job skills assessment and received on-the-job training. Currently Hull is being trained to go into customer’s homes on service calls to troubleshoot and repair in the field.

“This is a very high-demand field that will continue to thrive in the future,” Hull said about his career in particular. And, in regard to career advice in general, “Always keep your eyes and ears open,” he added.



Donald Hull, Appliance Technician

Career Spotlight

Joshua Arceneaux

Machinist’s Advice: School, a Good Attitude, and Good Work Ethics

Joshua Arceneaux is a machinist at All Service Machine Shop in Chalmette. According to Arceneaux, “We repair shafts and make parts for airplanes for the military and various other industries. My job is to sand blast metal parts, cut with a torch, drill center holes, and clean up.”

Arceneaux enlisted assistance from St. Bernard Business and

Career Solutions Center where he received on-the-job training.

For students and others seeking a career, Arceneaux recommends school, a good attitude, and good work ethics. “Stay in school, get education, and show up at work – if you are early, you are on time; if you are on time, you are late,” he said.



Joshua Arceneaux, Machinist

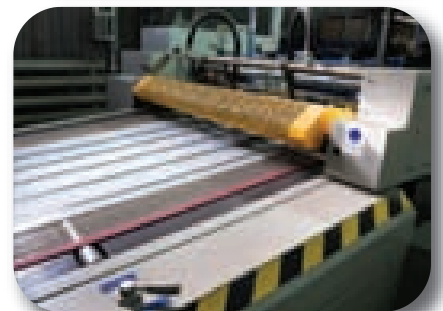
Did You Know?

According to the Louisiana Economic Development, advanced manufacturing and production of nuclear energy-related reactor components are two of Louisiana's 10 key industries. Major segments of advanced manufacturing in Louisiana are advanced materials, aerospace, aviation, durable goods, and shipbuilding, according to an online industry overview at <http://www.louisianaeconomicdevelopment.com>.

And because nuclear power production is expected to grow worldwide, Louisiana's reputation in the field of advanced manufacturing can position the state as a significant provider of reactor components. On the Web site, Louisiana Economic Development's Advanced Manufacturing Director, Von Hatley, said that "Louisiana is aggressively competing to become a significant participant in the industry, notably in the development of modular components for new reactors."

For more information about careers in advanced manufacturing, go to O*NET™ OnLine at <http://online.onetcenter.org>, click on the arrow next to "Career Cluster." Then follow the menu to the "Manufacturing" link to find dozens of career links. Also see the *Occupational Outlook Handbook* at <http://www.bls.gov/oco>.

To locate more information related to advanced manufacturing and energy courses, access the Louisiana Community and Technical College System at <http://www.lctcs.edu> and the Louisiana Board of Regents at <http://regents.state.la.us>.



MANUFACTURING CAREER RESEARCH

To find Louisiana postsecondary schools that offer courses related to advanced manufacturing, go to *CareerOneStop* at <http://www.careerinfonet.org/edutaining>.

To learn more about particular career fields, go to:

- Manufacturing Career Guide: <http://www.khake.com/page40.html>; links to manufacturing career information
- Manufacturing engineers: <http://www.sme.org>
- Metalforming careers: <http://www.pmaef.org/occupations/index.htm>
- Welding careers: <http://www.aws.org/w/a/education/career.html>

LOUISIANA
Opportunities in



2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Industrial Production Managers	Bachelor's degree	70	\$44.39
	Boilermakers	Long-term training and experience ⁵	30	33.37
	Chemical Plant and System Operators	Long-term training and experience	100	28.71
	Industrial Engineering Technicians	Associate degree	20	27.83
	First-Line Supervisors/Managers of Production and Operating Workers	Work experience in a related occupation	180	27.47
Electrical and Electronics Repairers, Commercial and Industrial Equipment		Postsecondary vocational training	40	26.90
Gas Plant Operators		Long-term training and experience	20	26.67
Electrical and Electronic Engineering Technicians		Associate degree	50	25.49
Purchasing Agents, Except Wholesale, Retail, and Farm Products		Bachelor's degree	80	23.89
Chemical Equipment Operators and Tenders		Moderate-term training and experience ⁴	50	23.49
Industrial Machinery Mechanics		Long-term training and experience	230	21.90
Millwrights		Long-term training and experience	20	20.97
Medical Equipment Repairers		Moderate-term training and experience	20	20.93
Electrical and Electronics Installers and Repairers, Transportation Equipment		Postsecondary vocational training	20	19.77
Welders, Cutters, Solderers, and Brazers		Postsecondary vocational training	540	19.61
Machinists		Long-term training and experience	160	19.55
Inspectors, Testers, Sorters, Samplers, and Weighers		Moderate-term training and experience	150	19.44
Structural Metal Fabricators and Fitters		Moderate-term training and experience	70	19.26
Painters, Transportation Equipment		Moderate-term training and experience	20	18.58
Paper Goods Machine Setters, Operators, and Tenders		Moderate-term training and experience	20	18.10
Maintenance Workers, Machinery		Long-term training and experience	80	17.76
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders		Moderate-term training and experience	20	17.64
Hazardous Materials Removal Workers		Moderate-term training and experience	20	17.55
Electric Motor, Power Tool, and Related Repairers		Postsecondary vocational training	20	16.60
Home Appliance Repairers		Long-term training and experience	20	16.15
Maintenance and Repair Workers, General		Long-term training and experience	240	16.12
Coating, Painting, and Spraying Machine Setters, Operators, and Tenders		Moderate-term training and experience	20	16.00
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders		Moderate-term training and experience	30	15.94

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Administrative and Support Services	89,699	97,601	7,902	8.8%
Fabricated Metal Product Manufacturing	18,948	20,313	1,365	7.2%
Machinery Manufacturing	15,585	16,923	1,338	8.6%

Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Industrial Operations
Jewelry Manufacturing
Lab Technology
Petrochemical
Welding

Postsecondary Programs

(A sample listing)

Band and Circular Saw Filing Welding
Construction Management
Construction Management Technology
Construction Technology
Custom Sewing
Fitter/Fabricator
Heating Ventilation, and Air Conditioning
Industrial Machine Shop
Jewelry Manufacturing
Jewelry Technology
Machine Tool Technology
Manufacturing Technology
Mill Operator
Pipefitting
Production Line Welding
Sheet Metal
Upholstery Technology
Welding

Registered Apprenticeship

Machinist
Pipe Welder
Pipefitter
Sheet Metal

Industry-based Certifications

(A sample listing)

National Center for Construction Education and Research (NCCER) certifications available

Sample Job Profile for National Career Readiness Certificate

Welders, Cutters, Solderers, and Brazers

Welders, cutters, solderers, and brazers use hand-welding, flame-cutting, hand-soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products. These jobs require:

- Knowledge of machines and tools
- Knowledge of raw materials, production processes, quality control, and other techniques for manufacturing and distribution of goods
- Knowledge of materials, methods, and tools involved in construction or repair of structures and roads

Required NCRC Certificate Level: Bronze

WorkKeys®: For more information, visit www.myworkkeys.com



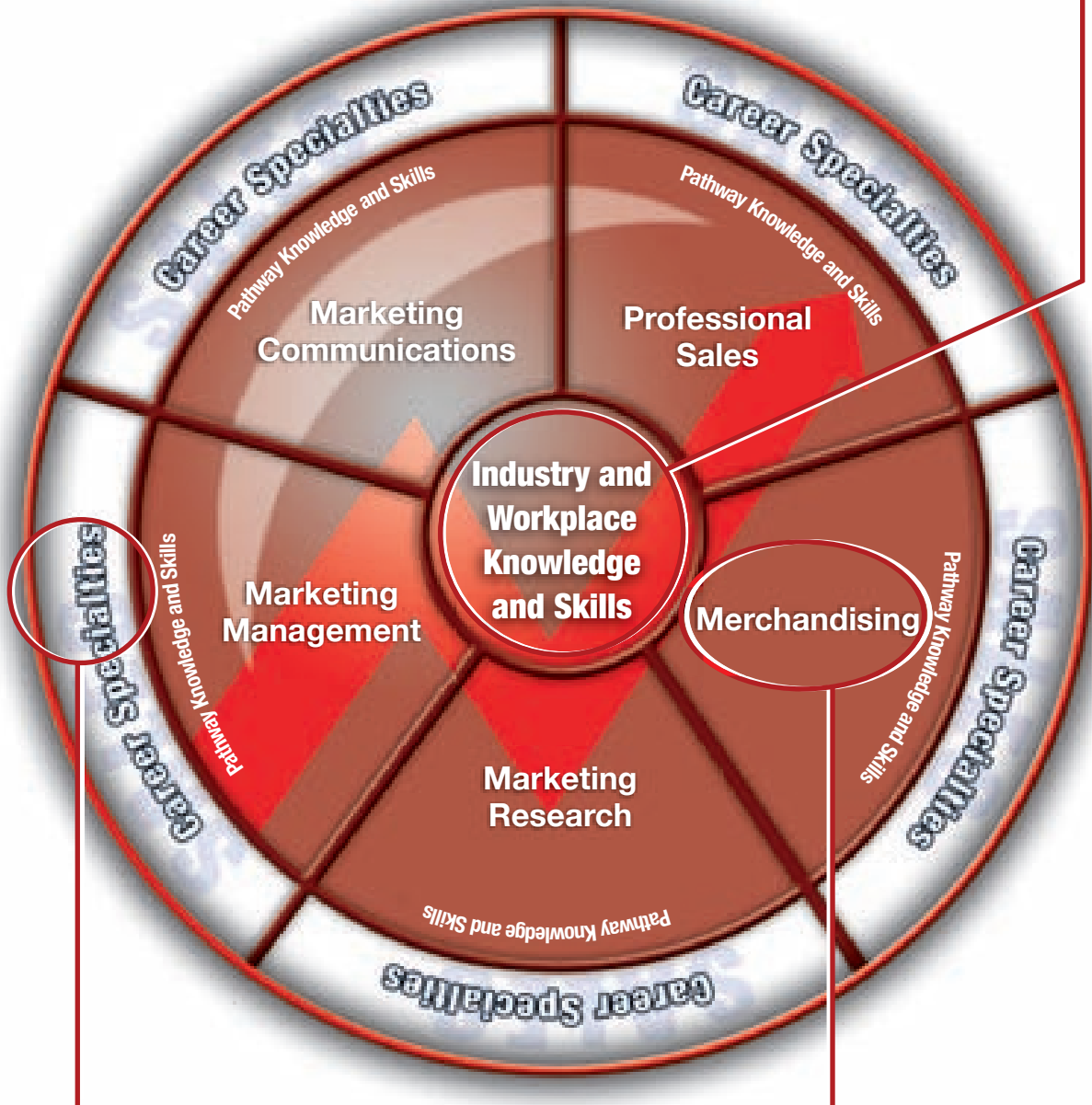
O*Net OnLine: <http://online.onetcenter.org/>

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Planning, managing, and performing marketing activities to reach organizational objectives.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations	
Marketing Management	<ul style="list-style-type: none"> Advertising and Promotions Managers Business Teachers, Postsecondary 	<ul style="list-style-type: none"> Marketing Managers Sales Managers
Professional Sales	<ul style="list-style-type: none"> Appraisers and Assessors of Real Estate Cashiers Counter and Rental Clerks Demonstrators and Product Promoters Door-To-Door Sales Workers, News and Street Vendors, and Related Workers Driver/Sales Workers First-Line Supervisors/Managers of Non-Retail Sales Workers First-Line Supervisors/Managers of Retail Sales Workers 	<ul style="list-style-type: none"> Gaming Change Persons and Booth Cashiers Hotel, Motel, and Resort Desk Clerks Interior Designers Lodging Managers Marketing Managers Meeting and Convention Planners Models Parts Salespersons Property, Real Estate, and Community Association Managers Real Estate Brokers Real Estate Sales Agents
Merchandising	<ul style="list-style-type: none"> Purchasing Agents, Except Wholesale, Retail, and Farm Products Retail Salespersons Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products 	<ul style="list-style-type: none"> Telemarketers Wholesale and Retail Buyers, Except Farm Products
Marketing Communications	<ul style="list-style-type: none"> Computer Programmers First-Line Supervisors/Managers of Retail Sales Workers Sales Managers 	
Marketing Research	<ul style="list-style-type: none"> Business Teachers, Postsecondary Market Research Analysts 	<ul style="list-style-type: none"> Marketing Managers Survey Researchers

*National career pathways



Pursuing an Insurance Career

Insurance sales clerk Amanda Wood works for an insurance agency. On top of that, she presently is studying to take an exam for insurance underwriters. The *Occupational Outlook Handbook* lists three organizations that offer training programs and examinations that lead to various insurance certifications.

Describing the knowledge and experience needed for a career in insurance sales, Wood said, “An individual who is going to sell insurance usually has a bachelor’s degree and at least three years of on-the-job experience. You also need to be good at computations and have excellent math skills.”

Wood received scholarship funds through the St. Bernard Business and Career Solutions Center, which assisted her in earning a bachelor’s degree.

Wood uses those skills daily on job tasks that include researching quotes for life, homeowner, and medical insurance, for example. During her 30- to 35-hour work week, she also handles customers’ policy purchases and transactions.

The most challenging part of Wood’s job is when she has to assist a customer who is going through the grief of a loss, such as a relative’s death. Her greatest

joy is working with the public. “It’s a unique and pleasant experience,” she said.



Amanda Wood,
Insurance
Sales Clerk

“My best advice is to stay in school. In addition, take the advice of your career counselors in high school or the local career center,” she said. “This will give you some directions that will help you to achieve a rewarding career that you enjoy.”

Interested in a career like hers? Visit www.bls.gov/oco for additional information.



Did You Know?

