



# New Mexico Career Clusters Guide





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Dear Career Planner,

The College and Career Readiness Bureau is pleased to present this third edition of the New Mexico Career Clusters Guide. This guide is designed to be a tool for students, parents, counselors, faculty, and career changers. It targets the career pathways needed to meet educational and employment goals and provides important information about wages and educational options in New Mexico. We were delighted by the utilization of the prior editions, and are pleased to offer this edition with updated occupational data.

This guide, designed around career clusters and related pathways, portrays a common set of knowledge and skills required for career success in each path. This process enhances the traditional approach to career and technical education by providing a foundation that prepares individuals for a full range of occupations and career specialties. This method uses a blend of employability knowledge, technical, and academic skills.

The 2020 edition offers Recommended Programs of Study. These high school course sequences are recommended because following a specified program will prepare a student for high skill, high demand, living wage careers that are available right here at home.

The New Mexico Public Education Department is committed to supporting the state's workforce system. This guide will assist students in identifying the available career options by using individual interests, clearly defined pathways, and timely employment projections.

Students using this guide will be able to make career decisions that meet their needs and allow them to thrive as members of New Mexico's current and emerging economy.

Sincerely,

A handwritten signature in black ink, appearing to read "Elaine Perea".

Elaine Perea, PhD  
Director  
College and Career Readiness Bureau














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# How to Use This Guide for Career Planning

Are you planning for high school, college, the workforce, or a career change? You will find the New Mexico Career Clusters Guide a valuable resource as you make these important decisions. This guide is designed to be a tool for planning and preparing for a career. It provides you a structure for selecting careers based on linking what you know about yourself with information about occupations and typical training requirements.

The career planning process is the cycle you follow when seeking employment in occupations that match your interests. You can repeat this process as needed to help you find your place in the world of work. Follow these steps to learn about Career Clusters, their multiple pathways, and to find career options that best fit you.

**#1 Know Yourself** The Interest Profiler on pages 5-7 gives you one option for finding career clusters and occupations that match your personal characteristics, strengths, and preferred activities. Results do not tell you which occupation or cluster you should choose, but they do provide information for determining the kinds of work you might want to explore.

**#2 Explore Career Clusters** Career Clusters help you sort through more than 900 careers. Each cluster contains occupations that have similar knowledge and skills. Career Pathways within each cluster help identify useful training to prepare for work in specific jobs. Connect your Interest Profiler results with clusters and occupations on pages 12-13 to discover which ones most closely match your work-related interests.

**#3 Know Your Options** Use your Step 2 information to choose one Career Cluster from the section starting on page 14. First, get the cluster's "big picture" and find online career resources. Then learn about the cluster, its pathways, and related occupations. Review the Selected Careers table's job descriptions, and related occupations, salary data, and interests. Find out about successful people who work in the cluster. Repeat this process with other clusters that interest you.

**#4 Experience Real Jobs** You may want to learn what it's really like to work in a specific occupation. Check out page 144 to find ways you can get experience in and gain a deeper understanding of occupations you might like.

# Discover Where Your Interests And Career Clusters Intersect

The Interest Profiler<sup>1</sup> is a self-assessment tool designed to help you identify what your interests are and translate these interests into occupations that best fit you. The following two pages include a list of 60 questions about work activities that some people perform in their jobs. By answering questions that represent important Interest Areas, the results from the Interest Profiler will help you discover your strong work-related interests and match them to careers.

## Instructions for taking Interest Profiler:

- Read the work activities from top to bottom and answer in the correct order.
- Read each question carefully and decide how you would feel about doing each type of work. Try not to think about whether you have enough education or training to do the work, or how much money you would make doing the work. Just think about whether you would like or dislike performing the work activity.
- If you think you would like the work activity, mark the “Like” box.
- If you think you would dislike the work activity, mark the “Dislike” box.
- If you are unsure whether you would like the work activity, mark the “Unsure” box.



## Other ways to explore your own characteristics:

Interests are only one part of who you are, so check out the following sites to find other ways to explore your own characteristics and identify other qualities that connect with careers that you may choose.

### Interests

Career Pathways-NM  
[careerpathways-nm.com](http://careerpathways-nm.com)

NM Career Solutions  
[nmcareersolutions.com](http://nmcareersolutions.com)

Career Key  
[careerkey.org](http://careerkey.org)

My Next Move  
[mynextmove.org](http://mynextmove.org)

Self-Directed Search  
[self-directed-search.com](http://self-directed-search.com)

### Personality Type

Myers-Briggs Type Indicator  
[cpp.com/products/mbti/index.aspx](http://cpp.com/products/mbti/index.aspx)

### Abilities & Aptitudes

SAT  
[collegereadiness.collegeboard.org](http://collegereadiness.collegeboard.org)

ACT  
[actstudent.org](http://actstudent.org)

ASVAB  
[officialasvab.com](http://officialasvab.com)

WorkKeys®  
[act.org/certificate/index.html](http://act.org/certificate/index.html)

<sup>1</sup> The Interest Profiler is adapted from the O\*NET® Interest Profiler Short Form, a shorter web-based version of the O\*NET Interest Profiler. Both interest assessment instruments are part of the Career Exploration Tools owned by the U.S. Department of Labor, Employment Training Administration (DOL/ETA). The O\*NET Interest Profiler Short Form was developed to aid in career exploration settings where it is beneficial for interest assessments to be completed and discussed in a short amount of time (e.g., career counseling and consultation settings). For more information about the web-based O\*NET Interest Profiler Short Form, please check [outonetcenter.org/IP.html](http://outonetcenter.org/IP.html) or visit [mynextmove.org/explore/ip](http://mynextmove.org/explore/ip) to take the web-based assessment. All O\*NET Assessment/Counseling Tools are copyrighted. O\*NET is a trademark of DOL/ETA.

# Interest Profiler

Please follow instructions on page 5 to take the interest assessment.

Work Activity	Like	Dislike	Unsure
Build kitchen cabinets			
Lay brick or tile			
Develop a new medicine			
Study ways to reduce water pollution			
Write books or plays			
Play a musical instrument			
Teach an individual an exercise routine			
Help people with personal or emotional problems			
Buy and sell stocks and bonds			
Manage a retail store			
Develop a spreadsheet using computer software			
Proofread records or forms			
Repair household appliances			
Raise fish in a fish hatchery			
Conduct chemical experiments			
Study the movement of planets			
Compose or arrange music			
Draw pictures			
Give career guidance to people			
Perform rehabilitation therapy			
Operate a beauty salon or barber shop			
Manage a department within a large company			
Load computer software into a large computer network			
Operate a calculator			
Assemble electronic parts			
Drive a truck to deliver packages to offices and homes			
Examine blood samples using a microscope			
Investigate the cause of a fire			
Create special effects for movies			
Paint sets for plays			

Record total number of likes for each color/pattern in boxes below:

Work Activity	Like	Dislike	Unsure
Do volunteer work at a non-profit organization			
Teach children how to play sports			
Start your own business			
Negotiate business contracts			
Keep shipping and receiving records			
Calculate the wages of employees			
Test the quality of parts before shipment			
Repair and install locks			
Develop a way to better predict the weather			
Work in a biology lab			
Write scripts for movies or television shows			
Perform jazz or tap dance			
Teach sign language to people with hearing disabilities			
Help conduct a group therapy session			
Represent a client in a lawsuit			
Market a new line of clothing			
Inventory supplies using a hand-held computer			
Record rent payments			
Set up and operate machines to make products			
Put out forest fires			
Invent a replacement for sugar			
Do laboratory tests to identify diseases			
Sing in a band			
Edit movies			
Take care of children at a day-care center			
Teach a high-school class			
Sell merchandise at a department store			
Manage a clothing store			
Keep inventory records			
Stamp, sort, and distribute mail for an organization			

Record total number of likes for each color/pattern in boxes below:



# Scoring Instructions<sup>1</sup>

Work activity items are color/pattern coded to help you score and interpret results. There are six color/pattern bands of items to represent six Interest Areas. Items in the same color/pattern band represent a particular Interest Area. To reveal your Interest Areas, follow these instructions:

Color/Pattern	Interest Area
Green	Realistic
Pink	Investigative
Yellow	Artistic
Purple	Social
Orange	Enterprising
Blue	Conventional

**Step 1:** Count the number of “Likes” you marked for the questions in green band on page 6, then record the number in the first green box at the bottom of page 6.

**Step 2:** Count the number of “Likes” you marked for the questions in the green band on page 7, then record the number in the green box at the bottom of page 7.

**Step 3:** Add the numbers in the two green boxes on pages 6 and 7 and write the total in the "R" green box below. This total equals your score for the Realistic Interest Area.

**Step 4:** Repeat steps 1, 2, and 3 for the pink, yellow, purple, orange, and blue questions.



## Primary Interest Area:

Which Interest Area has your highest score: R, I, A, S, E, or C? Enter the letter below.

Your Primary Interest Area: \_\_\_\_\_

## Secondary Interest Areas:

Which Interest Areas have your second and third highest score? Enter the letters below:

Your Secondary Interest Areas: \_\_\_\_\_ & \_\_\_\_\_

## What Your Primary Interest Area Means

What occupations are linked with your interests? You will want to explore occupations that are related to your Primary Interest Area. For example, a person with strong Realistic interests would probably be most satisfied with strong Realistic occupations (e.g., electrician, firefighter, surgeon). It is important to note that an individual’s interests may not be described by just one of the six interest categories. In fact, John Holland suggests that most people will have interests in several of the areas, but that they probably will have one Interest Area that is stronger than the others. If you have two identical highest scores, you should consider both scores as it indicates that you have two Primary interests. If you are not certain about the occupations linked to your Primary Interest Area, you can use your Secondary Interest Areas to explore a different set of careers.

Read over the definitions of your Primary and Secondary Interest Areas on the following page to get a better understanding of your work-related interests.

<sup>1</sup> The O\*NET Interest Profiler Short Form is a self-scored interest assessment. For information about scoring the paper-and-pencil version of the O\*NET Interest Profiler Short Form, please check out O\*NET® Interest Profiler Short Form Psychometric Characteristics: Summary 2010 ([onetcenter.org/dl\\_files/IPSF\\_Psychometric.pdf](http://onetcenter.org/dl_files/IPSF_Psychometric.pdf)).