Out-of-state visitors to Louisiana State Parks spent almost \$12 million in the state and produced an economic impact of over \$24 million. Louisiana residents spent another \$29.2 million while visiting the parks. That fact alone supports the state's effort to promote Louisiana tourism, and you can find it at <http://www.crt.louisiana.gov/tourism>. And the site itself represents the kind of work that graphic designers, writers, webmasters, and others contribute to state tourism.



It's the job of Louisiana Seafood Promotion & Marketing Board staff to develop and direct a wide variety of communications programs to support the industry. Find out about these marketing efforts at http://www.louisianaseafood.com/about_board.cfm.



Some of America's largest companies are CenturyLink, Entergy, Pool, and Shaw Group, all headquartered in Louisiana. Check their Web sites for links to investor and media relations. You will find that large companies like these, and smaller ones as well, have jobs for trained marketing professionals.



Successful companies large and small pay attention to marketing. Go to the *CareerOneStop* Web site at <http://www.careerinfonet.org/edutrainng> to find postsecondary schools that offer courses related to marketing careers.

MARKETING RESOURCES

American Advertising Federation: <http://www.aaf.org>

American Marketing Association: <http://www.marketingpower.com>

Career Guide to Industries: <http://www.bls.gov/oco/cg/cgs030.htm>

Council of American Survey Research Organizations: <http://www.casro.org>

DECA – An Association of Marketing Students: <http://www.deca.org>

Marketing Career Descriptions: <http://www.marshall.usc.edu/marketing/resources/resources-overview.htm>

Occupational Outlook Handbook: http://www.bls.gov/oco/oooh_index.htm#M
(includes a list of marketing careers)

Product Marketing Association: <http://www.pma.com>

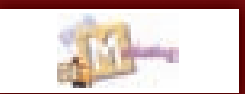


MARKETING TALK

Every profession has its own vocabulary. As a future marketer, you'll want to learn the language. For help, access the American Marketing Association's dictionary of marketing terms at http://www.marketingpower.com/_layouts/Dictionary.aspx.



LOUISIANA
Opportunities in



2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Sales Managers	Work experience plus bachelor's or higher degree	130	\$38.95
	Marketing Managers	Work experience plus bachelor's or higher degree	30	37.58
	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Moderate-term training and experience ⁴	140	31.67
	Purchasing Managers	Work experience plus bachelor's or higher degree	30	31.62
	First-Line Supervisors/Managers of Non-Retail Sales Workers	Work experience in a related occupation	80	27.05
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products		Moderate-term training and experience	660	25.32
Interior Designers		Bachelor's degree	20	23.51
Wholesale and Retail Buyers, Except Farm Products		Bachelor's degree	30	22.86
Appraisers and Assessors of Real Estate		Postsecondary vocational training	20	21.71
Property, Real Estate, and Community Association Managers		Bachelor's degree	110	20.12
Real Estate Sales Agents		Postsecondary vocational training	50	18.13
Advertising Sales Agents		Moderate-term training and experience	40	16.38
First-Line Supervisors/Managers of Retail Sales Workers		Work experience in a related occupation	780	16.35
Jewelers and Precious Stone and Metal Workers		Postsecondary vocational training	20	14.90
Door-To-Door Sales Workers, News and Street Vendors, and Related Workers		Short-term training and experience ³	20	13.66
Demonstrators and Product Promoters		Moderate-term training and experience	20	13.54
Merchandise Displayers and Window Trimmers		Moderate-term training and experience	30	13.16
Customer Service Representatives		Moderate-term training and experience	1,250	13.04
Parts Salespersons		Moderate-term training and experience	40	12.74
Machine Feeders and Offbearers		Short-term training and experience	30	12.72
Telemarketers		Short-term training and experience	80	11.46
Floral Designers		Moderate-term training and experience	30	11.08
Retail Salespersons		Short-term training and experience	2,530	10.96
Counter and Rental Clerks		Short-term training and experience	310	10.91
Service Station Attendants		Short-term training and experience	50	9.76
Meat, Poultry, and Fish Cutters and Trimmers		Short-term training and experience	80	9.03
Cashiers		Short-term training and experience	3,130	8.04

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
General Merchandise Stores	51,605	58,318	6,713	13.0%
Merchant Wholesalers, Durable Goods	39,980	42,552	2,572	6.4%
Real Estate	13,308	14,208	900	6.8%

Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Clothing and Textiles
 Entrepreneurship
 Marketing and Sales Management
 Upholstery

Postsecondary Programs

(A sample listing)

Apparel & Accessories Marketing Management
 Business Marketing Operations
 Entrepreneurship
 Enterprise Management & Operations
 Marketing
 Marketing Management
 Marketing Research
 Operation Management and Supervision
 Retail and Wholesale Operations
 Sales Operations

Industry-based Certifications

(A sample listing)

Customer Service

Sample Job Profile for National Career Readiness Certificate

Retail Salespersons

Retail salespersons sell merchandise, such as furniture, motor vehicles, appliances or apparel, in a retail establishment. The job requires:

- Knowledge of principles and processes for providing customer and personal services
- Knowledge of principles and methods for showing, promoting, and selling products or services

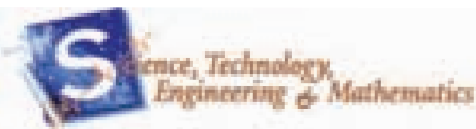
Required NCRC Certificate Level: Bronze

WorkKeys®: For more information, visit
www.myworkkeys.com

O*Net OnLine: <http://online.onetcenter.org/>

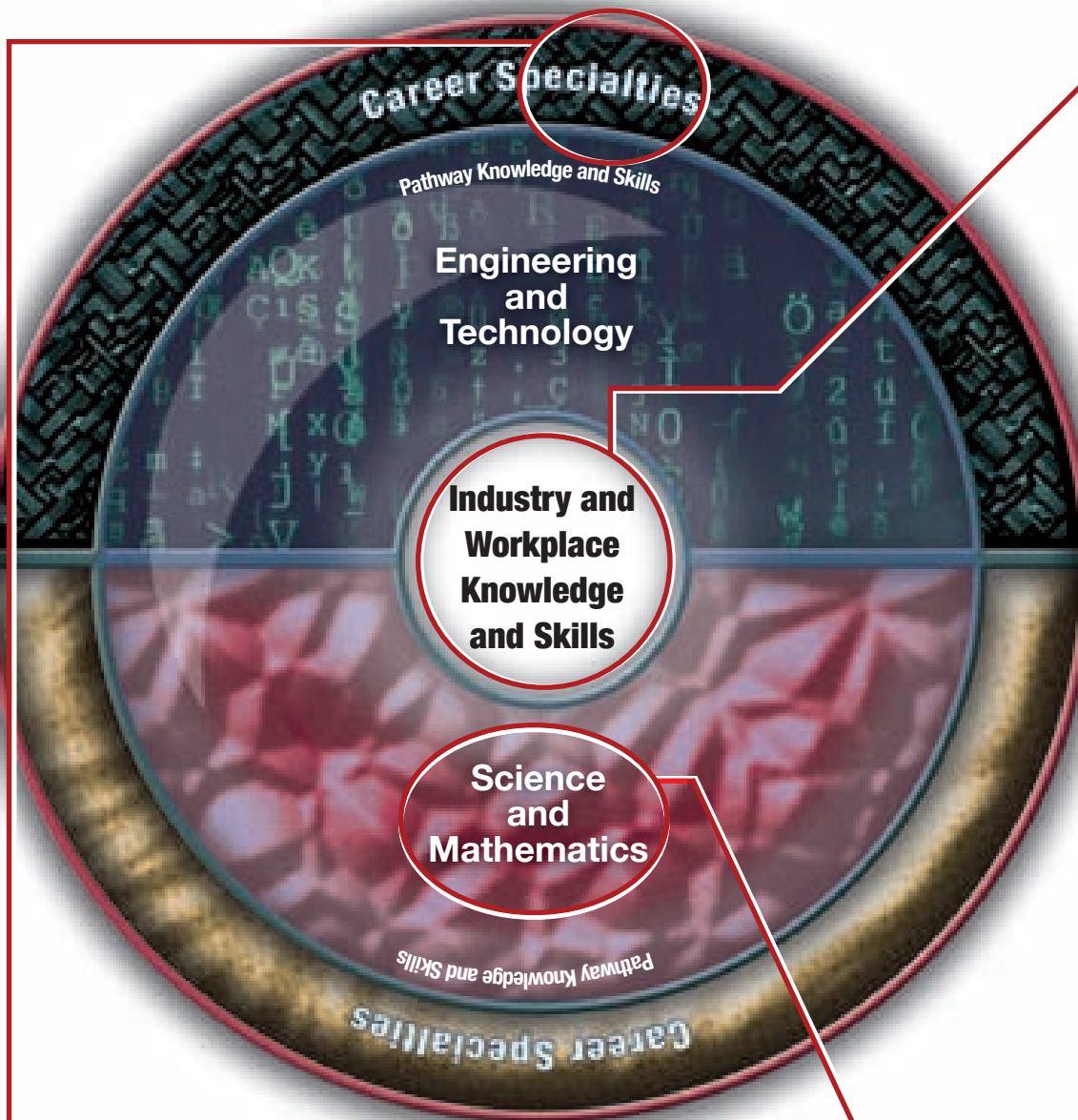
For detailed information on any occupational title, go online to the O*Net Web site, type it into the **Occupation Search** box, and click the **search button**. Next, click on the occupation from the list of search results. The search results will show which of the occupations in this section are defined as high-skilled. The summary report starts with a description and includes information for tasks, tools and technology, related occupations, wages and much more.





Planning, managing, and providing scientific research and professional and technical services including laboratory and testing services, and research and development services.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
<p>Engineering and Technology</p>	<ul style="list-style-type: none"> • Aerospace Engineers • Agricultural Engineers • Architecture Teachers, Postsecondary • Biomedical Engineers • Chemical Engineers • Civil Engineers • Computer Hardware Engineers • Cost Estimators • Drafters 	<ul style="list-style-type: none"> • Electrical Engineers • Electro-Mechanical Technicians • Electronics Engineers, Except Computer • Engineering Managers • Engineering Teachers, Postsecondary • Engineers • Environmental Engineers 	<ul style="list-style-type: none"> • Health and Safety Engineers, Except Mining Safety Engineers and Inspectors • Industrial Engineering Technicians • Industrial Engineers • Marine Engineers and Naval Architects 	<ul style="list-style-type: none"> • Materials Engineers • Mechanical Engineers • Mining and Geological Engineers, Including Mining Safety Engineers • Nuclear Engineers • Nuclear Technicians • Petroleum Engineers
<p>Science and Mathematics</p>	<ul style="list-style-type: none"> • Anthropologists and Archeologists • Anthropology and Archeology Teachers, Postsecondary • Astronomers • Atmospheric and Space Scientists • Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary • Biochemists and Biophysicists • Biological Science Teachers, Postsecondary • Biological Scientists • Cartographers and Photogrammetrists • Chemistry Teachers, Postsecondary • Chemists • Community and Social Service Specialists • Computer Programmers 	<ul style="list-style-type: none"> • Computer Software Engineers, Applications • Computer Specialists • Computer Support Specialists • Dietetic Technicians • Dietitians and Nutritionists • Economics Teachers, Postsecondary • Economists • Engineering Managers • Engineering Teachers, Postsecondary • Epidemiologists • Family and General Practitioners • Geographers • Geography Teachers, Postsecondary • Geoscientists, Except Hydrologists and Geographers • Health Specialties Teachers, Postsecondary 	<ul style="list-style-type: none"> • Hydrologists • Life Scientists • Market Research Analysts • Materials Scientists • Mathematical Science Teachers, Postsecondary • Mathematical Scientist Occupations • Mathematical Technicians • Mathematicians • Medical Scientists • Medical Scientists, Except Epidemiologists • Microbiologists • Natural Sciences Managers • Physical Scientists • Physicists • Physics Teachers, Postsecondary • Political Science Teachers, Postsecondary 	<ul style="list-style-type: none"> • Political Scientists • Psychologists • Social Scientists and Related Workers • Social Sciences Teachers, Postsecondary • Sociologists • Statisticians • Survey Researchers • Zoologists and Wildlife Biologists

*National career pathways



Positive Attitude and Education Lead to a Technical Career

An “I can do it” attitude has been life changing for Calvin Hickman. In fact, Hickman says, “No matter what happens, do as much as you can to fulfill your goals, and never give up even though it might get hard.”

Hickman’s career journey is a great example of his personal belief. In the past, he had worked as a dishwasher, a cook, and a concrete form laborer. Today, he is an industrial painter at a Shaw Group location in the Lake Charles area, and he is taking night classes to complete his degree in Process Technology at SOWELA Technical Community College.

Working full time in order to support his family, Hickman said, “One thing that was most challenging for me was transitioning from a full-time work mode to full-time work as a student with a family of four children ranging in ages from 5 months to 6 years. It took quite a bit of adjusting to overcome, but I feel that I am excelling in all three areas now.”

With assistance from a National Emergency Grant offered by the Calcasieu Parish Business and Career Solutions Center, Hickman enrolled in the Process Technology program at SOWELA. “This is where I gained the ability to read and understand procedures, whether at a chemical plant or modular plant like Shaw. Also, the instruction that I received from SOWELA taught me how to troubleshoot, which is extremely important when working in the field with various tools and techniques,” he said.

“I also obtained my NCCER certification to help me succeed on the job,” he added. The National Center for Construction Education and Research (NCCER) is a not-for-profit foundation that develops industry-driven standardized craft training programs with portable credentials.

A normal work schedule for employees like Hickman begins at 7:00 a.m. and ends around 4:30 p.m. On Fridays, they finish at 11:00 a.m. On the job, Hickman is responsible for applying adhesives, sealants, and coatings to modules. To do that, he sandblasts modules and paints with an airless paint sprayer. A few specialized tools that are required on the job include an airless spray pump, airless spray gun and tip, sandblasting setup, and a mil gauge, he added.

“We read blueprints, technical drawings, work orders, instructions, formulas, and processing charts in order to know what to do for each job assigned,” Hickman explained. In addition to classes at SOWELA, Hickman acquired his skills in a variety of ways. “My sandblasting and painting skills were learned on various job sites and from listening to the advice of my supervisors. I learned the various specifications for inspections through my own initiative.”

Hickman also mentioned additional need-to-know skills. “Other traits that one needs to succeed on the job include honesty, people skills, positive attitude, and good



Calvin Hickman, Industrial Painter

communication to ensure that the supervisor is aware of your strengths and weaknesses. The most important one is knowing your limits. It is crucial that you are honest with yourself about what you are capable and not capable of doing,” he said.

“Also, learning how to translate book knowledge and what I learned in the classroom to real-life scenarios took some adjusting. To overcome these challenges, I had to adapt to different personality styles, keep open communication with my supervisors, keep an open mind to learning new procedures, and always keep in mind that there is room for improvement – that I don’t know everything and that my coworkers can be a great tool to learn from,” he added.

“The thing that I enjoy the most about my job is the camaraderie between co-workers and the atmosphere and attitude of the work area,” he said.

Did You Know?

Today's high-growth industries are producing in-demand jobs that require a background in science, technology, engineering and mathematics (STEM). That is particularly true for Louisiana. On its Web site, Louisiana Economic Development lists the state's 10 key industries – all of which include STEM-related career opportunities:

- Advanced Manufacturing
- Agriculture, Food & Wood Products
- Digital Media
- Energy
- Entertainment
- Headquarters & Shared Services
- Life Science
- Logistics and Transportation
- Nuclear and
- Technology

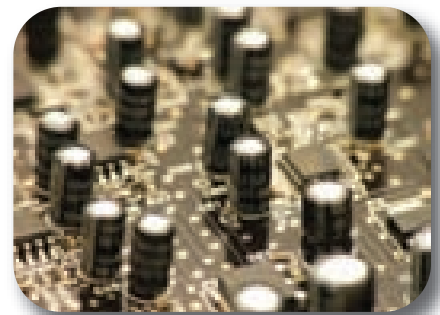
STEM also is one of 16 career clusters that link what students learn in school with the knowledge and skills they need for success in postsecondary education and careers. According to the States' Career Clusters Web site, "Career clusters identify pathways from secondary school to two- and four-year colleges, graduate school, and the workplace, so students can learn in school and what they can do in the future."

So if STEM subjects are among your strengths, work to excel in math, science, and English, which are essential in this high-paced and high-tech 21st century. Enroll in a STEM-related career and technical education program while in high school. And join a career and technical student organization connected with your career interest.

For more information, access Louisiana Economic Development at <http://www.louisianaeconomicdevelopment.com> and the States' Career Clusters at <http://www.careerclusters.org/whatis.php>. Also access the Louisiana Board of Regents at <http://regents.state.la.us>, and the Louisiana Community and Technical College System at <http://www.lctcs.edu> for information about educational opportunities.

STEM SITES TO EXPLORE

According to Career Voyages, 37 of Louisiana's community colleges and 21 of the state's four-year colleges offer courses related to advanced manufacturing. Go to <http://www.careervoyages.gov/advmanufacturing-main.cfm>. The site also provides videos and much more information about careers in the field.



Explore Green Jobs

Occupations related to the Science, Technology, Engineering & Mathematics Career Cluster are in the forefront of the future job market. For more information, go to <http://www.careervoyages.gov/green-main.cfm>.

LOUISIANA
Opportunities in



2008 – 2018 Projected Occupations in Demand

Occupational Title		Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Engineering Managers	Work experience plus bachelor's or higher degree	50	\$53.43
	Petroleum Engineers	Bachelor's degree	60	47.69
	Chemical Engineers	Bachelor's degree	40	46.86
	Civil Engineers	Bachelor's degree	120	42.37
	Geoscientists, Except Hydrologists and Geographers	Bachelor's degree	20	42.07
Electrical Engineers		Bachelor's degree	40	41.37
Mechanical Engineers		Bachelor's degree	60	39.80
Industrial Engineers		Bachelor's degree	110	33.84
Chemists		Bachelor's degree	40	32.25
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors		Bachelor's degree	20	29.03
Environmental Scientists and Specialists, Including Health		Bachelor's degree	50	28.49
Chemical Technicians		Associate degree	80	25.16
Civil Engineering Technicians		Associate degree	40	23.25
Environmental Science and Protection Technicians, Including Health		Associate degree	30	23.16
Mechanical Drafters		Postsecondary vocational training	50	21.11
Biological Technicians		Associate degree	20	15.90
Surveying and Mapping Technicians		Moderate-term training and experience ⁴	50	15.61
Weighers, Measurers, Checkers, and Samplers, Recordkeeping		Short-term training and experience ³	20	14.00

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

O*Net OnLine: <http://online.onetcenter.org/>

For detailed information on any occupational title, go online to the O*Net Web site, type it into the **Occupation Search** box, and click the **search button**. Next, click on the occupation from the list of search results. The search results will show which of the occupations in this section are defined as high-skilled. The summary report starts with a description and includes information for tasks, tools and technology, related occupations, wages and much more.

Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Professional, Scientific, and Technical Services	83,683	94,904	11,221	13.4%
Chemical Manufacturing	22,786	22,972	186	0.8%
Federal Government, Excluding Education and Hospitals	22,491	25,574	3,083	13.7%

Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Drafting
Engineering

Postsecondary Programs

(A sample listing)

Biomedical Engineering
Chemical Engineering
Civil Construction Technology
Civil Engineering
Civil Engineering Technology
Civil Survey and Map Technology
Computer Aided Design & Drafting
Computer Engineering
Construction Engineering
Drafting and Design Technology
Electrical Engineering
Electrical Engineering Technology
Electronics Technology
Engineering
General Science
Industrial Control Systems
Industrial Engineering
Industrial Instrumentation Technology
Industrial Technology
Mechanical Engineering
Petroleum Engineering
Petroleum Services
Process Control Technology
Process Technology
Safety and Health Technology
Science Technologies

Industry-based Certifications

(A sample listing)

Autodesk AutoCAD 2009
Certified Electronic Technician
I-CAR Certification

Sample Job Profile for National Career Readiness Certificate

Surveying and Mapping Technicians

Surveying and mapping technicians perform surveying and mapping duties, usually under the direction of a surveyor, cartographer, or photogrammetrist, to obtain data used for construction, mapmaking, boundary location, mining, or other purposes.

These jobs require:

- Knowledge of the practical application of engineering, science, and technology
- Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models
- Knowledge of computer hardware and software

Required NCRC Certificate Level: Silver

WorkKeys®: For more information, visit www.myworkkeys.com





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.

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, registered apprenticeships, or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

Pathway*	Specific Occupations			
<h2>Transportation Operations</h2>	<p>Air/Space Transportation:</p> <ul style="list-style-type: none"> • Transportation Managers (Air) • Commercial Pilots • Flight Engineers • Flight Attendants • Dispatchers (Air) • Traffic Managers • Air Traffic Controllers • Aircraft Cargo Handling Supervisors • Airfield Operations Specialists <p>Rail Transportation:</p> <ul style="list-style-type: none"> • Transportation Managers (Rail) • Dispatchers (Rail) 	<ul style="list-style-type: none"> • Traffic Managers • Locomotive Engineers • Locomotive Firers • Railyard Conductors and Yardmasters • Railroad Brake, Signal and Switch Operators • Railyard Engineers, Dinky Operators, and Hostlers <p>Water Transportation:</p> <ul style="list-style-type: none"> • Transportation Managers (Water) • Dispatchers (Water) • Traffic Managers • Captains • Mates • Pilots of Water Vessels 	<ul style="list-style-type: none"> • Sailors and Marine Oilers • Able Seamen • Ordinary Seamen • Ship and Boat Captains • Ship Engineers • Bridge and Lock Tenders <p>Road Transportation:</p> <ul style="list-style-type: none"> • Transportation managers (Road) • Dispatchers (Truck/Bus/Taxi) • Traffic Managers • Truck Drivers (Tractor-Trailer) • Truck Drivers (Light or Delivery Services) 	<ul style="list-style-type: none"> • Bus Drivers (Transit and Intercity) • School Bus Drivers • Taxi Drivers and Chauffeurs <p>Transit Systems:</p> <ul style="list-style-type: none"> • Transportation Managers (Mass Transit) • Dispatchers (Bus) • Traffic Managers • Dispatchers (Rail) • Traffic Managers • Bus Drivers (Transit and Intercity) • Subway and Streetcar Operators
<h2>Logistics Planning and Management Services</h2>	<ul style="list-style-type: none"> • Logisticians • Logistics Managers • Logistics Engineers • Logistics Analysts • Logistics Consultants 	<ul style="list-style-type: none"> • International Logistics Specialists 		
<h2>Warehousing and Distribution Center Operations</h2>	<ul style="list-style-type: none"> • Warehouse Managers • Storage and Distribution Managers • Industrial and Packaging Engineers • Traffic, Shipping and Receiving Clerks 	<ul style="list-style-type: none"> • Production, Planning, Expediting Clerks • First-line Supervisors/Managers of Helpers • Laborers, and Material Movers (Hand) 	<ul style="list-style-type: none"> • First-line Supervisors /Managers of Transportation and Material (Moving Machine and Vehicle Operators) 	<ul style="list-style-type: none"> • Laborers and Freight, Stock and Material Movers (Hand) • Car, Truck and Ship Loaders • Packers and Packagers (Hand)
<h2>Facility and Mobile Equipment Maintenance</h2>	<p>Facility:</p> <ul style="list-style-type: none"> • Facility Maintenance Managers and Engineers • Industrial Equipment Mechanics • Industrial Electricians • Electrical/Electronic Technicians <p>Mobile Equipment: General</p> <ul style="list-style-type: none"> • Mobile Equipment Maintenance Managers • Electrical and Electronic Installers and Repairers (Transportation Equipment) 	<ul style="list-style-type: none"> • Mobile Heavy Equipment Mechanics <i>Air/Space</i> • Aerospace Engineering and Operations Technicians • Aircraft Mechanics and Service Technicians • Airframe Mechanics • Power plant Mechanics • Aircraft Engine Specialists • Avionics Technicians <i>Water</i> • Ship Mechanics and Repairers • Motorboat Mechanics 	<ul style="list-style-type: none"> • Automotive/Truck Mechanics and Body Repairers <i>Rail</i> • Rail Car Repairers • Signal and Track Switch Repairers • Rail Locomotive Mechanics and Repairers <i>Road</i> • Electronic Equipment Installers and Repairers (Motor Vehicle) • Automotive Body and Related Repairers 	<ul style="list-style-type: none"> • Automotive Service Technicians and Mechanics • Automotive Master Mechanics • Automotive Specialty Technicians • Bus and Truck Mechanics and Diesel Engine Specialists • Motorcycle Mechanics • Bicycle Repairers
<h2>Transportation Systems/ Infrastructure Planning, Management, and Regulation</h2>	<p><i>General—Intermodal</i></p> <ul style="list-style-type: none"> • Urban and Regional Planners • Civil Engineers • Engineering Technicians • Surveying and Mapping Technicians • Government Service Executives 	<ul style="list-style-type: none"> • Environmental Compliance Inspectors <i>Air/Space</i> • Air Traffic Controllers • Aviation Inspectors <i>Road</i> • Traffic Engineers • Traffic Technicians 	<ul style="list-style-type: none"> • Motor Vehicle Inspectors • Freight Inspectors <i>Rail</i> • Railroad Inspectors <i>Water</i> • Marine Cargo Inspectors • Vessel Traffic Control Specialists 	<p><i>Transit</i></p> <ul style="list-style-type: none"> • Public Transportation Inspectors <p><i>Other</i></p> <ul style="list-style-type: none"> • Regulators • Inspectors and other federal/state/ local transportation agency jobs
<h2>Health, Safety and Environmental Management</h2>	<ul style="list-style-type: none"> • Health and Safety Managers • Industrial Health and Safety Engineers 	<ul style="list-style-type: none"> • Environmental Scientists and Specialists • Environmental Science and Protection Technicians 	<ul style="list-style-type: none"> • Environmental Managers and Engineers • Environmental Compliance Inspectors • Safety Analysts 	
<h2>Sales and Service</h2>	<ul style="list-style-type: none"> • Marketing Managers • Sales Managers • Sales Representatives of Transportation /Logistics Services 	<ul style="list-style-type: none"> • Reservation, Travel and Transportation Agents • Cargo and Freight Agents 	<ul style="list-style-type: none"> • Customer Service Managers • Cashiers, Counter and Rental clerks 	

*National career pathways

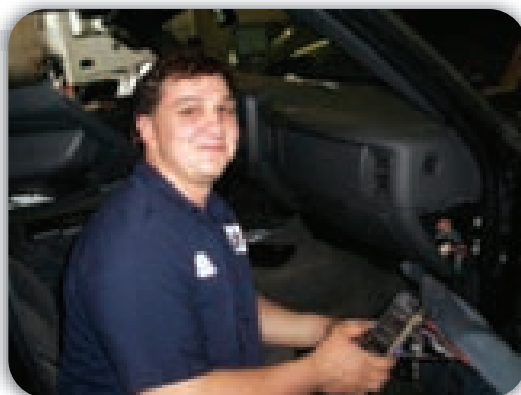
Purpose, Motivation, and Education Add Up to Career Success

Automotive service technicians inspect, maintain, and repair automobiles and light trucks that run on gasoline, electricity, or alternative fuels such as ethanol. The increasing sophistication of these vehicles requires workers who can use computerized shop equipment and work with electronic components while maintaining their skills with traditional hand tools, according to the *Occupational Outlook Handbook*.

In fact, automotive service technicians and mechanics must continually adapt to changing technology and repair techniques as vehicle components and systems become increasingly sophisticated. Therefore, most employers regard postsecondary education in automotive service technology as the best preparation for trainee positions.