The Interest Profiler measures interests in each of the six Holland RIASEC types.<sup>2</sup> This section provides definitions for each of the six types. Each definition includes examples of activities that individuals with that interest type like to perform, as well as examples of famous people whose field of work matches the interest type.



## Realistic – The “Doers”

People with Realistic interests like work activities that include practical, hands-on problems and solutions. They enjoy dealing with plants, animals, and real-world materials like wood, tools, and machinery. They often enjoy outside work. Often people with Realistic interests do not like occupations that mainly involve doing paperwork or working closely with others. Famous realists: NASCAR driver Danica Patrick, TV carpenter Norm Abram, wildlife expert Steve Irwin, and multi-talented athlete Jim Thorpe.



## Investigative – The “Thinkers”

People with Investigative interests like work activities that have to do with ideas and thinking more than with physical activity. They prefer to search for facts and figure out problems mentally rather than to persuade or lead people. Prominent investigators: astrophysicist Neil deGrasse Tyson, primatologist Jane Goodall, mathematician/computer scientist Grace Murray Hopper, and neuroscientist Ben Carson.



## Artistic – The “Creators”

People with Artistic interests like work activities that deal with the artistic side of things, such as forms, designs, and patterns. They like self-expression in their work. They prefer settings where work can be done without following a clear set of rules. Well-known artists: painter/sculptor Leonardo da Vinci, actress Halle Berry, writer J.K. Rowling, and singers Lady Gaga and Tony Bennett.



## Social – The “Helpers”

People with Social interests like work activities that assist others and promote learning and personal development. They prefer to communicate more than to work with objects, machines, or data. They like to teach, give advice, help, or otherwise be of service to people. Famous helpers: educator Booker T. Washington, mental health care reformer Dorothea Dix, TV psychologist Phil McGraw, and civil rights leader Martin Luther King Jr.



## Enterprising – The “Persuaders”

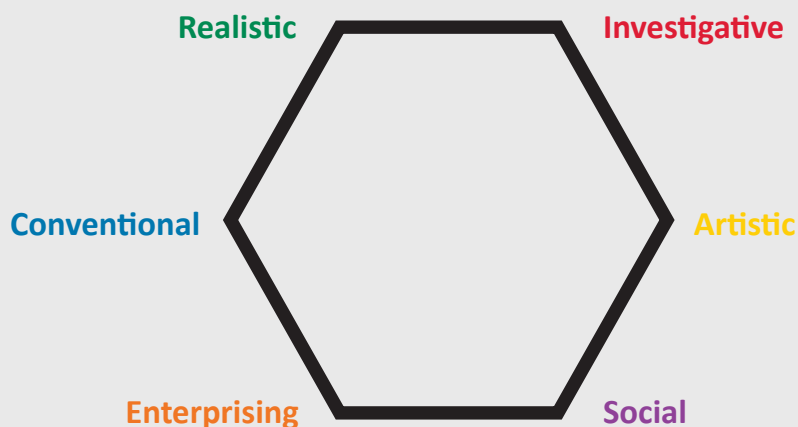
People with Enterprising interests like work activities that have to do with starting up and carrying out projects, especially business ventures. They like persuading and leading people and making decisions. They enjoy taking risks for profit. These people prefer action rather than thought. Prominent persuaders: TV mogul Oprah Winfrey, business magnate Jeff Bezos, U.S. Senator Marco Rubio, and Facebook co-founder Mark Zuckerberg.



## Conventional – The “Organizers”

People with Conventional interests follow procedures and maintain accurate written and numerical business records. They prefer working in structured settings where roles and tasks are clearly defined. Well-known organizers: businessman J.C. Penney, Supreme Court Justice Sandra Day O’Connor, and professional organizer Alejandra Costello.

John Holland suggested that viewing the Interest Areas on a hexagon can help people understand how their interests overlap or how they may be distinctly different. Interests that are most similar touch each other on the hexagon (e.g., Social, Enterprising, and Conventional). On the other hand, interests across the hexagon from each other (e.g., Conventional and Artistic) are least likely to have similarities. Sometimes people’s combined interests are opposite from or not adjacent to each other. In this case, people sometimes choose to focus on the most different interest as a hobby or to find a unique work setting that merges their interests.










<sup>2</sup> The O\*NET Interest Profiler is compatible with Holland’s (1985a) Theory of Vocational Personality, one of the most widely accepted approaches to vocational choice. Information for Interest Areas is extracted from the O\*NET Career Exploration Tools owned by the U.S. Department of Labor, Employment Training Administration (DOL/ETA). All O\*NET Assessment/Counseling Tools are copyrighted. O\*NET is a trademark of DOL/ETA.

# 16 Career Clusters and Their Career Pathways

Career clusters are groups of occupations that require a common knowledge base and the use of similar skills. Each cluster contains several smaller groups called career pathways that connect to educational programs, industries, and careers. While a career cluster paints a broad picture of a group of occupations, a pathway helps you focus on and develop a clear, more informed educational plan over time.

This Career Clusters Guide is designed around the O\*NET® OnLine 16 Career Clusters and related Career Pathways, which provide in-depth information about occupations in the same field of work that requires similar skills. The National Career Clusters Framework also organizes educational delivery within 16 Career Clusters and 79 Career Pathways to support career awareness and exploration. Please check out [www.careertech.org/crosswalks](http://www.careertech.org/crosswalks) for links between the O\*NET Career Clusters and National Career Clusters.

Career Cluster	Description	Career Pathway
 <b>Agriculture, Food &amp; Natural Resources</b>	Do you enjoy working with plants and animals? Interested in working to conserve natural resources or protect the environment? This cluster includes careers in the planning, production, processing, management, distribution, and marketing of agricultural products, including food, plants, animals, fabrics, wood, and crops.	<ul style="list-style-type: none"> <li>• Agribusiness Systems</li> <li>• Animal Systems</li> <li>• Environmental Service Systems</li> <li>• Food Products &amp; Processing Systems</li> <li>• Natural Resources Systems</li> <li>• Plant Systems</li> <li>• Power, Structural &amp; Technical Systems</li> </ul>
 <b>Architecture &amp; Construction</b>	Do you want to design, build, and maintain structures where people live, work, and play? This cluster includes careers in designing, planning, managing, building, and maintaining the built environment.	<ul style="list-style-type: none"> <li>• Construction</li> <li>• Design/Pre-Construction</li> <li>• Maintenance/Operations</li> </ul>
 <b>Arts, Audio/Video Technology &amp; Communications</b>	Do you like to perform? Do you love to use your artistic creativity on the job? This cluster includes careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content, including visual and performing arts and design, journalism, and entertainment services.	<ul style="list-style-type: none"> <li>• Performing Arts</li> <li>• Media Design Arts</li> <li>• Production and Managerial Arts</li> </ul>
 <b>Business, Management &amp; Administration</b>	Are you entrepreneurial? Do you like to plan and organize activities? This cluster includes careers in planning, organizing, directing, and evaluating business functions essential to effective business operations.	<ul style="list-style-type: none"> <li>• Administrative Support</li> <li>• Business Information Management</li> <li>• Human Resources Management</li> <li>• General Management</li> <li>• Operations Management</li> </ul>
 <b>Education &amp; Training</b>	Do you enjoy teaching others? Are you comfortable with public speaking? This cluster includes careers in planning, managing, and providing education and training services and related learning support services, including administration and library services.	<ul style="list-style-type: none"> <li>• Administration &amp; Administrative Support</li> <li>• Professional Support Services</li> <li>• Teaching/Training</li> </ul>
 <b>Finance</b>	Do you like to work with numbers? Do you want to help people plan for their financial futures? This cluster includes careers in financial and investment planning, banking, insurance, and business financial management.	<ul style="list-style-type: none"> <li>• Banking &amp; Related Services</li> <li>• Business Financial Management</li> <li>• Financial &amp; Investment Planning</li> <li>• Insurance Services</li> </ul>
 <b>Government &amp; Public Administration</b>	Are you interested in government and politics? Would you like to help pass law? This cluster includes careers in planning, managing, and providing government services at the federal, state, and local levels; including legislative, administrative, and regulatory services.	<ul style="list-style-type: none"> <li>• Governance</li> <li>• National Security</li> <li>• Planning</li> <li>• Public Management &amp; Administration</li> <li>• Regulation</li> <li>• Revenue &amp; Taxation</li> </ul>