Jeff Steddum's career is one of many related careers that you will find in the Transportation, Distribution & Logistics career cluster. And his educational pathway is typical of today's requirements.

Steddum earned an associate degree in motor vehicle technology in addition to participating in a vocational-technical program that included on-the-job training. Today, he is a Group Leader at All Star Chevrolet in Baton Rouge. Work is performed in an indoor shop, hours vary by job demands and workload, but mostly the workday is 8:00 a.m. to 8:00 p.m., Steddum explained. "A typical day includes coordinating with team members



Jeff Steddum, Motor Vehicle Technician and Group Leader

to assess vehicle needs and repairs and distributing tasks accordingly," he added.

"A career can be made out of any job if you are the best at it," said Steddum, describing what it takes to be successful. "A sense of purpose and motivation are extremely important. Be motivated and take education seriously."

Interested in Automotive Technology?

Nationally, jobs for automotive technicians and mechanics have been projected to grow by 35,900 between 2008-2018. For more information, go to <http://www.bls.gov/oco/ocos181.htm>.

Did You Know?

Creating and manufacturing something customers want to buy is one thing. But getting the product to customers when they want or need it is another important part of the relationship between companies and customers. That part of the company-customer relationship is the responsibility of people who work in the Transportation, Distribution & Logistics career cluster.

As you can tell, this career cluster is critical to the U.S. economy and provides jobs for 10 million people nationally, according to a States' Career Clusters Initiative brochure at <http://www.careerclusters.org>. In fact, Logistics & Transportation is a key industry in Louisiana, according to Louisiana Economic Development, an industry that attracts large companies to move to the state. Go to <http://www.louisianaeconomicdevelopment.com>, click on "Key Industries," then "Logistics & Transportation." In brief, here's what you will find:

- Louisiana offers seven commercial service/primary airports, six major interstate highways, and the world's largest port complex.
- The Port of South Louisiana is the largest single port in the nation measured by tonnage.
- Louisiana is one of only two sites in the nation where all six of North America's Class One railroads converge.
- Louisiana has a wealth of warehouse space in close proximity to commercial outlets.

So, it's a good idea to consider a career in Transportation, Distribution & Logistics. You will discover in-demand jobs, both in Louisiana and nationally, for truck drivers, automotive service technicians, mobile heavy equipment mechanics, managers, laborers, and more.

TRANSPORTATION INFORMATION

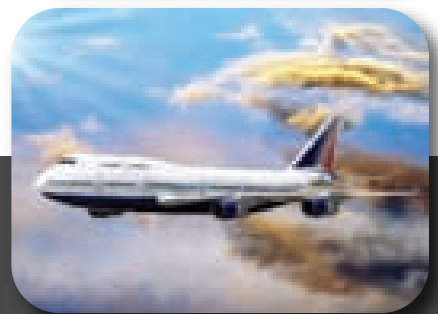
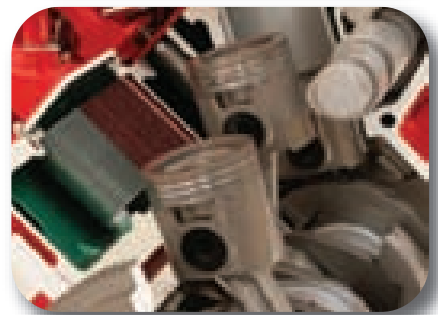
American Society of Transportation and Logistics: <http://www.astl.org>

Career Guide to Industries: <http://www.bls.gov/oco/cg/cg1004.htm>

Council of Supply Chain Management Professionals: <http://cscmp.org>

Jobs in Logistics: <http://www.jobsinlogistics.com>

Occupational Outlook Handbook: <http://www.bls.gov/oco>



LOUISIANA
Opportunities in



2008 – 2018 Projected Occupations in Demand

	Occupational Title	Most Significant Source of Education or Training	Total Annual Demand ¹	Average Hourly Wage 2010 ²
Top Five	Commercial Pilots	Postsecondary vocational training	50	\$68,393*
	Captains, Mates, and Pilots of Water Vessels	Work experience in a related occupation	370	35.43
	Transportation Inspectors	Work experience in a related occupation	20	33.20
	Transportation, Storage, and Distribution Managers	Work experience in a related occupation	60	32.00
	Ship Engineers	Postsecondary vocational training	70	30.88
	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	Work experience in a related occupation	260	26.73
	Railroad Conductors and Yardmasters	Work experience in a related occupation	40	26.56
	Railroad Brake, Signal, and Switch Operators	Work experience in a related occupation	30	25.67
	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators	Work experience in a related occupation	90	25.19
	Aircraft Mechanics and Service Technicians	Postsecondary vocational training	40	23.99
	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	Work experience in a related occupation	80	21.07
	Tank Car, Truck, and Ship Loaders	Moderate-term training and experience ⁴	20	20.51
	Production, Planning, and Expediting Clerks	Short-term training and experience ³	90	20.26
	Mobile Heavy Equipment Mechanics, Except Engines	Postsecondary vocational training	120	19.81
	Cargo and Freight Agents	Moderate-term training and experience	20	19.60
	Bus and Truck Mechanics and Diesel Engine Specialists	Postsecondary vocational training	90	18.95
	Sailors and Marine Oilers	Short-term training and experience	430	18.29
	Riggers	Short-term training and experience	20	17.27
	Truck Drivers, Heavy and Tractor-Trailer	Moderate-term training and experience	690	16.92
	Automotive Body and Related Repairers	Long-term training and experience ⁵	70	16.51
	Dispatchers, Except Police, Fire, and Ambulance	Moderate-term training and experience	130	15.99
	Automotive Service Technicians and Mechanics	Postsecondary vocational training	330	15.70
	Bus Drivers, Transit and Intercity	Moderate-term training and experience	20	14.65
	Driver or Sales Workers	Short-term training and experience	90	13.84
	Automotive Glass Installers and Repairers	Long-term training and experience	20	13.68
	Truck Drivers, Light or Delivery Services	Short-term training and experience	440	13.54
	Laborers and Freight, Stock, and Material Movers, Hand	Short-term training and experience	1,520	10.88
	Tire Repairers and Changers	Short-term training and experience	50	10.58
	Packers and Packers, Hand	Short-term training and experience	60	10.49
	Cleaners of Vehicles and Equipment	Short-term training and experience	230	9.87
	Bus Drivers, School	Short-term training and experience	180	8.95

1 Total Annual Demand = job openings as a function of replacement demand (retirements + turnover) + new growth.

2 2010 average hourly wage for all workers in this occupation.

3 Short-term training and experience (up to 1 month of on-the-job experience or instruction).

4 Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal instruction).

5 Long-term training and experience (more than 12 months of combined on-the-job experience and formal instruction).

Top Employing Industries

Industry Based on North American Industry Classification System (NAICS)	2008	2018	Number of New Jobs	Percent Change
Support Activities for Transportation	21,184	23,453	2,269	10.7%
Truck Transportation	18,131	19,907	1,776	9.8%
Water Transportation	9,942	12,424	2,482	25.0%

Pathways, Degrees & Certificates

LOUISIANA

Career Pathways/Areas of Concentration

Automotive Technology
Collision Repair Technology
Diesel Mechanics
Marine Operations
Power Mechanics
Transportation Operations

Postsecondary Programs

(A sample listing)

Airframe/Power Plant Maintenance
Airline Flight Support
Automotive
Automotive Technology
Aviation
Aviation Maintenance/Airframe
Aviation Maintenance Management
Aviation Maintenance/Powerplant
Aviation Maintenance Technology
Basic Seamanship
Collision Repair
Commercial Diving
Commercial Truck Driving
Diesel Mechanics
Diesel Powered Equipment
Diesel Power Technology
Fire Science Technology
Logistics
Marine Operations
Motor Vehicle Technology
Nautical Science
Outdoor Power Equipment
Power Mechanics
Powerplant
Transportation Operations

Industry-based Certifications

(A sample listing)

ASC Certification
ASE Master Certification
Automotive Technician
Small Engines

Sample Job Profile for National Career Readiness Certificate

Automotive Service Technicians and Mechanics
Automotive service technicians and mechanics diagnose, adjust, repair, or overhaul automotive vehicles. Master mechanics repair virtually any part on the vehicle while the technicians repair only one system or component on a vehicle.

- Knowledge of machines and tools, including their designs, uses, repair, and maintenance
- Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software
- Knowledge of the practical application of engineering science and technology

Required NCRC Certificate Level: Silver

WorkKeys®: For more information, visit www.myworkkeys.com



Create an Individual Graduation Plan

There are many important reasons to graduate from high school and continue your education. Among those reasons are to:

- Explore educational and career possibilities
- Make appropriate secondary/postsecondary decisions as part of an overall career plan
- Make a plan based on your talents and interests

- Consider graduation requirements relevant to your chosen area of concentration and postsecondary entrance requirements.

The 2009 Louisiana legislature considered reasons like these as they worked to pass Act 257 to help students across the state create an

Individual Graduation Plan (IGP) by the end of eighth grade.

Your school counselor can provide you with information, advice, and IGP forms to complete. Your family also can advise you and help you complete the forms. And the information on the following pages will help you get started.

That information includes a choice of diplomas and their requirements. The choices are the Career Diploma or one of the two College and Career Diploma curriculum options – the Louisiana Core 4 Curriculum and the Louisiana Basic Core Curriculum. You'll see a list of requirements for a Career Diploma on the next page. Requirements for the two College and Career Diploma options appear on page 114.

Louisiana high school diplomas also come with your choice of a Career/Technical Endorsement or an Academic Endorsement. You can find out more on page 115 and on the Louisiana Department of Education Web site at <http://www.doe.state.la.us/lde/saa/1179.html>.

And if you reviewed the endorsements, you may have noticed references to TOPS and TOPS Tech. Those abbreviations refer to the Taylor Opportunity Program for Students (TOPS), a merit-based scholarship program that Louisiana offers. For more information about TOPS and other financial assistance opportunities, go to the Louisiana Office of Student Financial Assistance at <http://www.osfa.la.gov>.



Louisiana Graduation Requirements - Career Diploma

English – 4 units

- English I, II
- 2 units from the following: Technical Reading and Writing, Business English, Business Communications, Using Research in Careers (1/2 credit), American Literature (1/2 credit), Film in America (1/2 credit), English III, English IV, Senior Applications in English, or a course developed by the local education agency (LEA) and approved by the Louisiana State Board of Elementary and Secondary Education (BESE)

Math – 4 units

- One of the following: Algebra I (1 unit), or Algebra I-Pt. 1 and Algebra I-Pt. 2 (2 units), or Applied Algebra I (1 unit)
- Remaining units from the following: Geometry or Applied Geometry, Technical Math, Medical Math, Applications in Statistics and Probability, Financial Math, Math Essentials, Algebra II, Advanced Math–Pre-Calculus, Discrete Mathematics, or course(s) developed by the LEA and approved by BESE

Science – 3 units

Biology

- 1 unit from the following physical science cluster: Physical Science, Integrated Science, Chemistry I, ChemCom, Physics I, or Physics of Technology
- Remaining units shall come from the following: Food Science, Forensic Science, Allied Health Science, Basic Body Structure and Function, Basic Physics with Applications, Aerospace Science, Earth Science, Agriscience II, Physics of Technology II, Environmental Science, Anatomy and Physiology, Animal Science, Biotechnology in Agriculture, Environmental Studies in Agriculture, Health Science II, EMT–Basic, an additional course from the physical science cluster, or course(s) developed by the LEA and approved by BESE

Social Studies – 3 units

- ½ unit of Civics
- ½ unit of Free Enterprise.
- American History
- 1 unit from the following: Child Psychology and Parenthood Education, Law Studies, Psychology, Sociology, World History, World Geography, Western Civilization, Economics, American Government, African American Studies, or a course developed by the LEA and approved by BESE

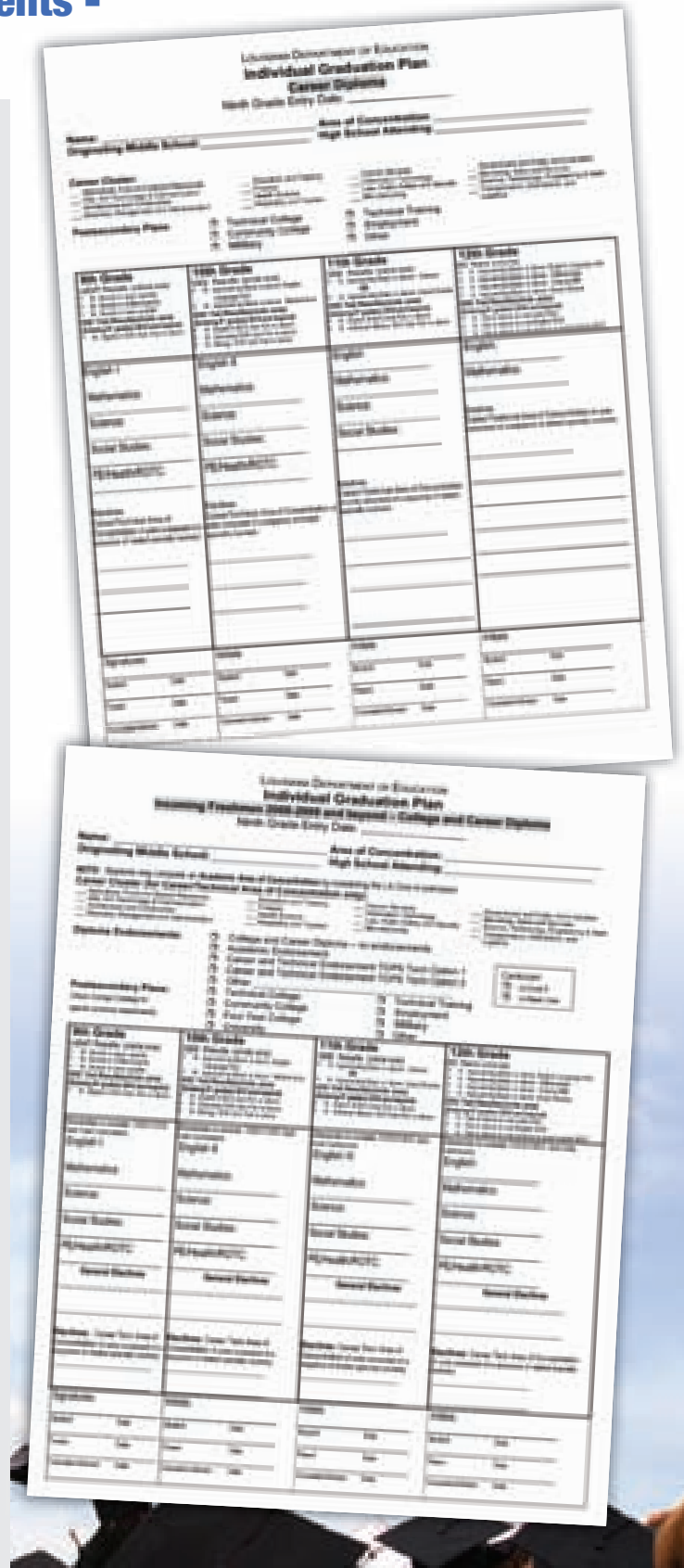
Health – ½ Unit

Physical Education – 1½ units

Career and Technical Education – 7 units

One of the seven units must be either Education for Careers or Journey to Careers. The remaining six units should include the minimum courses required to complete a Career and Technical Area of Concentration.

Total – 23 units



Louisiana Graduation Requirements - College and Career Diploma

Louisiana Core 4 Curriculum

English – 4 units

English I, II, III, and IV

Math – 4 units

- Algebra I or Algebra I-Pt. 2 or Applied Algebra I
- Geometry or Applied Geometry
- Algebra II
- 1 unit from the following: Financial Math, Math Essentials, Advanced Math–Pre-Calculus, Advanced Math–Functions and Statistics, Pre-Calculus, Calculus, Probability and Statistics, Discrete Math, or a locally-initiated elective approved by BESE as a math substitute.

Science – 4 units

- Biology
- Chemistry
- 2 units from the following: Physical Science, Integrated Science, Physics I, Physics of Technology I, Aerospace Science, Biology II, Chemistry II, Earth Science, Environmental Science, Physics II, Physics of Technology II, Agriscience II, Anatomy and Physiology, or a locally initiated elective approved by BESE as a science substitute.*

Social Studies – 4 units

- ½ unit of Civics or AP American Government
- ½ unit of Free Enterprise.
- American History
- 1 unit from the following: World History, World Geography, Western Civilization, or AP European History
- 1 unit from the following: World History, World Geography, Western Civilization, AP European History, Civics (second semester – ½ credit), Law Studies, Psychology, Sociology, or African American Studies*

Health – ½ Unit

Physical Education – 1½ units

Foreign Language – 2 units

2 units from the same foreign language or 2 units of speech

Arts – 1 unit

Fine Arts Survey or one unit of Art, Dance, Music, or Theatre*

Electives – 3 units

Electives should come from the student's Area of Concentration to qualify for the Career/Technical Endorsement**

Total – 24 units

* A student completing a Career and Technical Area of Concentration may substitute a BESE/Board of Regents approved IBC-related course from within the student's Area of Concentration for the fourth required science unit, the fourth required social studies unit, and the required art unit.

** Approved IBC-related course may be substituted.

Louisiana Basic Core Curriculum

English – 4 units

English I, II, III and IV or Senior Applications in English

Math – 4 units

- Algebra I or Algebra I-Pt.1 and Algebra I-Pt. 2 or Applied Algebra I
- Geometry
- Remaining units from the following: Algebra II, Financial Math, Math Essentials, Advanced Math–Pre-Calculus, Advanced Math–Functions and Statistics, Pre-Calculus, Calculus, Probability and Statistics, Discrete Math, or a locally-initiated elective approved by BESE as a math substitute

Science – 3 units

- Biology
- 1 unit from the physical science cluster: Physical Science, Integrated Science, Chemistry I, Physics I, or Physics of Technology I
- 1 unit from the following: Aerospace Science, Biology II, Chemistry II, Earth Science, Environmental Science, Physics II, Physics of Technology II, Agriscience II, Anatomy and Physiology, an additional course from the physical Science cluster, or a locally initiated elective approved by BESE as a science substitute.

Social Studies – 3 units

- American History
- ½ unit of Civics or AP American Government
- ½ unit of Free Enterprise.
- 1 unit from the following: World History, Western Civilization, World Geography, or AP European History

Health – ½ Unit

Physical Education – 1½ units

Electives – 8 units

- Education for Careers or Journey to Careers
- Shall include the minimum courses required to complete a Career/Technical Area of Concentration

Total – 24 units

Louisiana High School Diploma Endorsements

Career/Technical Endorsement			Academic Endorsement	
Core Courses			Core Courses	
Current		2011-2012	Current	2011-2012
TOPS Opportunity 4 Units of English 3 Units of Math 3 Units of Science 3 Units of Social Studies 1 Unit of additional Math or Science ½ Unit of Health 1½ Units of PE 1 Unit of Fine Arts 2 Units of Foreign Language 1 Unit of a computer-related course 4 Units of optional electives	TOPS TECH 4 Units of English 3 Units of Math 3 Units of Science 3 Units of Social Studies ½ Unit of Health 1½ Units of PE Option 1 (4 credits) OR Option 2 (6 credits)	LA Core 4 4 Units of English 4 Units of Math 4 Units of Science 4 Units of Social Studies ½ Unit of Health 1½ Units of PE 1 Unit of Art 2 Units of Speech or Foreign Language 3 Units of electives including a computer-related course	TOPS Opportunity 4 Units of English 3 Units of Math 3 Units of Science 3 Social Studies 1 additional unit of Math or Science ½ Unit of Health 1½ Units of PE 1 Unit of Fine Arts 2 Units of Foreign Language ½ Unit of a computer-related course 3½ Units of optional electives	LA Core 4 + 4 Units of English 4 Units of Math (Algebra I, Geometry, Algebra II) 1 Unit of Advanced Math I or II, Calculus, Pre-Calculus, Probability & Statistics, or Discrete Math 4 Units of Science (Biology, Chemistry, one advanced science, and one other science) 4 Units of Social Studies ½ Unit of Health 1½ Units of PE 1 Unit of Fine Arts 2 Units of Foreign Language 3 Units of electives
High School Area of Concentration			High School Area of Concentration	
Student must complete four elective credits in an area of concentration and two related elective credits. The areas of concentration shall be developed locally by a district Curriculum Design Team and approved by BESE			Students satisfy this requirement by completing the core courses listed above.	
GEE (Graduation Exit Examination)			GEE (Graduation Exit Examination)	
Pass all four components with a score of Basic or above OR one of the following combinations with the English Language Arts score at Basic or above: 1. Approaching Basic , 1 Mastery or Advanced , Basic or above in the remaining two 2. Approaching Basic , 2 Mastery or above			Pass all four components with a score of Basic or above OR one of the following combinations with the English Language Arts score at Basic or above: 1. Approaching Basic , 1 Mastery or Advanced , Basic or above in the remaining two 2. Approaching Basic , 2 Mastery or above	
GPA/ACT			GPA/ACT	
TOPS Opportunity GPA ACT of 20 (or state average) or Silver Level on WorkKeys			TOPS Opportunity GPA ACT of 23	
Other Performance Indicators			Other Performance Indicators	
<ul style="list-style-type: none"> • BESE-approved industry-based certification; OR 3 college hours in a career-technical area that articulate to a post-secondary institution, either by actually obtaining the credits and/or being waived from having to take such hours; AND • A minimum of 90 work hours of work-based learning experience OR a Senior Project related to a student’s area of concentration with 20 hours of related work-based learning and mentoring 			Senior Project OR 1 Carnegie unit in an advanced placement (AP) course with a score of 3 or higher on the AP exam OR 1 Carnegie unit in an international baccalaureate (IB) course with a score of 4 or higher on the exam OR 3 college hours of nonremedial, articulated credit in a core area (Mathematics, Social Studies, Science, Foreign Language, or English Language Arts)	

Career and Technical Student Organizations

All students enrolled in career and technical programs have an opportunity to develop and extend their learning through participation in career and technical student organizations (CTSOs) associated with their program. CTSOs develop character, citizenship, technical, leadership, and teamwork skills essential for students who are preparing for the workforce and further education. These organizations enhance students' civic awareness and provide opportunities for developing social competencies and a wholesome attitude about living and working.



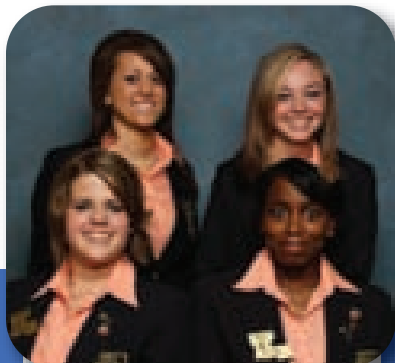
SkillsUSA is a partnership of high school and college students who are preparing for careers in trade, technical, and skilled service occupations, including health careers. Teachers and industry representatives work together with students to ensure America has a skilled workforce. www.skillsusa.org



Distributive Education Clubs of America (DECA) supports the development of marketing and management skills in career areas such as hospitality, finance, sales and service, business administration, and entrepreneurship. DECA provides recognition and leadership activities directly related to attainment of specific occupational and leadership skills. www.deca.org



Health Occupations Students of America (HOSA) promotes career opportunities in the health care industry and enhances the delivery of quality health care to all people. HOSA provides a unique program of leadership development, motivation, and recognition exclusively for secondary, postsecondary, adult, and collegiate students enrolled in health science technology education programs. HOSA is 100% health care! www.hosa.org



Distributive Education Clubs of America (DECA)



Health Occupations Students of America (HOSA)



The **National FFA Organization** uses agricultural education to create real-world success for students. There are more than 7,000 FFA chapters that offer students opportunities for leadership, personal growth, and career growth. FFA programs are managed on local, state, and national levels and represent more than 300 careers in the food, fiber and natural resources industry. www.ffa.org



Family, Career and Community Leaders of America (FCCLA) is a national organization for students who participate in family and consumer sciences education. Focusing on multiple roles of family member, wage earner, and community leader, members develop character, creative and critical thinking skills, interpersonal communication, and practical knowledge in addition to preparing for careers. www.fcclainc.org



The **Technology Student Association (TSA)** is devoted exclusively to the needs of students interested in technology. TSA's membership includes more than 150,000 middle and high school students in 2,000 schools spanning 47 states. Members learn through exciting competitive events, leadership opportunities, and much more. www.tsaweb.org



A quarter million students prepare for careers in business and business-related fields as members of **Future Business Leaders of America-Phi Beta Lambda**. The high school division has 215,000 members, and the post-secondary division reaches over 11,000 college students. Membership and career recognition programs designed for each division also provide personal and chapter development opportunities. www.fbla-pbl.org



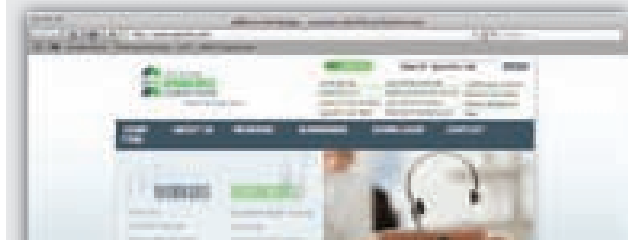
National FFA Organization



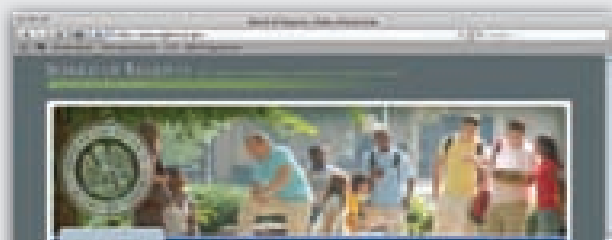
Future Business Leaders of America-Phi Beta Lambda

State Web Sites and Resources

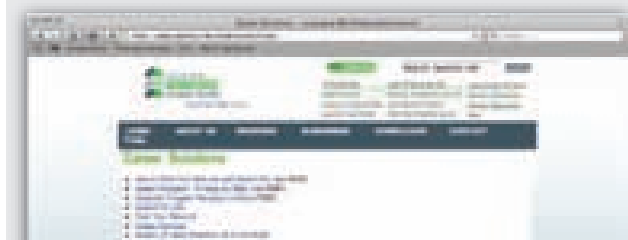
Louisiana Workforce Commission
<http://www.laworks.net>



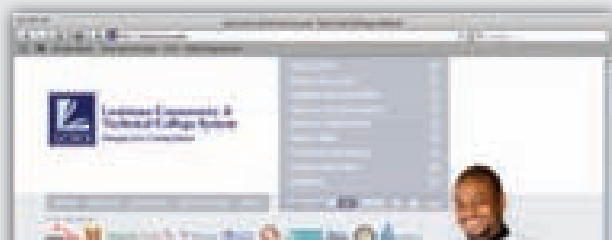
Louisiana Board of Regents
<http://www.regents.la.gov>



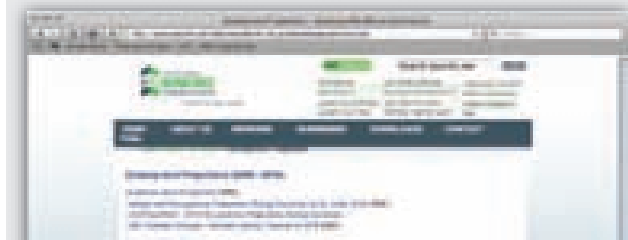
Occupational Information - go to Career Solutions
<http://www.laworks.net/careersolutions.asp>