Career Cluster	Description	Career Pathway
 <p><b>Health Science</b></p>	Do you enjoy helping people feel better? Would you like working in a hospital or other medical facility? This cluster includes careers in planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnological research and development.	<ul style="list-style-type: none"> <li>• Biotechnology Research &amp; Development</li> <li>• Diagnostic Services</li> <li>• Health Informatics</li> <li>• Support Services</li> <li>• Therapeutic Services</li> </ul>
 <p><b>Hospitality &amp; Tourism</b></p>	Do you want to help other people enjoy their leisure time? Would you like to work in a hotel or in a restaurant? This cluster includes careers in the management, marketing, and operations of restaurants and other food services, lodging, attractions, recreation events, and travel-related services.	<ul style="list-style-type: none"> <li>• Lodging</li> <li>• Recreation, Amusements &amp; Attractions</li> <li>• Restaurants &amp; Food/Beverage Services</li> <li>• Travel &amp; Tourism</li> </ul>
 <p><b>Human Services</b></p>	Do you like to help people? Would you enjoy teaching people how to improve their lives? This cluster includes careers that involve tending to families and to human needs.	<ul style="list-style-type: none"> <li>• Consumer Services</li> <li>• Counseling &amp; Mental Health Services</li> <li>• Early Childhood Development &amp; Services</li> <li>• Family &amp; Community Services</li> <li>• Personal Care Services</li> </ul>
 <p><b>Information Technology</b></p>	Do you like technology? Do you enjoy working with computer hardware, software, multimedia, or network systems? This cluster includes careers related to the design, development, support, and management of hardware, software, Internet, multimedia, and systems integration services.	<ul style="list-style-type: none"> <li>• Information Support &amp; Services</li> <li>• Network Systems</li> <li>• Programming &amp; Software Development</li> </ul>
 <p><b>Law, Public Safety, Corrections &amp; Security</b></p>	Do you like to help protect other people's safety? Do you want to help enforce the law? This cluster includes careers in planning, managing, and providing legal, public safety, corrections, protective services, and homeland security, including professional and technical support.	<ul style="list-style-type: none"> <li>• Correction Services</li> <li>• Emergency &amp; Fire Management Services</li> <li>• Law Enforcement Services</li> <li>• Legal Services</li> <li>• Security &amp; Protective Services</li> </ul>
 <p><b>Manufacturing</b></p>	Do you like to design and make things? Are you comfortable working with machines? This cluster includes careers in 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.	<ul style="list-style-type: none"> <li>• Maintenance, Installation &amp; Repair</li> <li>• Manufacturing Production Process Development</li> <li>• Production</li> <li>• Quality Assurance</li> </ul>
 <p><b>Marketing, Sales &amp; Service</b></p>	Do you like to sell products or services? Are you friendly and outgoing? This cluster includes careers in planning, managing, and performing marketing activities to reach organizational objectives.	<ul style="list-style-type: none"> <li>• Merchandising</li> <li>• Marketing Management</li> <li>• Marketing Communications</li> <li>• Marketing Research</li> <li>• Professional Sales</li> </ul>
 <p><b>Science, Technology, Engineering &amp; Mathematics</b></p>	Do you like science or math? Do you enjoy solving problems? This cluster includes occupations and careers in planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering), including laboratory and testing services, and research and development services.	<ul style="list-style-type: none"> <li>• Engineering &amp; Technology</li> <li>• Science &amp; Math</li> </ul>
 <p><b>Transportation, Distribution &amp; Logistics</b></p>	Would you like to fly planes, drive trucks, or pilot ships? Would you enjoy planning roads or power systems? This cluster includes careers in planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water as well as related professional and technical-support services, such as transportation-infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.	<ul style="list-style-type: none"> <li>• Facility &amp; Mobile Equipment Maintenance</li> <li>• Health, Safety &amp; Environmental Management</li> <li>• Logistics Planning &amp; Management Services</li> <li>• Sales &amp; Service</li> <li>• Transportation Operations</li> <li>• Transportation Systems/Infrastructure Planning, Management &amp; Regulation</li> <li>• Warehousing &amp; Distribution Center Operations</li> </ul>

Source: O\*NET OnLine [onetonline.org/find/career](http://onetonline.org/find/career)

# Introduction to Career Clusters Matrix

Now that you've finished the Interest Profiler, circle the column headings on these two pages that match the Primary and Secondary interests that you discovered on page 8. Then look at the occupations listed under your types and mark any that appeal to you. Broaden your options by looking across both pages at other occupations in the career clusters containing the jobs you've marked. Remember: the occupations in this matrix give you only a few examples. To find additional careers, explore the career clusters information that follows.

## Examples of Occupations by Interest Type and Cluster

	Realistic	Investigative	Artistic
<b>Agriculture, Food &amp; Natural Resources</b>	<ul style="list-style-type: none"> <li>Pest Control Workers</li> <li>Logging Equipment Operators</li> <li>Hazardous Materials Removal Workers</li> </ul>	<ul style="list-style-type: none"> <li>Zoologists &amp; Wildlife Biologists</li> <li>Animal Scientists</li> <li>Environmental Scientists &amp; Specialists</li> </ul>	<ul style="list-style-type: none"> <li>Floral Designers</li> <li>Park Naturalists</li> </ul>
<b>Architecture &amp; Construction</b>	<ul style="list-style-type: none"> <li>Construction Laborers</li> <li>Roofers</li> <li>Sheet Metal Workers</li> </ul>	<ul style="list-style-type: none"> <li>Operations Research Analysts</li> <li>Civil Engineers</li> </ul>	<ul style="list-style-type: none"> <li>Interior Designers</li> <li>Architects</li> </ul>
<b>Arts, A/V Technology &amp; Communications</b>	<ul style="list-style-type: none"> <li>Telecommunications Line Installers</li> <li>Motion Picture Camera Operators</li> <li>Fine Artists</li> </ul>	<ul style="list-style-type: none"> <li>Telecommunications Equipment Repairers</li> <li>Film &amp; Video Editors</li> </ul>	<ul style="list-style-type: none"> <li>Art Directors</li> <li>Multimedia Artists &amp; Animators</li> <li>Photographers</li> </ul>
<b>Business, Management &amp; Administration</b>	<ul style="list-style-type: none"> <li>Couriers &amp; Messengers</li> <li>Library Assistants, Clerical</li> <li>Office Machine Operators</li> </ul>	<ul style="list-style-type: none"> <li>Survey Researchers</li> <li>Market Research Analysts</li> <li>Statisticians</li> </ul>	<ul style="list-style-type: none"> <li>Advertising &amp; Promotions Managers</li> <li>Public Relations Specialists</li> </ul>
<b>Education &amp; Training</b>	<ul style="list-style-type: none"> <li>Vocational Education Teachers</li> <li>Multimedia Collections Specialists</li> </ul>	<ul style="list-style-type: none"> <li>School Psychologists</li> <li>Health Specialties Teachers</li> </ul>	<ul style="list-style-type: none"> <li>Interpreters &amp; Translators</li> <li>Preschool Teachers, Except Special Education</li> </ul>
<b>Finance</b>	<ul style="list-style-type: none"> <li>Auto Insurance Appraisers</li> <li>Title Examiners</li> </ul>	<ul style="list-style-type: none"> <li>Fraud Examiners</li> <li>Risk Management Specialists</li> </ul>	<ul style="list-style-type: none"> <li>Content Editors</li> </ul>
<b>Government &amp; Public Administration</b>	<ul style="list-style-type: none"> <li>Coroners</li> <li>Surveying Technicians</li> </ul>	<ul style="list-style-type: none"> <li>Climate Change Analysts</li> <li>Economists</li> </ul>	<ul style="list-style-type: none"> <li>Political Scientists</li> <li>Communications Professors</li> </ul>
<b>Health Science</b>	<ul style="list-style-type: none"> <li>Radiologic Technologists</li> <li>Home Health Aides</li> <li>Surgical Technologists</li> </ul>	<ul style="list-style-type: none"> <li>Pediatricians, General</li> <li>Podiatrists</li> <li>Pharmacists</li> </ul>	<ul style="list-style-type: none"> <li>Recreational Therapists</li> <li>Psychiatrists</li> <li>Speech-Language Pathologists</li> </ul>
<b>Hospitality &amp; Tourism</b>	<ul style="list-style-type: none"> <li>Dishwashers</li> <li>Bakers</li> <li>Maids &amp; Housekeeping Cleaners</li> </ul>	<ul style="list-style-type: none"> <li>Blenders/Cooks</li> <li>Brewers</li> <li>Cheese Makers</li> </ul>	<ul style="list-style-type: none"> <li>Cooks</li> <li>Set &amp; Exhibit Designers</li> <li>Recreation Workers</li> </ul>
<b>Human Services</b>	<ul style="list-style-type: none"> <li>Personal Care Aides</li> <li>Seamstresses</li> <li>Shampoosers</li> </ul>	<ul style="list-style-type: none"> <li>Healthcare Social Workers</li> <li>Marriage &amp; Family Therapists</li> </ul>	<ul style="list-style-type: none"> <li>Cosmetologists</li> <li>Childcare Workers</li> <li>Tailors</li> </ul>
<b>Information Technology</b>	<ul style="list-style-type: none"> <li>Telecommunications Engineering Specialists</li> <li>Software Quality Assurance Engineers</li> </ul>	<ul style="list-style-type: none"> <li>Computer Hardware Engineers</li> <li>Data Warehousing Specialists</li> <li>Information Security Analysts</li> </ul>	<ul style="list-style-type: none"> <li>Video Game Designers</li> <li>Graphic Designers</li> </ul>
<b>Law, Public Safety, Corrections &amp; Security</b>	<ul style="list-style-type: none"> <li>Parking Enforcement Workers</li> <li>Bailiffs</li> <li>Lifeguards &amp; Ski Patrol Workers</li> </ul>	<ul style="list-style-type: none"> <li>Forensic Science Technicians</li> <li>Security Management Specialists</li> </ul>	<ul style="list-style-type: none"> <li>Psychology Professors</li> <li>Forensic Artists</li> </ul>
<b>Manufacturing</b>	<ul style="list-style-type: none"> <li>Aircraft Structure &amp; Systems Assemblers</li> <li>Computer-Controlled Machine Tool Operators</li> <li>Engine &amp; Other Machine Assemblers</li> </ul>	<ul style="list-style-type: none"> <li>Power Distributors &amp; Dispatchers</li> <li>Medical Equipment Repairers</li> <li>Tool &amp; Die Makers</li> </ul>	<ul style="list-style-type: none"> <li>Stone Cutters &amp; Carvers</li> <li>Glass Blowers</li> <li>Potters</li> </ul>
<b>Marketing, Sales &amp; Service</b>	<ul style="list-style-type: none"> <li>Real Estate Appraisers</li> <li>Demonstrators &amp; Product Promoters</li> </ul>	<ul style="list-style-type: none"> <li>Search Marketing Strategists</li> <li>Sales Engineers</li> </ul>	<ul style="list-style-type: none"> <li>Models</li> <li>Merchandise Displayers</li> <li>Marketers</li> </ul>
<b>Science, Technology, Engineering &amp; Mathematics</b>	<ul style="list-style-type: none"> <li>Mechanical Engineers</li> <li>Chemical Engineers</li> <li>Electrical Engineers</li> </ul>	<ul style="list-style-type: none"> <li>Microbiologists</li> <li>Materials Scientists</li> <li>Chemists</li> </ul>	<ul style="list-style-type: none"> <li>Mathematicians</li> <li>Marine Architects</li> <li>Architectural Drafters</li> </ul>
<b>Transportation, Distribution &amp; Logistics</b>	<ul style="list-style-type: none"> <li>Automotive Body Repairers</li> <li>Motorcycle Mechanics</li> <li>Automotive Glass Installers</li> </ul>	<ul style="list-style-type: none"> <li>Traffic Technicians</li> <li>Avionics Technicians</li> </ul>	<ul style="list-style-type: none"> <li>Gem &amp; Diamond Workers</li> <li>Precious Metal Workers</li> </ul>



















Social	Enterprising	Conventional
<ul style="list-style-type: none"> <li>Agricultural Sciences Professors</li> <li>Veterinary Assistants</li> </ul>	<ul style="list-style-type: none"> <li>Nature Sciences Managers</li> <li>Farm Product Buyers &amp; Purchasing Agents</li> </ul>	<ul style="list-style-type: none"> <li>Environmental Engineering Technicians</li> <li>Farm Equipment Mechanics</li> <li>Food Scientists &amp; Technologists</li> </ul>
<ul style="list-style-type: none"> <li>Architecture Professors</li> <li>Engineering Professors</li> </ul>	<ul style="list-style-type: none"> <li>Construction Managers</li> <li>Cost Estimators</li> </ul>	<ul style="list-style-type: none"> <li>Civil Drafters</li> <li>Drywall Installers</li> </ul>
<ul style="list-style-type: none"> <li>Broadcast News Analysts</li> <li>Choreographers</li> <li>DJs (Disc Jockeys)</li> </ul>	<ul style="list-style-type: none"> <li>Agents &amp; Business Managers of Artists, Performers &amp; Athletes</li> <li>Craft Artists</li> <li>Commercial &amp; Industrial Designers</li> </ul>	<ul style="list-style-type: none"> <li>Broadcast Technicians</li> <li>Technical Writers</li> </ul>
<ul style="list-style-type: none"> <li>Training &amp; Development Specialists</li> <li>Human Resources Specialists</li> </ul>	<ul style="list-style-type: none"> <li>Industrial Production Managers</li> <li>Sales Managers</li> <li>Advertising Sales Agents</li> </ul>	<ul style="list-style-type: none"> <li>Auditors</li> <li>Budget Analysts</li> <li>Tax Preparers</li> </ul>
<ul style="list-style-type: none"> <li>Special Education Teachers</li> <li>Fitness Trainers &amp; Aerobics Instructors</li> <li>Dietitians &amp; Nutritionists</li> </ul>	<ul style="list-style-type: none"> <li>Education Administrators, Preschool &amp; Childcare Center/Program</li> <li>Coaches &amp; Scouts</li> <li>Secondary School Teachers</li> </ul>	<ul style="list-style-type: none"> <li>Librarians</li> <li>Teacher Assistants</li> <li>Education Administrators</li> </ul>
<ul style="list-style-type: none"> <li>Insurance Sales Agents</li> <li>Loan Counselors</li> </ul>	<ul style="list-style-type: none"> <li>Real Estate Sales Agents</li> <li>Personal Financial Advisors</li> </ul>	<ul style="list-style-type: none"> <li>Bill &amp; Account Collectors</li> <li>Loan Officers</li> <li>Tellers</li> </ul>
<ul style="list-style-type: none"> <li>Emergency Management Directors</li> <li>Eligibility Interviewers</li> </ul>	<ul style="list-style-type: none"> <li>Equal Opportunity Representatives &amp; Officers</li> <li>Social &amp; Community Service Managers</li> <li>Storage &amp; Distribution Managers</li> </ul>	<ul style="list-style-type: none"> <li>City &amp; Regional Planning Aides</li> <li>Mapping Technicians</li> <li>Assessors</li> </ul>
<ul style="list-style-type: none"> <li>Occupational Therapy Aides</li> <li>Psychiatric Aides</li> <li>Nursing Assistants</li> </ul>	<ul style="list-style-type: none"> <li>Opticians, Dispensing</li> <li>Psychiatric Technicians</li> <li>Medical &amp; Health Services Managers</li> </ul>	<ul style="list-style-type: none"> <li>Health Information Technicians</li> <li>Pharmacy Technicians</li> <li>Medical Transcriptionists</li> </ul>
<ul style="list-style-type: none"> <li>Tour Guides &amp; Escorts</li> <li>Waiters &amp; Waitresses</li> <li>Concierges</li> </ul>	<ul style="list-style-type: none"> <li>Restaurant Hosts &amp; Hostesses</li> <li>Umpires &amp; Referees</li> <li>Bartenders</li> </ul>	<ul style="list-style-type: none"> <li>Hotel Desk Clerks</li> <li>Food Preparation Workers</li> <li>Fast Food Cooks</li> </ul>
<ul style="list-style-type: none"> <li>Clergy</li> <li>Rehabilitation Counselors</li> </ul>	<ul style="list-style-type: none"> <li>Skincare Specialists</li> <li>Manicurists &amp; Pedicurists</li> </ul>	<ul style="list-style-type: none"> <li>Barbers</li> <li>Religious Activity Directors</li> </ul>
<ul style="list-style-type: none"> <li>Informatics Nurse Specialists</li> <li>Computer Science Professors</li> </ul>	<ul style="list-style-type: none"> <li>Computer Network Support Specialists</li> <li>Database Architects</li> </ul>	<ul style="list-style-type: none"> <li>Computer Network Architects</li> <li>Network &amp; Computer Systems Administrators</li> </ul>
<ul style="list-style-type: none"> <li>Sheriffs &amp; Deputy Sheriffs</li> <li>Animal Control Workers</li> <li>Law Professors</li> </ul>	<ul style="list-style-type: none"> <li>Lawyers</li> <li>Private Detectives &amp; Investigators</li> </ul>	<ul style="list-style-type: none"> <li>Paralegals &amp; Legal Assistants</li> <li>Security Guards</li> </ul>
<ul style="list-style-type: none"> <li>Farm &amp; Home Management Advisors</li> <li>Medical Appliance Technicians</li> </ul>	<ul style="list-style-type: none"> <li>Team Assemblers</li> <li>Production Managers</li> <li>Supervisors of Mechanics, Installers &amp; Repairers</li> </ul>	<ul style="list-style-type: none"> <li>Purchasing Agents</li> <li>Fiberglass Fabricators</li> <li>Machinists</li> </ul>
<ul style="list-style-type: none"> <li>Customer Service Representatives</li> <li>Meeting, Convention &amp; Event Planners</li> <li>Travel Guides</li> </ul>	<ul style="list-style-type: none"> <li>Real Estate Brokers</li> <li>Wholesale &amp; Retail Buyers</li> </ul>	<ul style="list-style-type: none"> <li>Stock Clerks</li> <li>Online Merchants</li> </ul>
<ul style="list-style-type: none"> <li>Epidemiologists</li> <li>Sociologists</li> </ul>	<ul style="list-style-type: none"> <li>Industrial Engineers</li> <li>Materials Engineers</li> <li>Industrial Ecologists</li> </ul>	<ul style="list-style-type: none"> <li>Quality Control Analysts</li> <li>Logistics Engineers</li> <li>Biostatisticians</li> </ul>
<ul style="list-style-type: none"> <li>Bus Drivers</li> <li>Flight Attendants</li> <li>Ambulance Drivers &amp; Attendants</li> </ul>	<ul style="list-style-type: none"> <li>Aircraft Cargo Handling Supervisors</li> <li>Supervisors of Laborers</li> <li>Taxi Drivers &amp; Chauffeurs</li> </ul>	<ul style="list-style-type: none"> <li>Air Traffic Controllers</li> <li>Light Truck or Delivery Services Drivers</li> </ul>

Source: O\*NET OnLine [ononline.org/find/career](https://ononline.org/find/career) and [ononline.org/find/descriptor/browse/interests/](https://ononline.org/find/descriptor/browse/interests/)

# The 16 Career Clusters

Once you have an idea of the types of jobs available, you're ready to explore the Career Clusters section. Go to the appropriate cluster that best matches your work-related interests. The cluster pages have many more occupations listed than the charts from previous pages. These pages will tell you more about the cluster, its pathways, and related jobs. Additionally, you can:

- View job descriptions, employment data, and wages for selected careers.
- Learn about clubs to join, the appropriate math course to take, the credentials and certifications to get, and the programs of study and majors at New Mexico colleges that specialize in preparing students for these careers.
- Find additional online career resources including O\*NET OnLine, which provides detailed information about each occupation in the cluster.

<p><b>Agriculture, Food &amp; Natural Resources</b></p>  <p>pg 15-22</p>	<p><b>Architecture &amp; Construction</b></p>  <p>pg 23-30</p>	<p><b>Arts, Audio/Video Technology &amp; Communications</b></p>  <p>pg 31-38</p>	<p><b>Business, Management &amp; Administration</b></p>  <p>pg 39-46</p>
<p><b>Education &amp; Training</b></p>  <p>pg 47-54</p>	<p><b>Finance</b></p>  <p>pg 55-62</p>	<p><b>Government &amp; Public Administration</b></p>  <p>pg 63-70</p>	<p><b>Health Science</b></p>  <p>pg 71-78</p>
<p><b>Hospitality &amp; Tourism</b></p>  <p>pg 79-86</p>	<p><b>Human Services</b></p>  <p>pg 87-94</p>	<p><b>Information Technology</b></p>  <p>pg 95-102</p>	<p><b>Law, Public Safety, Corrections &amp; Security</b></p>  <p>pg 103-110</p>
<p><b>Manufacturing</b></p>  <p>pg 111-118</p>	<p><b>Marketing, Sales &amp; Service</b></p>  <p>pg 119-126</p>	<p><b>Science, Technology, Engineering &amp; Mathematics</b></p>  <p>pg 127-134</p>	<p><b>Transportation, Distribution &amp; Logistics</b></p>  <p>pg 135-142</p>



## Agriculture, Food & Natural Resources

Think about life without agriculture, food and natural resources. What would we eat? Who would create and maintain the parks that help us relax and enjoy nature? Where would we get help for sick pets? This industry has a huge impact on our daily lives, and — like other industries — technology has brought about changes in the way it operates.

Large farms increasingly use precision-agriculture sensing technology, such as drones, to monitor soil conditions; GPS systems to help steer machinery more precisely; and computer-based maps to prescribe amounts of fertilizer, seed, and chemicals for specific areas. Bioscientists have developed genetically modified organisms (GMOs) that increase crop yield and resistance to pests and disease.