Louisiana Community & Technical College System
<http://www.lctcs.edu/>



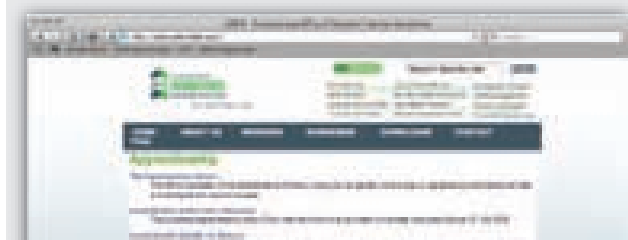
Louisiana Employment Outlook
http://www.laworks.net/labormarketinfo/lmi_employmentprojections.asp



ACT
<http://www.act.org>



Louisiana Registered Apprenticeship
http://www.laworks.net/Apprenticeship/APP_MainMenu.asp



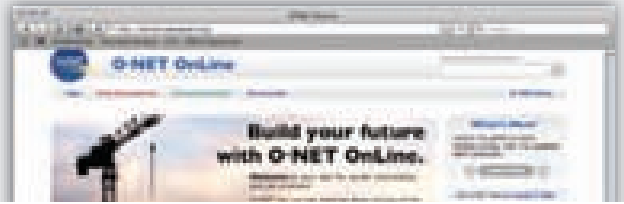
WorkKeys
<http://www.act.org/workkeys/assess/index.html>



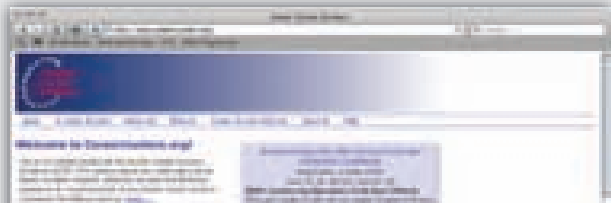
National Career Readiness Certificate (NCRC)
<http://www.act.org/certificate/index.html>



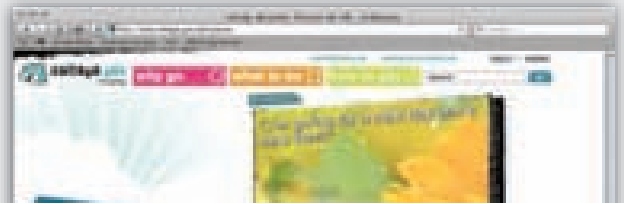
O*Net OnLine
<http://online.onetcenter.org>



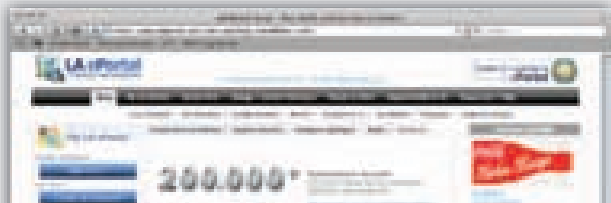
National Career Clusters
<http://www.careerclusters.org>



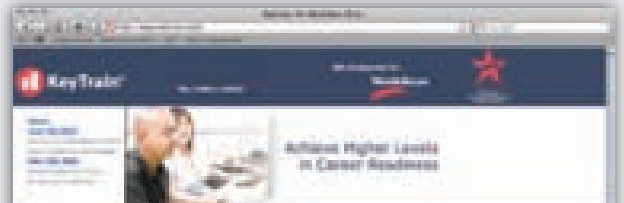
US Department of Education
<http://www.college.gov>



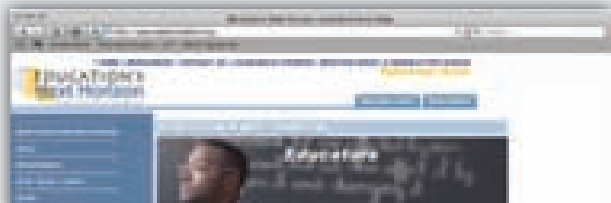
LA ePortal
<http://www.laeportal.com>



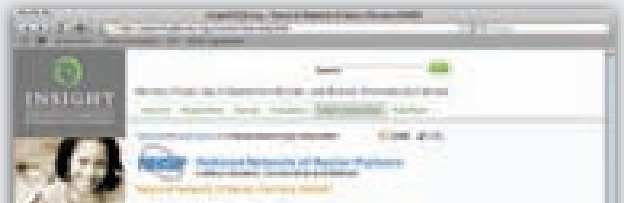
KeyTrain®
<http://www.keytrain.com/>



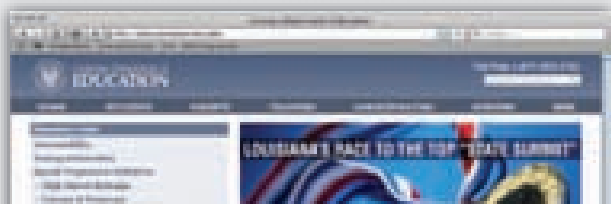
Education's Next Horizon
<http://www.ednexthorizon.org>



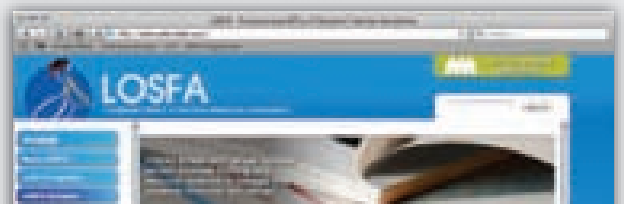
National Network of Sector Partners
<http://www.insightccd.org/communities/nnspp.html>



Louisiana Department of Education
<http://www.louisianaschools.net>

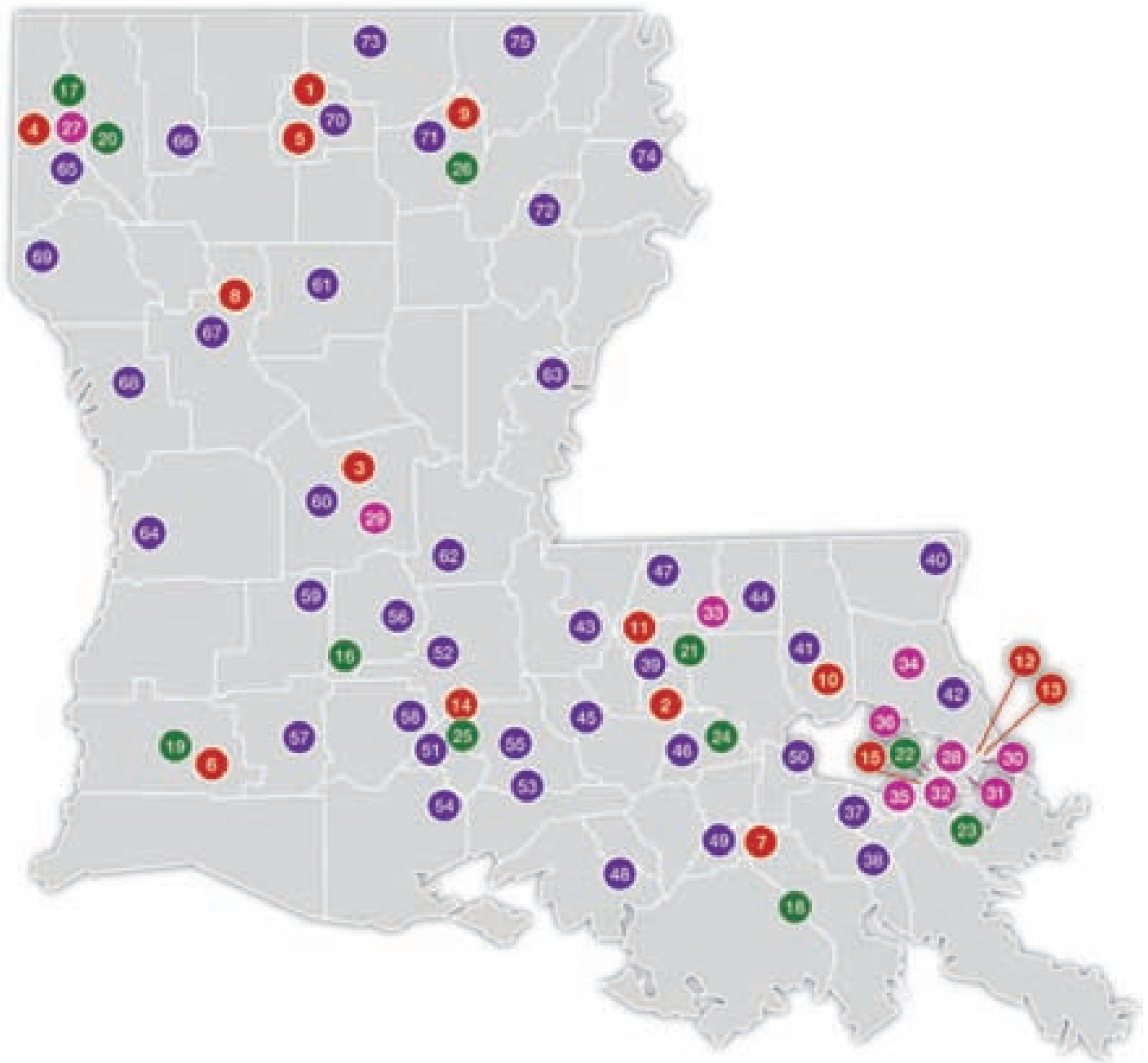


Financial Aid
<http://www.osfa.state.la.us/>



Education Map

Use this education map to find two-year and four-year schools, private schools, and technical college campuses throughout Louisiana. You may even find a school close to home that offers courses that fulfill requirements for your career choice.



Public 4-Year Schools

- 1 Grambling State University
- 2 Louisiana State University and A&M College
- 3 Louisiana State University–Alexandria
- 4 Louisiana State University in Shreveport
- 5 Louisiana Tech University
- 6 McNeese State University
- 7 Nicholls State University
- 8 Northwestern State University
- 9 University of Louisiana at Monroe
- 10 Southeastern Louisiana University
- 11 Southern University and A&M College
- 12 Southern University at New Orleans
- 13 University of New Orleans
- 14 University of Louisiana at Lafayette
- 15 LSU Health Sciences Center–New Orleans

Public 2-Year Schools

- 16 Louisiana State University – Eunice
- 17 Southern University – Shreveport/Bossier
- 18 Fletcher Technical Community College
- 19 SOWELA Technical Community College
- 20 Bossier Parish Community College
- 21 Baton Rouge Community College
- 22 Delgado Community College
- 23 Nunez Community College
- 24 River Parishes Community College
- 25 South Louisiana Community College
- 26 Louisiana Delta Community College

Private Schools

- 27 Centenary College
- 28 Dillard University
- 29 Louisiana College
- 30 Loyola University New Orleans
- 31 Xavier University
- 32 Our Lady of Holy Cross
- 33 Our Lady of the Lake College
- 34 Saint Joseph Seminary College
- 35 Tulane University
- 36 Leavell College at New Orleans Baptist
Theological Seminary

Technical College Campuses

- 37 Jefferson Campus
- 38 West Jefferson Campus
- 39 Baton Rouge Campus
- 40 Sullivan Campus
- 41 Hammond Area Campus
- 42 Slidell Campus
- 43 Jumonville Memorial Campus
- 44 Florida Parishes Campus
- 45 Westside Campus
- 46 Ascension Campus
- 47 Folkes Campus
- 48 Young Memorial Campus
- 49 Lafourche Campus
- 50 River Parishes Campus
- 51 Lafayette Campus
- 52 T.H. Harris Campus
- 53 Teche Area Campus
- 54 Gulf Area Campus
- 55 Evangeline Campus
- 56 Charles B. Coreil Campus
- 57 Morgan Smith Campus
- 58 Acadian Campus
- 59 Oakdale Campus
- 60 Alexandria Campus
- 61 Huey P. Long Campus
- 62 Avoyelles Campus
- 63 Shelby M. Jackson Campus
- 64 Lamar Salter Campus
- 65 Shreveport/Bossier Campus
- 66 Northwest Louisiana Campus
- 67 Natchitoches Campus
- 68 Sabine Valley Campus
- 69 Mansfield Campus
- 70 Ruston Campus
- 71 Delta-Ouachita Campus
- 72 Northeast Louisiana Campus
- 73 North Central Campus
- 74 Tallulah Campus
- 75 Bastrop Campus

Glossary

A

Ability to Benefit – Requires that students attending postsecondary institutions receiving Title IV financial aid take a standardized test that demonstrates their ability to benefit from a postsecondary education experience. Students not receiving financial aid may not be held to institutional entrance requirement any less stringent than those receiving aid.

Admissions Criteria – Minimum educational requirements that applicants must meet to be considered for admission to a postsecondary educational institution.

Advanced Placement – Thirty-seven college-level courses offered by the College Board to interested high schools. At the completion of the course, students with acceptable scores on an examination earn college credit toward a degree, certificate, or other formal award or advanced standing at most of the nation's colleges and universities.

Articulated Credit – Credit earned by a student while in high school that is awarded at the postsecondary level utilizing various methods that include challenge exams, articulation agreements, portfolio assessments, industry-based certifications, etc.

Articulation – Articulation is the process by which coursework completed in one educational system is given credit in another.



(From California Postsecondary Education Commission)

Articulation Agreement(s) – An official agreement in which one educational institution agrees to accept specific courses or groups of courses from another educational institution as a part of the receiving institution's credentialing programs.

Statewide Articulation Agreement(s) – The process by which a course or groups of courses completed in one institution are credited at all designated receiving institutions in the state.

B

Banked Credit – Credits earned (typically by high school students taking college-level courses) that are held “in abeyance” until a student has completed other requirements (e.g., high school graduation) and has become a full-fledged student of the college planning to award the credit.