Organic farming, which seeks to avoid chemicals, continues to show economic growth. While responsible for only a little more than 4 percent of total U.S. food sales, sales of organic foods are more than two-and-a-half times greater now than they were 10 years ago.<sup>1</sup>

The Agriculture, Food and Natural Resources cluster contains occupations that require all levels of training. Landscaping and groundskeeping workers and nonfarm animal caretaker positions are among the fastest-growing occupations that require the least training in this cluster. Jobs that usually require associate and bachelor's degrees such as veterinary technologists and technicians, environmental engineers, and cartographers and photogrammetrists are also projected to increase. Employers who often hire workers in this cluster include farmers; federal, state and local governments; pest control businesses; and landscaping companies.

<sup>1</sup> "Organic Market Overview." USDA Economic Research Service. U.S. Department of Agriculture, 7 Apr. 2014. [ers.usda.gov/topics/natural-resources-environment/organic-agriculture/organic-market-overview.aspx](https://ers.usda.gov/topics/natural-resources-environment/organic-agriculture/organic-market-overview.aspx)

### CAREER RESEARCH

- **United States Department of Agriculture National Institute of Food and Agriculture**  
[nifa.usda.gov](http://nifa.usda.gov)
- **National Sustainable Agriculture Information Service/ Appropriate Technology Transfer for Rural Areas (ATTRA)**  
[attra.ncat.org](http://attra.ncat.org)
- **National FFA Organization**  
[ffa.org](http://ffa.org)
- **Institute of Food Technologists**  
[ift.org](http://ift.org)
- **Soil Science Society of America**  
[soils.org/students](http://soils.org/students)
- **Nature Careers**  
[nature.com/naturejobs](http://nature.com/naturejobs)
- **Conservation Job Board**  
[conservationjobboard.com](http://conservationjobboard.com)
- **Career Pathways-NM**  
[careerpathways-nm.com](http://careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](http://nmcareersolutions.com)
- **New Mexico Agriculture in the Classroom**  
[newmexico.agclassroom.org](http://newmexico.agclassroom.org)
- **New Mexico Agricultural Education & FFA Association**  
[nmffa.org](http://nmffa.org)
- **Case Curriculum for Agricultural Science Education**  
[case4learning.org](http://case4learning.org)

Find more Agriculture, Food & Natural Resources occupations at [oneline.org/find/career?c=1](http://oneline.org/find/career?c=1)



## Core Skills

- Operation & Control
- Repairing
- Equipment Maintenance
- Troubleshooting
- Equipment Selection
- Science
- Operation Monitoring
- Quality Control Analysis
- Management of Material Resources
- Management of Personnel Resources



### Natural Resources Systems Pathway

Occupation

- **Architecture & Engineering**  
Mechanical Engineering Technicians; Other Engineering Technicians; Cartographers & Photogrammetrists
- **Construction & Extraction**  
First-Line Supervisors of Construction Trades & Extraction Workers; Earth Drillers, Except Oil & Gas
- **Education, Training & Library**  
Biological Science Teachers, Postsecondary; Recreation & Fitness Studies Teachers, Postsecondary
- **Farming, Fishing & Forestry**  
Logging Equipment Operators; First-Line Supervisors of Farming, Fishing & Forestry Workers
- **Life, Physical & Social Science Management**  
Environmental Scientists & Specialists; Environmental Science & Protection Technicians; Zoologists & Wildlife Biologists; Forest & Conservation Technicians; Conservation Scientists; Foresters
- **Management**  
Natural Sciences Managers
- **Personal Care & Service**  
Recreation Workers
- **Transportation & Material Moving**  
Industrial Truck & Tractor Operators; Refuse & Recyclable Material Collectors; Excavating & Loading Machine & Dragline Operators; Conveyor Operators & Tenders Captains, Mates & Pilots of Water Vessels; Tank Car, Truck & Ship Loaders



## Food Products & Processing Systems Pathway

Occupation

- **Building & Grounds Cleaning & Maintenance**  
Pest Control Workers
- **Computer & Mathematical**  
Computer User Support Specialists
- **Farming, Fishing & Forestry**  
First-Line Supervisors of Farming, Fishing & Forestry Workers; Graders & Sorters of Agricultural Products; Agricultural Inspectors
- **Life, Physical & Social Science**  
Chemical Technicians; Agricultural & Food Science Technicians; Food Scientists & Technologists
- **Office & Administrative Support**  
First-Line Supervisors of Office & Administrative Support Workers
- **Production**  
Slaughterers & Meat Packers; Meat, Poultry & Fish Cutters & Trimmers; Butchers & Meat Cutters; Food Batchmakers; Food & Tobacco Roasting, Baking & Drying Machine Operators & Tenders; Food Cooking Machine Operators & Tenders

## Environmental Service Systems Pathway

Occupation

- **Architecture & Engineering**  
Environmental Engineers; Environmental Engineering Technicians
- **Building & Grounds Cleaning & Maintenance**  
Pest Control Workers
- **Construction & Extraction**  
Hazardous Materials Removal Workers
- **Healthcare Practitioners & Technicians**  
Occupational Health & Safety Specialists; Occupational Health & Safety Technicians
- **Life, Physical & Social Science**  
Environmental Science & Protection Technicians
- **Production**  
Water & Wastewater Treatment Plant & Systems Operators
- **Transportation & Material Moving**  
Refuse & Recyclable Material Collectors

## Animal Systems Pathway

Occupation

- **Farming, Fishing & Forestry**  
First-Line Supervisors of Farming, Fishing & Forestry Workers
- **Healthcare Practitioners & Technicians**  
Veterinary Technologists & Technicians; Veterinarians
- **Healthcare Support**  
Veterinary Assistants & Laboratory Animal Caretakers
- **Life, Physical & Social Science**  
Agricultural & Food Science Technicians; Zoologists & Wildlife Biologists
- **Personal Care & Service**  
Animal Trainers
- **Sales & Sales Related**  
First-Line Supervisors of Retail Sales Workers

## Plant Systems Pathway

Occupation

- **Arts, Design, Entertainment, Sports & Media**  
Floral Designers
- **Building & Grounds Cleaning & Maintenance**  
Landscaping & Groundskeeping Workers; First-Line Supervisors of Landscaping, Lawn Service & Groundskeeping Workers; Tree Trimmers & Pruners; Pesticide Handlers, Sprayers & Applicators
- **Farming, Fishing & Forestry**  
First-Line Supervisors of Farming, Fishing & Forestry Workers
- **Installation, Maintenance & Repair**  
Farm Equipment Mechanics & Service Technicians
- **Life, Physical & Social Science**  
Agricultural & Food Science Technicians; Soil & Plant Scientists; Biochemists & Biophysicists; Food Scientists & Technologists; Foresters; Economists
- **Sales & Sales Related**  
Retail Salespersons; First-Line Supervisors of Retail Sales Workers

## Agribusiness Systems Pathway

Occupation

- **Arts, Design, Entertainment, Sports & Media**  
Graphic Designers, Audio & Video Equipment Technicians
- **Life, Physical & Social Science**  
Food Scientists & Technologists
- **Sales & Sales Related**  
Sales Reps, Wholesale & Manufacturing, Technical & Scientific Products

## Power, Structural & Technical Systems Pathway

Occupation

- **Installation, Maintenance & Repair**  
Aircraft Mechanics & Service Technicians; Mobile Heavy Equipment Mechanics; Farm Equipment Mechanics & Service Technicians
- **Sales & Sales Related**  
Parts Salesperson

# Selected Careers

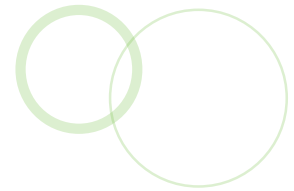
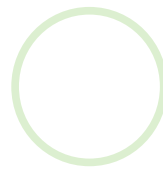
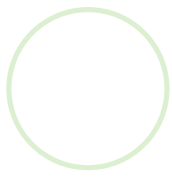
For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Landscaping & Groundskeeping Workers	<ul style="list-style-type: none"> <li>Plant Systems</li> </ul>	Landscape or maintain grounds of property using hand or power tools or equipment. Workers typically perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, sprinkler installation, and installation of mortarless segmental concrete masonry wall units.
Food Batchmakers	<ul style="list-style-type: none"> <li>Food Products &amp; Processing Systems</li> </ul>	Set up and operate equipment that mixes or blends ingredients used in the manufacturing of food products. Includes candy makers and cheese makers.
Farmers, Ranchers, and Other Agricultural Managers	<ul style="list-style-type: none"> <li>Agribusiness Systems</li> </ul>	Plan, direct, or coordinate the management or operation of farms, ranches, greenhouses, aquacultural operations, nurseries, timber tracts, or other agricultural establishments. May hire, train, or supervise farm workers or contract for services to carry out the day-to-day activities of the managed operation. May engage in or supervise planting, cultivating, harvesting, financial, or marketing activities.
Environmental Scientists and Specialists	<ul style="list-style-type: none"> <li>Environmental Service Systems</li> </ul>	Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. Using knowledge of various scientific disciplines, may collect, synthesize, study, report, and recommend action based on data derived from measurements or observations of air, food, soil, water, and other sources.
Agricultural & Food Science Technicians	<ul style="list-style-type: none"> <li>Animal Systems</li> <li>Food Products &amp; Processing Systems</li> <li>Plant Systems</li> </ul>	Work with agricultural and food scientists in food, fiber, and animal research, production, and processing; and assist with animal breeding and nutrition. Conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects. Includes technicians who assist food scientists or technologists in the research and development of production technology, quality control, packaging, processing, and use of foods.
Forest and Conservation Technicians	<ul style="list-style-type: none"> <li>Natural Resources Systems</li> </ul>	Provide technical assistance regarding the conservation of soil, water, forests, or related natural resources. May compile data pertaining to size, content, condition, and other characteristics of forest tracts, under the direction of foresters; or train and lead forest workers in forest propagation, fire prevention and suppression. May assist conservation scientists in managing, improving, and protecting rangelands and wildlife habitats.
Zoologists and Wildlife Biologists	<ul style="list-style-type: none"> <li>Animal Systems</li> <li>Natural Resource Systems</li> </ul>	Research animal and wildlife behaviors, diseases, genetics, and life processes. May collect and analyze biological data to assess and predict environmental impacts of land and water use.
Hazardous Materials Removal Workers	<ul style="list-style-type: none"> <li>Environmental Service Systems</li> <li>Power, Structural &amp; Technical System</li> </ul>	Identify, remove, and dispose of hazardous materials, including asbestos, lead-based paint, oil, Agriculture, Food & Natural Resources fuel, radioactive materials, or contaminated soil. Specialized training and certification in hazardous materials handling or a confined entry permit are generally required. May operate earth-moving equipment or trucks.
Agricultural Equipment Operators	<ul style="list-style-type: none"> <li>Power, Structural &amp; Technical Systems</li> </ul>	Drive and control farm equipment to till soil and to plant, cultivate and harvest crops. May perform post-harvest tasks, such as husking, shelling, threshing, and ginning.

Source: Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

#### Notes:

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Education Level <sup>3</sup>	Interest <sup>4</sup>
825	\$21,470	\$29,100	Low	R and C
181	\$21,130	\$28,370	Low	R and C
68	\$25,250	\$41,670	Middle	E, R and C
150	\$51,900	\$77,900	High	I, R and C
26	\$31,190	\$41,140	Middle	R, I and C
110	\$28,820	\$42,780	Middle	R, I and E
17	\$45,920	\$61,500	High	I and R
92	\$35,120	\$ 53,640	Middle	R and C
85	\$21,520	\$30,600	Low	R

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.

# Career Readiness Benchmarks for Agriculture Careers

## Workforce Certifications Agriculture, Food & Natural Resources Career Cluster:

*Note: Students successfully exiting a course of study in the Agriculture, Food and Natural Resources Cluster may be eligible to earn some or all of these certifications.*

American Welding Society (AWS)

National Center for Construction Education and Research (NCCER)

NOCTI Horticulture Certification

New Mexico Department of Agriculture: Meat/Dairy Animal Evaluation

New Mexico Department of Agriculture: Companion Animal Care

New Mexico Department of Agriculture: Plant Science

New Mexico Department of Agriculture: Natural Resource Management

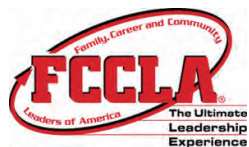
New Mexico Department of Agriculture: Food Product Evaluation/Management

New Mexico Department of Agriculture: Secondary Agriculture Business Management

Landscape Irrigator License

### Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



### Recommended Fourth Year of Mathematics Courses

- Agribusiness Systems Pathway: Statistics
- Animal Systems Pathway: Trigonometry
- Environmental Service Systems Pathway: Trigonometry
- Food Products and Processing Systems Pathway: Trigonometry
- Natural Resources Systems Pathway: Trigonometry
- Plant Systems Pathway: Trigonometry
- Power, Structural and Technical Systems: Trigonometry



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Landscaping and Groundskeeping Workers	AA Environmental Planning & Design; BS Turfgrass Management	Central New Mexico Community College; New Mexico State University
Food Batch Makers	BS - Food Science and Technology	New Mexico State University
Farm, Ranch, and Other Agricultural Managers	BS - Agriculture; AA - Agriculture/ Agri-Business	Eastern New Mexico University; Mesalands Community College; New Mexico State University; Diné College
Environmental Scientists and Specialists	BS - Environmental Science; AAS - Environmental and Energy Technologies	Eastern New Mexico University; New Mexico Institute of Mining and Technology; New Mexico State University-Doña Ana and Main
Agricultural and Food Science Technicians	BS - Food Science and Technology; AA - Animal Science	Mesalands Community College; New Mexico State University
Forest and Conservation Technicians	AAS - Environmental Science & Natural Resources; AA-Environmental Planning and Design	Central New Mexico Community College; Navajo Technical University
Zoologists and Wildlife Biologists	BS - Wildlife and Fisheries Science; BA/BS - Zoology; BS Fish, Wildlife and Conservation Ecology	Eastern New Mexico University; Western New Mexico University; New Mexico State University
Hazardous Materials Removal Workers	Certification & AAS Radiation Protection; AS to BS Environmental Science	Northern New Mexico College; New Mexico State University-Doña Ana
Agricultural Equipment Operators	NM License; Certification	NM-LTAP Center; Industry; NM Apprenticeship Programs

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.

# High School Gets You Ready for College and Career

## Common Career Technical Core for Agriculture, Food & Natural Resources Career Cluster<sup>1</sup>:

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

### Recommended Programs of Study<sup>2</sup>

Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Animal Science-CASE	0131 Agricultural Explorations	0138 Introduction to Agriculture, Food, & Natural Resources CASE	0166 Principles of Agricultural Science-Animal CASE	0197 Ag Research & Development CASE
	0132 Agricultural Science		0167 Animal & Plant Biotechnology CASE	0199 Ag - Dual Credit
Natural Resources-CASE	0131 Agricultural Explorations	0138 Introduction to Agriculture, Food, & Natural Resources CASE	0177 Food Science & Safety CASE	0191 Ag Internship/OJT
	0132 Agricultural Science		0186 Natural Resources & Ecology CASE	0197 Ag Research & Development CASE
			0187 Environmental Science Issues CASE	0199 Ag - Dual Credit
Plant Science-CASE	0131 Agricultural Explorations	0138 Introduction to Agriculture, Food, & Natural Resources CASE		0191 Ag Internship/OJT
	0132 Agricultural Science		0146 Principles of Agricultural Science-Plant CASE	0197 Ag Research & Development CASE
Agricultural Engineering-CASE	0131 Agricultural Explorations	0138 Introduction to Agriculture, Food, & Natural Resources CASE	0167 Animal & Plant Biotechnology CASE	0199 Ag - Dual Credit
	0132 Agricultural Science		0177 Food Science & Safety CASE	0191 Ag Internship/OJT
			0156 Agricultural Power & Technology CASE	0197 Ag Research & Development CASE
			0157 Mechanical Systems in Agriculture CASE	0199 Ag-Dual Credit
				0191 Ag Internship/OJT

### Other Programs of Study Course Sequences

Agribusiness Systems	0131 Agricultural Explorations	0133 Introduction to the Science of Agriculture	0137 Ag Leadership/ Communication	0191 Ag Internship/OJT
	0132 Agricultural Science		0171 Ag Economics	0192 Agriculture Entrepreneurship
General Agriculture	0131 Agricultural Explorations	0133 Introduction to the Science of Agriculture		0199 Ag - Dual Credit
	0132 Agricultural Science		0134 Physical Science of Agriculture	0191 Ag Internship/OJT
Plant & Biotechnology Systems	0131 Agricultural Explorations	0133 Introduction to the Science of Agriculture	0136 Applied Science in Agriculture	0192 Agriculture Entrepreneurship
	0132 Agricultural Science		0141 Horticulture/Botany	0199 Ag - Dual Credit
			0143 Greenhouse/Nursery	0191 Ag Internship/OJT
Power, Structural & Technical Systems	0131 Agricultural Explorations	0133 Introduction to the Science of Agriculture	0144 Landscape	0192 Agriculture Entrepreneurship
	0132 Agricultural Science		0145 Floriculture	0199 Ag - Dual Credit
			0152 Ag Structures & Construction	0191 Ag Internship/OJT
Natural Resources Systems	0131 Agricultural Explorations	0133 Introduction to the Science of Agriculture	0153 Metal Fabrication	0192 Agriculture Entrepreneurship
	0132 Agricultural Science		0154 Ag Power & Machinery	0199 Ag - Dual Credit
			0181 Environmental Science/ Natural Resources	0191 Ag Internship/OJT
Animal Systems	0131 Agricultural Explorations	0133 Introduction to the Science of Agriculture	0182 Forestry/Wildlife Management	1752 AP Environmental Science
	0132 Agricultural Science		1774 Wildlife Science	0199 Ag - Dual Credit
			0161 Science of Large Agriculture Animals	0191 Ag Internship/OJT
			0162 Science of Small Animals	0192 Agriculture Entrepreneurship
				0199 Ag - Dual Credit

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.
2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



# Architecture & Construction

New York’s recently completed Freedom Tower took 10 years to build. Who designed and constructed it? You’re probably not surprised to learn that architects, civil engineers, construction laborers, cement masons, concrete finishers, and structural iron and steel workers participated in its development. You’ve also likely thought about the elevator installers and repairers who installed 73 elevators, or about the HVAC mechanics and installers, plumbers, and electricians who created a healthy environment inside the tallest building in the Western Hemisphere.

Think a bit more deeply and you’ll realize that cost estimators and operations research analysts used their mathematic and analytic skills to help make decisions about the nearly \$4 billion spent to construct the building. People in management positions coordinated the work of specialty trade contractors to ensure they provided quality work in a timely manner.

While New Mexico may not build a skyscraper the size of the Freedom Tower any time soon, the state’s construction industry is expected to grow and show increases in the occupations mentioned above. These occupations require educational backgrounds that range from high school diplomas to graduate degrees. Workers may find employment with plumbing, heating and air conditioning contractors landscaping businesses; electrical contractors; federal, state, and local government; and commercial building companies.