Block vs. Course-By-Course Articulation – The process by which entire groups of courses completed in one institution are

awarded as credit by another institution, as contrasted with a one-course-at-a-time, traditional course transfer between institutions.

C

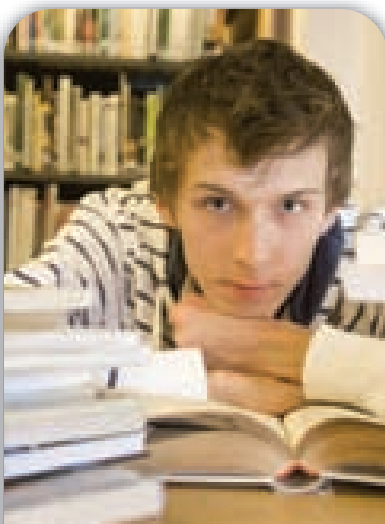
Career Pathways/Areas Of Concentration (AOC) – A coherent and focused sequence of rigorous academic and career/technical courses, commencing in the ninth grade and leading to postsecondary education and/or work. Career pathways/AOC that are implemented and maintained in partnership among secondary and postsecondary education, business, and employers represent the skills and knowledge necessary to pursue a full range of career opportunities within a pathway, from entry level to management, including technical and professional career specialties.

Career Clusters – Career clusters are a broad group of career areas that represent a scope of employment that involves grouping occupations from one or more industries that share common skill requirements. Career clusters provide a means

of organizing the thousands of career choices for implementation in the school curriculum.

Career Options Law – The Career Options Law is designed to help students create a focus while in high school to help make learning more relevant and meaningful. The law mandates that all sixth through eighth grade students must complete six career awareness activities each year culminating with a five-year educational plan to be reviewed and updated annually while in high school, and all high schools must offer career majors (areas of concentrations) to address students' interests. (Board of Elementary and Secondary Education [BESE] Policy; Bulletin 741)

Career Options Program – A program that mandates measures to ensure Louisiana students are equipped with the skills and knowledge necessary to pursue a satisfying and rewarding career matched to aptitude and interests. The program is evaluated on an annual basis. (BESE Policy; Bulletin 741)



Certificate of Technical Studies (CTS) – An applied technical program (21 – 33 hours). CTS programs are formed by combining multiple technical competency areas (TCAs) to provide a student with a broad technical competency. CTS programs are strictly limited to technical and community colleges. The approval authority resides with the Louisiana Community & Technical College System (LCTCS) Board of Supervisors, but the actions must be reported immediately to the Board of Regents (BOR). All other BOR requirements governing academic programs apply to the CTS.

CLEP Credit – The College Board's College-Level Examination Program® or CLEP provides students of any age with the opportunity to demonstrate college-level achievement through a program of exams in undergraduate college courses. Students may earn credit for knowledge learned through independent study and/or advanced high school courses. CLEP examinations cover material taught in courses that most students take as requirements in the first two years of college. A college usually grants the same amount of credit to students earning satisfactory scores on the CLEP examination as it grants to students successfully completing that course.

Concurrent Enrollment – Courses taken by students offered by a postsecondary institution outside the regular school hours (e.g., at nights, on weekends, or during summer) for which students will receive credit only at the postsecondary institution. Postsecondary Process Institutional Responsibilities for the

Enrollment of Students Across Multiple Institutions: Students simultaneously taking coursework at varied postsecondary institutions without designation of a home institution shall be governed by appropriate policies and procedures of each postsecondary institution offering courses in which they are enrolled. Postsecondary institutions shall work together to synchronize such policies and procedures to the greatest extent possible. It is incumbent upon all postsecondary institutions to eliminate undue barriers which inhibit/prohibit the applicability of credit earned across varied institutions (BOR Academic Affairs Policy 2.19).

Credit vs. Noncredit – Credit: Recognition of attendance or performance in an instructional activity (course or program) that can be applied by a recipient toward the requirements for a degree, diploma, certificate, or other formal award. (U.S. Department of Education Institute of Education Sciences [IPEDS] at <http://nces.ed.gov/ipeds/glossary>.) Credit course: A course that, if successfully completed, can be applied toward the number of courses required for achieving a degree, diploma, certificate, or other formal award. (Kansas State University Office of Planning and Analysis).

Cross-enrollment – The simultaneous enrollment of a student in more than one postsecondary institution wherein one institution serves as the student's home institution. Cross-enrollment enables students registered at a specific postsecondary institution to enroll

without formal admission to another postsecondary institution. The purpose of cross-registration is to provide opportunities for enriched educational programs by permitting full-time paying undergraduate and graduate students to cross-register for a course. Typically, students should not cross-register for a course that is offered at their postsecondary institution unless there are exceptional circumstances.

D

Diploma Endorsements –

An enhancement to a regular high

school diploma that recognizes additional work completed beyond the high school graduation requirements to enhance a student's junior/senior years and to prepare for and/or provide a credential for postsecondary work.

Dropout – For any given year (i.e., “current year”), a dropout is a student who (1) was enrolled at the end of the previous year (therefore expected to return in the current year) and does not enroll on or before October 1 of the current year, and therefore becomes a current year dropout; or (2) a student who attended school at any point in the current year, and then exits (during the current year), and who does not re-enter school on or before October 1 of following year, and therefore becomes a current year dropout.

Dual Enrollment – Institutional Responsibilities for the Enrollment of Students Across Multiple Institutions: Dual Enrollment: The simultaneous enrollment of a student at both a secondary and a postsecondary institution (BOR Academic Affairs Policy 2.19).

E

Early Admissions – A policy under which students who have not completed high school are admitted to and enrolled full-time in college, usually after completion of their junior year (IPEDS).

Early College – Early College refers to high schools where students earn both a high school diploma and two years of college credit toward a college degree. (Gates Foundation).

G

GED – This term normally refers to the tests of General Educational Development (GED), which provide an opportunity to earn a high school credential. The GED program, sponsored by the American Council on Education, enables individuals to demonstrate that they have acquired a level of learning comparable to that of high school graduates (IPEDS).

I

Industry-based Certification

(IBC) – An IBC is tangible evidence that an individual has successfully demonstrated skill competencies in a specific set of work-related tasks, a single occupational area, or a cluster of related occupational areas as recognized by the specific industry and verified by successful completion of required assessment components.

L

LA ePortal – A lifelong learning college and career preparation tool designed to assist a variety of individuals along the education and workforce continuum. Whether completing an individual graduation plan, creating a professional resume, searching for a college or university, taking career assessments, or exploring job opportunities, there is something for everyone. The LA ePortal facilitates academic and career pursuits to assist citizens in the many transitions they encounter in life. Log in @ www.LAePortal.com.



Life Experience Credit – College units awarded based upon prior learning as formally documented by a recognized evaluation process such as the Council for Adult and Experiential Learning (CAEL).

M

Middle College – The creative delivery of curriculum and pedagogy in which students take high school and college courses on a college campus while still in high school, pursuing both Carnegie and post-secondary credit. Typically, the Middle College is a comprehensive high school that is incorporated within the administrative structure of the postsecondary institution.

P

Potential Dropout – A student with a single factor or multiple factors that impede the student's progress and increase the probability that the student's academic pursuits may be interrupted, including but not limited to frequent absenteeism, repeated discipline infractions, students who are more than two grade levels behind, students enrolled in the pre-GED/Skills Options Program, families being served by FINS/CASA, and other factors and/or subgroups recognized in or by federal legislation.

R

Registered Apprenticeship – Registered Apprenticeship is a rigorous “earn while you learn” model that provides a combination of on-the-job learning and related classroom instruction in which workers learn the practical and

theoretical aspects of a highly skilled occupation. When a registered apprentice graduates from a program, he or she receives an apprenticeship completion certificate, issued by the State of Louisiana and United States Department of Labor. It is highly regarded, portable and recognizable throughout the U.S. Apprenticeship programs are sponsored by joint employer and labor groups, individual employers and/or employer associations. Currently the national Registered Apprenticeship system includes a network of approximately 30,000 program sponsors nationwide, offering more than 1,000 different career opportunities.

S

Sector Initiatives – Regional, industry-focused approaches to workforce and economic development. They improve access to good jobs and/or increase job quality in ways that strengthen an industry's workforce.

Sector Strategies – A set of state policies designed to promote and support the development of industry-focused sector partnerships across their regions.

Skills Certificates – Portable, industry-recognized credentials that certify that the holder has demonstrated competency in a core set of performance standards related to an occupational cluster as identified by the industry. Local skill certificates, designed in conjunction with and recognized by local business and industry, are credentials designed for the Skills Options Program and prepare

students who have lower-level skills for entry-level work.

Success Through Articulation (STArt) – A joint initiative between the Board of Regents, Department of Education, and LCTCS designed to provide secondary students with the opportunity to take classes for articulated credit while in high school, for which they will receive postsecondary credit once they enroll into college.

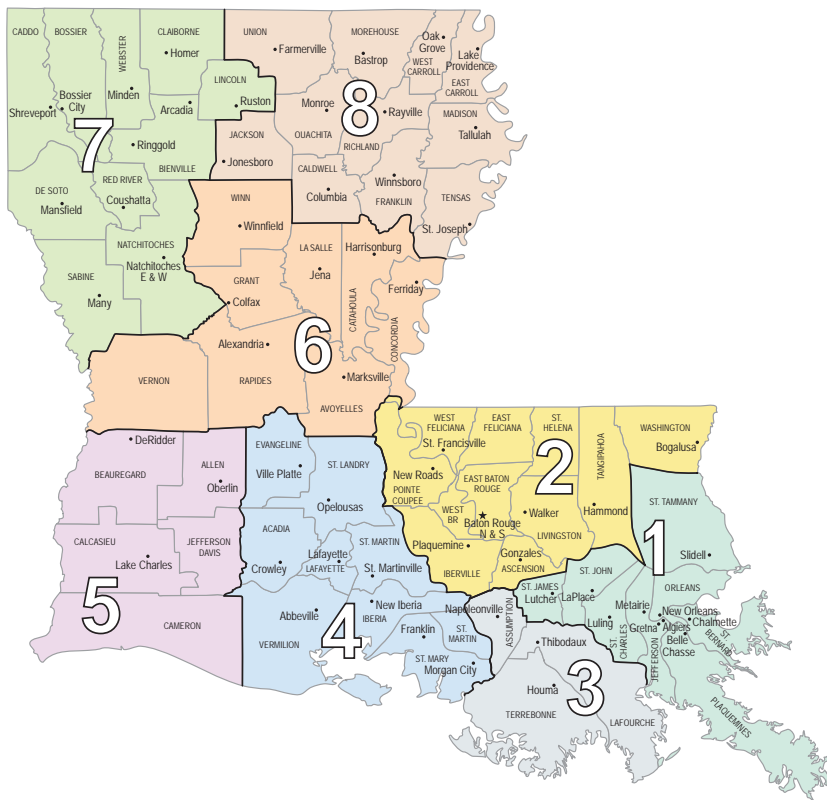
T

Technical Competency Area (TCA) – An applied course or a series of courses (1 – 12 hours). A TCA provides a student with a specific technical competency. TCAs are strictly limited to technical and community colleges. Approval authority for implementation of a TCA shall reside with the appropriate management board or their designated staff.

Tech Prep – Tech Prep is a federally funded initiative (Carl D. Perkins). Tech Prep programs focus on articulation between secondary and post-secondary vocational-technical educational institutions designed to ease the transition between secondary instruction and advanced technical programs with required proficiency in mathematics, science, communication, and technologies to lead to an associate degree or certificate in specific career fields.

Transfer – A student who enrolls at an institution for the first time who has previously attended another postsecondary institution. (BOR Statewide Student Profile System)

Regional Business & Career Solutions Center Locations



Please visit us at www.laworks.net for the most up-to-date list of location information.