## CAREER RESEARCH

- **Build Your Future**  
[byf.org](http://byf.org)
- **New Mexico Apprenticeships**  
[dws.state.nm.us/en-us/Job-Seekers/Explore-Career-Options/Apprenticeship](http://dws.state.nm.us/en-us/Job-Seekers/Explore-Career-Options/Apprenticeship)
- **The American Institute of Architects**  
[aia.org/index.htm](http://aia.org/index.htm)
- **Technology Student Association**  
[tsaweb.org](http://tsaweb.org)
- **American Society of Civil Engineers**  
[asce.org/student\\_resources](http://asce.org/student_resources)
- **The National Center for Construction Education and Research**  
[nccer.org](http://nccer.org)
- **SkillsUSA**  
[skillsusa.org](http://skillsusa.org)
- **Green Jobs**  
[greenjobs.net](http://greenjobs.net)
- **Construction Jobs**  
[constructionjobs.com](http://constructionjobs.com)
- **Career Pathways-NM**  
[careerpathways-nm.com](http://careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Architecture & Construction occupations at [onetonline.org/find/career?c=2](http://onetonline.org/find/career?c=2)





# Core Skills

- Repairing
- Equipment Maintenance
- Installation
- Equipment Selection
- Operation & Control
- Troubleshooting
- Quality Control Analysis
- Technology Design
- Management of Material Resources



## Design/Pre-Construction Pathway

Occupation

- **Architects, Except Landscape and Naval**  
Civil Engineers; Civil Engineering Technicians; Architects, Except Landscape & Naval; Surveying & Mapping Technicians; Architectural & Civil Drafters; Other Engineers; Mechanical Drafters; Surveyors; Other Engineering Technicians; Electrical & Electronics Drafters; Cartographers & Photogrammerists; Landscape Architects
- **Arts, Design, Entertainment, Sports & Media**  
Interior Designers
- **Computer & Mathematical**  
Software Developers, Systems Software; Operations Research Analysts
- **Education, Training & Library**  
Engineering Teachers, Postsecondary
- **Management**  
Architectural & Engineering Managers



## Construction Pathway

Occupation

- **Architecture & Engineering**  
Other Engineering Technicians
- **Cost Estimators**  
Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.
- **Construction Laborers**  
Perform tasks involving physical labor at construction sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, and clean up rubble, debris and other waste materials. May assist other craft workers.
- **Installation, Maintenance & Repair**  
Maintenance & Repair Workers, General; Heating, Air Conditioning & Refrigeration Mechanics & Installers; Helpers – Installation, Maintenance & Repair Workers; Electrical Power–Line Installers & Repairers; Security & Fire Alarm System Installers; Electrical & Electronics Repairers; Powerhouse, Substation & Relay Riggers
- **Education, Training & Library**  
Postsecondary Sociology Teachers
- **Life, Physical & Social Science**  
Sociologists; Other Social Scientists & Related Workers
- **Management**  
Construction Managers; Project Managers
- **Production**  
Woodworking Machine Setters, Operators & Tenders, Except Sawing; Welding, Soldering & Brazing Machine Setters, Operators & Tenders; Structural Metal Fabricators & Fitters; Electromechanical Equipment Assemblers; Stationary Engineers & Boiler Operators
- **Transportation & Material Moving**  
Excavating & Loading Machine & Dragline Operators; Crane & Tower Operators; Conveyor Operators & Tenders; Commercial Pilots; Railroad Conductors & Yardmasters

## Maintenance/Operations Pathway

Occupation

- **Building & Grounds Cleaning & Maintenance**  
Landscaping & Groundskeeping Workers
- **Construction & Extraction**  
Highway Maintenance Workers; Other Construction & Related Workers
- **Heating, Air Conditioning, and Refrigeration Mechanics and Installers**  
Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.
- **Production**  
Stationary Engineers & Boiler Operators





# Selected Careers

For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Architects, Except Landscape and Naval	<ul style="list-style-type: none"> <li>Design/Pre-Construction</li> </ul>	Plan and design private homes, office buildings, theaters, factories, and other structures.
Architectural and Engineering Managers	<ul style="list-style-type: none"> <li>Design/Pre-Construction</li> </ul>	Plan, direct, and coordinate activities in architecture and engineering businesses. May also oversee research and development in these fields.
Cost Estimators	<ul style="list-style-type: none"> <li>Design/Pre-Construction</li> </ul>	Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.
Construction Laborers	<ul style="list-style-type: none"> <li>Construction</li> </ul>	Perform tasks involving physical labor at construction sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, and clean up rubble, debris and other waste materials. May assist other craft workers.
Carpenters	<ul style="list-style-type: none"> <li>Construction</li> </ul>	Build, install, and repair wooden structures like joists, rafters, stairways, hardwood floors, and window and door frames. May also install cabinets, siding, drywall, and insulation.
Construction Managers	<ul style="list-style-type: none"> <li>Construction</li> </ul>	Plan, direct, or coordinate construction and maintenance of buildings, facilities, and systems. Oversee project organization, scheduling, budgeting, and implementation. Includes managers in specialized construction fields like carpentry or plumbing.
Electricians	<ul style="list-style-type: none"> <li>Construction</li> </ul>	Install, maintain, and repair electrical wiring, equipment, and fixtures. Make sure that work meets relevant codes. May install or service street lights, intercom systems, or electrical control systems.
Plumbers, Pipefitters, and Steamfitters	<ul style="list-style-type: none"> <li>Construction</li> </ul>	Assemble, install, or repair pipes, fittings, or fixtures of heating, water, or drainage systems, according to specifications or plumbing codes.
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	<ul style="list-style-type: none"> <li>Maintenance/Operations</li> </ul>	Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.
Operating Engineers & Other Construction Equipment Operator	<ul style="list-style-type: none"> <li>Maintenance/Operations</li> </ul>	Operate one or several types of power construction equipment such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move and grade earth, erect structures, or pour concrete or other hard surface pavement. May repair and maintain equipment.

Source: Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
50	\$50,170	\$75,450	High	A and I
131	\$115,230	\$165,130	High	E, R and I
115	\$32,920	\$59,450	Middle	C and E
1,690	\$25,210	\$33,130	Low	R and C
648	\$28,070	\$40,090	Middle	R, C and I
221	\$62,720	\$93,440	Middle	E, R and C
611	\$32,810	\$50,460	Middle	R, I and C
373	\$31,150	\$46,280	Middle	R and C
153	\$30,200	\$44,650	Middle	R, C and I
575	\$33,600	\$45,120	Low	R, C and I

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Architecture and Construction Careers

## Workforce Certifications for the Architecture and Construction Career Cluster:

*Note: Students successfully exiting a course of study in the Architecture and Construction Cluster may be eligible to earn some or all of these certifications.*

NCCER: Pre-apprenticeship

NCCER: Core

NCCER: Construction Technology

NCCER: Carpentry

NCCER: Electrical

NCCER: Masonry

NCCER: Plumbing

Percision Exams: CAD Architectural Design I  
CAD Architectural Design II

Percision Exams: Carpentry  
Woodworking

Percision Exams: Construction Trades Foundations

NC3 Certifications by program

Certiport Assessment Certification: Autodesk REVIT  
Architecture 2018  
Electrical Building Systems 2018  
Mechanical Building Systems 2018  
Structures 2018

Certiport Assessment Certification: Inventor Certified User

Certiport Assessment Certification: AutoCAD Certified Professional

Certiport Assessment Certification: OSHA-10 Hour Training for General Industry

### Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



### Recommended Fourth Year of Mathematics Courses

- Design/Pre-Construction Pathway: Trigonometry or Pre-Calculus
- Construction Pathway: Construction Math or Statistics
- Maintenance/Operations Pathway: Construction Math or Statistics



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary Schools
Architects, Except Landscape and Naval	BA - Design Studies	University of New Mexico
Architectural and Engineering Managers	AAS - Surveying Engineering; BS - Construction Engineering	Central New Mexico Community College; University of New Mexico
Cost Estimators	BS - Construction Engineering	Central New Mexico Community College; University of New Mexico; NM Apprenticeship Programs
Construction Laborers	Certificate - Green Building Construction; Certificate - Construction for Film	Central New Mexico Community College; Santa Fe Community College; NM Apprenticeship Programs
Carpenters	AAS - Electrical Trades - Photovoltaic Concentration; AAS Electrical Technology	Central New Mexico Community College; New Mexico State University-Doña Ana; Santa Fe Community College; University of New Mexico-Gallup; NM Apprenticeship Programs
Construction Managers	AAS - Business Administration; BBA Business Management-Project and Supply Chain Management	Central New Mexico Community College; New Mexico State University; NM Apprenticeship Programs
Electricians	AAS - Building Construction Technology	Central New Mexico Community College; Northern New Mexico College; NM Apprenticeship Programs
Plumbers, Pipefitters, and Steamfitters	AAS - Plumbing and Gas Fitting	Central New Mexico Community College; NM Apprenticeship Programs
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	AAS Heating, Air Conditioning, Ventilation and Refrigeration Technology	Central New Mexico Community College; Eastern New Mexico University-Roswell; New Mexico State University-Doña Ana; NM Apprenticeship Programs
Operating Engineers Certification & Other Equipment Operators	Certification Associate Constructor	Certifying organization: American Institute Constructors & Constructor Certification

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.



# High School Gets You Ready for College and Career

## Common Career Technical Core for the Architecture and Construction Career Cluster<sup>1</sup>:

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

### Recommended Programs of Study<sup>2</sup>

Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Carpentry - NCCER	0401 Construction Career Exploration	0480 NCCER Core Curriculum-Intro	0481 NCCER Carpentry 1	0498 Construction Trades-Internship
	0404 PLTW Green Architecture		0481 NCCER Carpentry 2 0483 NCCER Carpentry 3 0484 NCCER Carpentry 4	
Civil Engineering - PLTW	0404 PLTW Green Architecture	1615 Introduction to Engineering & Design	1619 PLTW Civil Engineering	1620 PLTW Engineering Design/Development
	1665 Design & Modeling	0480 NCCER Core Curriculum-Intro		0798 Drafting-Co-Op 0799 Drafting-Dual Credit

### Other Programs of Study Course Sequences

CAD Engineering	0401 Construction Career Exploration	0707 CAD Design & Software 0480 NCCER Core Curriculum-Intro	0718 CAD Engineering II	0798 Drafting-Co-Op 0799 Drafting-Dual Credit
	0404 PLTW Green Architecture		0719 CAD Engineering III	
	0701 Drafting Careers Exploration		0720 CAD Engineering IV	
Mixed Construction Trades	0401 Construction Career Exploration	0402 Construction 0480 NCCER Core Curriculum-Intro	0431 HVAC 1	0498 Construction Trades-Internship
	0404 PLTW Green Architecture		0437 Plumbing 0442 Electricity-Comprehensive 0423 Masonry	
HVAC	0401 Construction Career Exploration	0431 HVAC 1 0480 NCCER Core Curriculum-Intro	0432 HVAC	0498 Construction Trades-Internship
	0404 PLTW Green Architecture		0436 Heating/Ventilation/Air Conditioning 0437 Particular Topics in HVACR	
Electricity	0401 Construction Career Exploration	0441 Exploration of Electricity/Electronics 0480 NCCER Core Curriculum-Intro	0442 Electricity Comprehensive	0498 Construction Trades-Internship
	0404 PLTW Green Architecture		0443 Residential Wiring	
			0444 Industrial Electricity 0445 Various Topics in Electricity	
Plumbing	0401 Construction Career Exploration	0438 Plumbing 0480 NCCER Core Curriculum-Intro	0439 Plumbing & Heating	0498 Construction Trades-Internship
	0404 PLTW Green Architecture		0499 Construction Trades-Dual Credit	
Residential Construction	0401 Construction Career Exploration	0414 Residential Construction I 0480 NCCER Core Curriculum-Intro	0415 Residential Construction II	0498 Construction Trades-Internship
	0404 PLTW Green Architecture		0499 Construction Trades-Dual Credit	

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.
2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Arts, Audio/Video Technology & Communications

Cultural and leisure activities help us balance our work and personal lives. In Arts, Audio/Video Technology and Communications, a great variety of people work to give us movies, paintings, music downloads, books, and museums. Actors, artists, musicians, writers, and archivists obviously make their living in jobs that are part of this cluster. Less evident are the employees who work in the background at occupations like set designers, agents and business managers, audio and video equipment technicians, print binding and finishing workers, and historians.