Region 1

Southeast

East Bank Orleans
(New Orleans)
3400 Tulane Avenue
(504) 658-4500

East Jefferson (Metairie)
1801 Airline Drive, Suite A
(504) 838-5678

St. Tammany (Slidell)
316 E. Howze Beach Lane
(985) 646-6410

Plaquemines (Belle Chasse)
1112 Engineers Road, Rm. 19
(504) 392-5803

St. Bernard (Chalmette)
8201 W. Judge Perez Dr.
(504) 355-4439

St. Charles (Luling)
737 Paul Maillard Road,
Suite 2A
(985) 783-5030

St. James (Lutcher)
2289 Texas Street
(225) 869-9773

St. John (LaPlace)
975 Cambridge Drive
(985) 652-3471

West Bank Orleans (Algiers)
3520 General DeGaulle Drive
(504) 658-4580
(504) 658-4581

West Jefferson (Gretna)
1900 Lafayette Street,
Suite 1
(504) 227-1283

Region 2

Capital

Ascension (Gonzales)
1721 South Burnside Avenue
(225) 644-0335

Baton Rouge North
4523 Plank Road
(225) 358-4579

Baton Rouge South
1991 Wooddale Boulevard
(225) 925-4311

Iberville (Plaquemine)
23425 Railroad Avenue,
Suite 1
(225) 687-0969

Livingston (Walker)
9384 Florida Boulevard,
Suite B
(225) 667-1874

Pointe Coupee (New Roads)
305 East Main Street
(225) 638-6852

Tangipahoa (Hammond)
1745 S.W. Railroad Avenue,
Suite 201
(985) 902-4200

Washington (Bogalusa)
438 Avenue B
(985) 732-6630

West Feliciana (St. Francisville)
5681 Commerce Street,
Suite E
(225) 635-6635

Regions 3 & 4

Acadiana & Bayou

Acadia (Crowley)
11 North Parkerson Avenue
(337) 788-7550

Assumption (Napoleonville)
4847-A Highway 1, Suite C
(985) 369-1810

East St. Mary (Morgan City)
7710 Highway 182 East
(985) 380-2448

Evangeline (Ville Platte)
417 West Magnolia
(337) 363-6241

Iberia (New Iberia)
124 East Main Street
(337) 373-0010

Lafayette (Lafayette)
706 East Vermillion Street
(337) 262-5601

Lafourche (Thibodaux)
1711 Ridgefield Road
(985) 446-3016

St. Landry (Opelousas)
1305 Diesi Street
(337) 948-1330

St. Martin (St. Martinville)
215 Evangeline Boulevard
(337) 394-2205

Terrebonne (Houma)
807 Barrow Street
(985) 876-8990

West St. Mary (Franklin)
600 Main Street
(337) 828-0257

Vermilion (Abbeville)
1305 Clover Street, Room 109
(337) 893-1986

Regions 5 & 6

Central & Southwest

Allen (Oberlin)
602 Court Street
(337) 639-2175

Avoyelles (Marksville)
320 Cottage Street
(318) 240-8820

Beauregard (DeRidder)
1102 West First Street
(337) 462-5838

Calcasieu (Lake Charles)
4250 Fifth Avenue
(337) 475-4900

Catahoula (Harrisonburg)
204 Sicily Street, Suite 2
(318) 744-5445

Concordia (Ferriday)
105 N. E. E. Wallace Blvd.
(318) 757-9213

Grant (Collfax)
207 Main Street
(318) 627-5251

LaSalle (Jena)
1050 Courthouse Street,
Room 25
(318) 992-8264

Rapides (Alexandria)
5610 B Coliseum Boulevard
(318) 767-6030

Winn (Winnfield)
201 N. Bevil Street, Suite 2
(318) 628-4641

Region 7

Northwest

Bienville (Arcadia)
1119 S. Railroad Avenue
(318) 263-8456

Bienville (Ringgold)
2434 Manning Street
(318) 894-9173

Bossier (Bossier City)
4000 Viking Drive, B-1
(318) 741-7360

Caddo (Shreveport)
2900 Dowdell Street
(318) 676-7788

Claiborne (Homer)
3940 Highway 79
(318) 927-3338

DeSoto (Mansfield)
142 Lake Road
(318) 871-2391

Lincoln (Ruston)
307 N. Homer Street, Ste. 306
(318) 251-4175

Natchitoches East (Natchitoches)
303 Bienville Street
(318) 357-3145

Natchitoches West (Natchitoches)
714 Fourth Street
(318) 357-3275

Red River (Coushatta)
615 East Carroll Street
(318) 932-9570

Sabine (Many)
1125 W. Mississippi Avenue,
Suite A
(318) 256-2698

Webster (Minden)
310 Homer Road
(318) 371-3024

Region 8

Northeast

Caldwell (Columbia)
404 Wall Street, Suite 8
(318) 649-5398

East Carroll (Lake Providence)
407 2nd Street, Suite B
(318) 559-1618

Franklin (Winnboro)
3290 Front Street
(318) 435-2151

Jackson (Jonesboro)
182 Industrial Drive
(318) 259-3801

Madison (Tallulah)
405 N. Cedar Street
(318) 574-0140

Morehouse (Bastrop)
250 Holt Street
(318) 283-0849

Ouachita (Monroe)
1301 Hudson Lane
(318) 362-5111

Richland (Rayville)
146 Christian Drive
(318) 728-3348

Tensas (St. Joseph)
107 Arts Drive, #116
(318) 766-3606

Union (Farmerville)
303-B East Water Street
(Courthouse Annex)
(318) 368-9606

West Carroll (Oakgrove)
310 Skinner Lane
(318) 428-8640

Top Demand Jobs by Region

Region 1

- Registered Nurses
- General and Operations Managers
- Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
- Elementary School Teachers, Except Special Education
- First-Line Supervisors/Managers of Retail Sales Workers
- Licensed Practical and Licensed Vocational Nurses
- Bookkeeping, Accounting, and Auditing Clerks
- Network Systems and Data Communications Analysts

Region 2

- Registered Nurses
- Elementary School Teachers, Except Special Education
- First-Line Supervisors/Managers of Retail Sales Workers
- General and Operations Managers
- Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
- Bookkeeping, Accounting, and Auditing Clerks
- Licensed Practical and Licensed Vocational Nurses
- First-Line Supervisors/Managers of Office and Administrative Support Workers
- Truck Drivers, Heavy and Tractor-Trailer

Region 3

- Captains, Mates, and Pilots of Water Vessels
- Sailors and Marine Oilers
- Welders, Cutters, Solderers, and Brazers
- Elementary School Teachers, Except Special Education
- Truck Drivers, Heavy and Tractor-Trailer
- Registered Nurses
- General and Operations Managers
- Plumbers, Pipefitters, and Steamfitters
- Ship Engineers
- Machinists

Region 4

- Registered Nurses
- Welders, Cutters, Solderers, and Brazers
- General and Operations Managers
- Elementary School Teachers, Except Special Education
- First-Line Supervisors/Managers of Retail Sales Workers
- Licensed Practical and Licensed Vocational Nurses
- Truck Drivers, Heavy and Tractor-Trailer
- Industrial Machinery Mechanics
- Licensed Practical and Licensed Vocational Nurses

Region 5

- Registered Nurses
- Elementary School Teachers, Except Special Education
- Welders, Cutters, Solderers, and Brazers
- Truck Drivers, Heavy and Tractor-Trailer
- General and Operations Managers
- Licensed Practical and Licensed Vocational Nurses
- First-Line Supervisors/Managers of Retail Sales Workers
- Secondary School Teachers, Except Special and Vocational Education
- Correctional Officers and Jailers

Region 6

- Registered Nurses
- Correctional Officers and Jailers
- Elementary School Teachers, Except Special Education
- General and Operations Managers
- Licensed Practical and Licensed Vocational Nurses
- First-Line Supervisors/Managers of Retail Sales Workers
- Secondary School Teachers, Except Special and Vocational Education
- Truck Drivers, Heavy and Tractor-Trailer

Region 7

- Registered Nurses
- Elementary School Teachers, Except Special Education
- General and Operations Managers
- Licensed Practical and Licensed Vocational Nurses
- First-Line Supervisors/Managers of Retail Sales Workers
- Truck Drivers, Heavy and Tractor-Trailer
- Bookkeeping, Accounting, and Auditing Clerks
- First-Line Supervisors/Managers of Office and Administrative Support Workers

Region 8

- Registered Nurses
- General and Operations Managers
- Elementary School Teachers, Except Special Education
- Licensed Practical and Licensed Vocational Nurses
- First-Line Supervisors/Managers of Retail Sales Workers
- Correctional Officers and Jailers
- First-Line Supervisors/Managers of Office and Administrative Support Workers
- Carpenters

For more information visit the Louisiana Workforce Commission at http://www.laworks.net/LaborMarketInfo/LMI_employmentprojections.asp.



Tools FOR Schools



Diverse Backgrounds. Countless Decisions. Many Choices.

GRADUATE ON TIME.

Here's How We Can Help

9th Grade Initiative

The 9th Grade Initiative supports the transition from 8th to 9th grade through increased personalization, developing skills for high school success, and encouraging education and career planning.

High Schools That Work/ Making Middle Grades Work (hstw/mmgw)

HSTW/MMGW provides effort-based school improvement initiatives designed by the Southern Regional Educational Board (SREB) to high school and middle grades leaders and teachers for the purpose of raising student achievement school-wide.

Career and Technical Education (CTE)

CTE programs provide all students a challenging, relevant, meaningful, and seamless education that will help them become lifelong learners and productive citizens of the 21st Century. Our goal is to increase Dual Enrollment, Industry Based Certifications (IBC's), and Work-Based Learning Opportunities for secondary students.

Credit Recovery

Credit Recovery provides an opportunity for on-time promotion of students to the 9th and 10th grades, keeping students on track for graduation, and reducing the number of dropouts. Programs serve both to prevent students from failing courses and to help students recover credit after they have failed a course.

Adolescent Literacy

Louisiana's Adolescent Literacy Plan describes the essential elements and key actions important to improving and advancing literacy in the upper grades. Elements focus on job-embedded professional development, reading and writing in all content areas, data-driven instruction, strategic intervention, and collaborative leadership.

Importance: The Louisiana of today is not the Louisiana of yesterday. No longer can our students leave high school without a diploma. The low-skill, good-paying jobs that used to be available in our state have all but disappeared. If we truly care about the future of our young people, and if we truly care about the future of our state, then High School Redesign is not an option. *It is a necessity.* Here are some exciting avenues for schools to assist students in becoming college- and career-ready.

Jobs for America's Graduates Louisiana (JAG-LA)

JAG-LA is an affiliate of the Jobs for America's Graduates Program (JAG), the nation's largest dropout prevention and recovery program serving youth 12-21 years of age. JAG-LA provides an educational setting that promotes academic and skills attainment, civic responsibility, leadership development and social awareness which are necessary to become a responsible citizen and productive worker.

Initiative to Transform Professional School Counseling

This initiative provides professional development so that high schools can design a comprehensive school counseling program that effectively meets the academic, career, and personal/social needs of every child.

Senior Project®

Senior Project® is a five-component, student-driven program for high school seniors that prepares them for both college and career. Students may receive an academic or career-tech endorsement through Senior Project®, which adds to the School Performance Scores of their schools.

Louisiana's Comprehensive Learning Supports System

Louisiana's Comprehensive Learning Supports System is a comprehensive and systemic approach to ensuring all students have equal opportunity to succeed at school. Learning Supports are the resources, strategies, and practices that provide physical, social, and emotional support to directly address barriers to learning and teaching and to re-engage disconnected students.

For more information, please visit www.louisianahighschools.org



Louisiana Department of
EDUCATION

1281 North Third Street
Baton Rouge, LA 70802-5242
877.453.2701 | www.louisianahighschools.net

The National 16 Career Clusters and Their Pathways

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The sixteen Career Clusters provide an organizing tool for schools, small learning communities, academies, and magnet schools.

Agriculture, Food & Natural Resources

Food Products and Processing Systems
Plant Systems
Animal Systems
Power, Structural & Technical Systems
Natural Resources Systems
Environmental Service Systems
Agribusiness Systems

Architecture & Construction

Design/Pre-Construction
Construction
Maintenance/Operations

Arts, Audio/Video Technology & Communications

Audio and Video Technology and Film
Printing Technology
Visual Arts
Performing Arts
Journalism and Broadcasting
Telecommunications

Business Management & Administration

General Management
Business Information Management
Human Resources Management
Operations Management
Administrative Support

Education & Training

Administration and Administrative Support
Professional Support Services
Teaching/Training

Finance

Securities & Investments
Business Finance
Accounting
Insurance
Banking Services

Government & Public Administration

Governance
National Security
Foreign Service
Planning
Revenue and Taxation
Regulation
Public Management and Administration

Health Science

Therapeutic Services
Diagnostic Services
Health Informatics
Support Services
Biotechnology Research and Development

Hospitality & Tourism

Restaurants and Food/Beverage Services
Lodging
Travel & Tourism
Recreation, Amusements & Attractions

Human Services

Early Childhood Development & Services
Counseling & Mental Health Services
Family & Community Services
Personal Care Services
Consumer Services

Information Technology

Network Systems
Information Support and Services
Web and Digital Communications
Programming and Software Development

Law, Public Safety, Corrections & Security

Correction Services
Emergency and Fire Management Services
Security & Protective Services

Law Enforcement Services
Legal Services

Manufacturing

Production
Manufacturing Production
Process Development
Maintenance, Installation & Repair
Quality Assurance
Logistics & Inventory Control
Health, Safety and Environmental Assurance

Marketing

Marketing Management
Professional Sales
Merchandising
Marketing Communications
Marketing Research

Science, Technology, Engineering & Mathematics

Engineering and Technology
Science and Math

Transportation, Distribution & Logistics

Transportation Operations
Logistics Planning and Management Services
Warehousing and Distribution Center Operations
Facility and Mobile Equipment Maintenance
Transportation Systems/Infrastructure Planning, Management and Regulation
Health, Safety and Environmental Management
Sales and Service

Louisiana Career Clusters



Agriculture, Food & Natural Resources

The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources. Mining and mineral extraction are included in the Agriculture, Food & Natural Resources cluster.



Architecture & Construction

Careers in designing, planning, managing, building, and maintaining the built environment.



Arts, A/V Technology & Communications

Designing, producing, exhibiting, performing, writing, and publishing multi-media content including visual and performing arts and design, journalism, and entertainment services.



Business Management & Administration

Business Management & Administration careers encompass planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. Business Management & Administration career opportunities are available in every sector of the economy.



Education & Training

Planning, managing, and providing education and training services, and related learning support services.



Finance

Planning, services for financial and investment planning, banking, insurance, and business financial management.



Government & Public Administration

Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration of the local, state, and federal levels.



Health Science

Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.



Hospitality & Tourism

Hospitality & Tourism encompasses the management, marketing, and operations of restaurants and other food services, lodging, attractions, recreation events, and travel-related services.



Human Services

Preparing individuals for employment in career pathways that relate to families and human needs.



Information Technology

Building linkages in IT occupations framework: for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multi-media, and systems integration services.



Law, Public Safety, Corrections & Security

Planning, managing, and providing legal, public safety, protective services, and homeland security, including professional and technical support services.



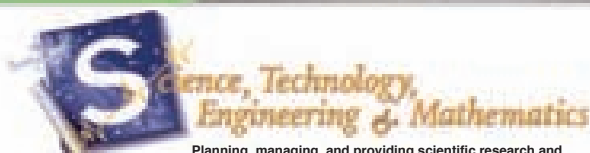
Manufacturing

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.



Marketing

Planning, managing, and performing marketing activities to reach organizational objectives.



Science, Technology, Engineering & Mathematics

Planning, managing, and providing scientific research and professional and technical services including laboratory and testing services, and research and development services.



Transportation, Distribution & Logistics

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.