As in many clusters, technology has required workers to learn new skills. Lighting and sound systems are quite different than they were even a decade ago, providing new multi-media options for staging performances and exhibits. Publishers use technologies to create e-books that are far different from those used for print versions.

Most occupations in the Arts, Audio/Video Technology and Communications cluster are expected to show average or less growth in the next decade, but several careers do show strong growth. Among them are technical writers, telecommunications line installers and repairers, interior designers, and audio and video equipment technicians. However, in New Mexico, the Film and Television Industry continues to hire local talent for in front of the camera and especially behind the camera technical positions as well as film editing. Approximately two thirds of the careers in this industry require postsecondary education, particularly a bachelor's degree. Industries that often have employment for this cluster's workers include wired telecommunication companies, newspaper publishers (print and electronic), commercial printing companies, television stations, and electrical contractors.

### CAREER RESEARCH

- **Actors' Equity Association**  
[actorsequity.org](http://actorsequity.org)
- **The Society of Professional Audio Recording Services**  
[spars.com](http://spars.com)
- **Technology Student Association**  
[tsaweb.org](http://tsaweb.org)
- **The Association for Women in Sports Media**  
[awsmonline.org](http://awsmonline.org)
- **The New Mexico Film Office**  
[nmfilm.com](http://nmfilm.com)
- **The Art Career Project**  
[theartcareerproject.com](http://theartcareerproject.com)
- **AV Job Listing**  
[avjoblistings.com](http://avjoblistings.com)
- **Career Pathways-NM**  
[careerpathways-nm.com](http://careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Arts, Audio/Video Technology & Communications occupations at [oneline.org/find/career?c=3](http://oneline.org/find/career?c=3)





# Core Skills

- Equipment Knowledge
- Technology Design
- Time Management
- Installation
- Operations Analysis
- Active Learning/Listening
- Reading Comprehension
- Coordination
- Persuasion
- Resume Building
- Communication
- Professional Networking



## Production & Managerial Arts Pathway

Occupation

- **Arts, Design, Entertainment, Sports & Media**  
Graphic Designers; Photographers; Multimedia Artists & Animators; Audio & Video Equipment Technicians; Commercial & Industrial Designers; Other Media & Communication Workers; Broadcast Technicians; Craft Artists; Fine Artists, Including Painters, Sculptors & Illustrators. Other Media & Communication Workers; Broadcast Technicians
- **Computer & Mathematical**  
Computer Programmers
- **Education, Training & Library**  
Art, Drama & Music Teachers, Postsecondary; Curators
- **Management**  
Technical Directors/Managers
- **Installation, Maintenance & Repair**  
Telecommunications Equipment Installers & Repairers, Except Line Installers; Computer, Automated Teller & Office Machine Repairers; Telecommunications Line Installers & Repairers



## Media and Design Arts

Occupation

### • Arts, Design, Entertainment, Sports & Media

Graphic Designers; Photographers; Multimedia Artists & Animators; Interior Designers; Art Directors; Commercial & Industrial Designers; Craft Artists; Fine Artists, Including Painters, Sculptors & Illustrators ; Photographers; Writers & Authors; Editors; Producers & Directors; Audio & Video Equipment Technicians; Technical Writers; Radio & Television Announcers; Other Media & Communication Workers; Broadcast Technicians

### • Virtual Reality

Graphic Designers; Photographers; Multimedia Artists & Animators

### • Education, Training & Library

Art, Drama & Music Teachers; Other Postsecondary Teachers; English Language & Literature Teachers, Postsecondary; Communications Teachers, Postsecondary; Career/Technical Education Teachers, Secondary School; Vocational Education Teacher, Postsecondary

### • Production

Photographic Process Workers & Processing Machine Operators; Painting, Coating & Decorating Workers; Printing Press Operators; Print Binding & Finishing Workers; Printing Press Operators; Print Binding & Finishing Workers

## Performing Arts Pathway

Occupation

### • Arts, Design, Entertainment, Sports & Media

Writers & Authors; Musicians & Singers; Producers & Directors; Other Entertainers & Performers, Sports & Related Workers; Craft Artists; Fine Artists, including Painters, Sculptors & Illustrators

### • Education, Training & Library

Art, Drama & Music Teachers, Postsecondary

### • Management

Agents & Business Managers

### • Transportation & Material Moving

Manual Laborers & Freight, Stock & Material Movers



# Selected Careers

For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Audio and Video Equipment Technicians	<ul style="list-style-type: none"> <li>Media &amp; Design Arts</li> <li>Production &amp; Managerial Arts</li> </ul>	Set up or set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for the movies, concerts, sports events, meetings and conventions, presentations, and news conferences.
Media and Communication Workers	<ul style="list-style-type: none"> <li>Media &amp; Design Arts</li> <li>Production &amp; Managerial Arts</li> </ul>	Repair, maintain, or install computers, word processing systems, automated teller machines, and electronic office machines, such as duplicating and fax machines.
Producers and Directors	<ul style="list-style-type: none"> <li>Media &amp; Design Arts</li> <li>Production &amp; Managerial Arts</li> </ul>	Produce or direct stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Responsible for creative decisions.
Film and Video Editors	<ul style="list-style-type: none"> <li>Media &amp; Design Arts</li> <li>Production &amp; Managerial Arts</li> </ul>	Edit moving images on film, video, or other media. May edit or synchronize soundtracks with images.
Graphic Designers	<ul style="list-style-type: none"> <li>Media and Design Arts</li> <li>Production &amp; Managerial Arts</li> </ul>	Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.
Multimedia Artists and Animators	<ul style="list-style-type: none"> <li>Media &amp; Design Arts</li> <li>Production &amp; Managerial Arts</li> </ul>	Create special effects, animation, or other visual images using film, video, computers or other electronic tools and media. Make products like computer games, movies, music videos, and commercials.
Sound Engineering Technicians	<ul style="list-style-type: none"> <li>Media &amp; Design Arts</li> <li>Production &amp; Managerial Arts</li> </ul>	Operate machines and equipment to record, synchronize, mix, or reproduce music, voices, or sound effects in sporting arenas, theater productions, recording studios, or movie and video productions.
Technical Writers	<ul style="list-style-type: none"> <li>Media &amp; Design Arts</li> </ul>	Write technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. May assist in layout work.
Set and Exhibit (Production) Designers	<ul style="list-style-type: none"> <li>Production &amp; Managerial Arts</li> <li>Media &amp; Design Arts</li> <li>Performing Arts</li> </ul>	Design special exhibits and movie, television, and theater sets. May study scripts, confer with directors, and conduct research to determine appropriate architectural styles.

Source: Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

#### Notes:

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
48	\$26,070	\$45,420	Middle	R, I and C
8	\$20,970	\$57,520	Middle	R, C and I
50	\$35,880	\$79,590	High	E and A
18	\$40,470	\$74,490	Middle	A, E and I
78	\$29,580	\$46,250	High	A, R and E
41	\$40,890	\$59,360	High	A and I
6	\$32,490	\$54,170	Middle	R and A
52	\$44,330	\$70,840	High	A, I and C
19	\$39,410	\$56,740	High	A and R

- The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.
- Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.
- There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.

# Career Readiness Benchmarks for Arts, A/V Technology and Communications Careers

## Workforce Certifications for Arts, A/V, Technology and Communications Career Cluster:

*Note: Students successfully exiting a course of study in the Arts, Audio/Visual Technology and Communications Cluster may be eligible to earn some or all of these certifications.*

Precision Exams: Video Production I  
Certificate in Film Production

NOCTI: Audio Visual Communications

Adobe Certified Associate (ACA): 2. Graphic Design & Illustration Using  
Adobe Illustrator

OSHA Certification: Construction

## Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



## Recommended Fourth Year of Mathematics Courses

- Production and Managerial Arts Pathway: Pre-Calculus
- Media and Design Arts Pathway: Trigonometry
- Performing Arts Pathway: Algebra II



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Audio and Video Equipment Technicians	Certificate – Film Crew Technician; AA/AAS/BS - Photographic and Film/Video Technology/Technician	Central New Mexico Community College; Northern New Mexico College; New Mexico State University-Doña Ana and Main
Media and Communication Workers	Certificate – Industry Standard; AA/BA/BFA/BS - Media and Communication	Central New Mexico Community College; Northern New Mexico College; University of New Mexico-Main and Taos; New Mexico State University-Doña Ana and Main
Producers and Directors	BA/BFA - Film/Media Studies/Creative Arts	University of New Mexico-Main and Taos; New Mexico State University
Film and Video Editors	Certificate – Post Production; AA/AAS/BA/BFS - Cinematography and Film/Video Production	Central New Mexico Community College; Eastern New Mexico University - Roswell; New Mexico Highlands University ; New Mexico State University, Carlsbad, Grants and Doña Ana; Northern New Mexico University; Luna Community College
Graphic Designers	AA/AAS/BFA/BA - Digital Arts	Central New Mexico Community College; San Juan College; New Mexico State University-Doña Ana; University of New Mexico-Main and Taos
Multimedia Artists and Animators	Certificate - 2D and 3D Animation; AA/AFA/BA/BFA/BS/ Creative Media/ Digital Arts/Fine Arts	University of New Mexico; Santa Fe Community College; Institute of American Indian Arts; New Mexico Highlands University; Eastern New Mexico University; Western New Mexico University
Sound Engineering Technicians	BS - Sound Engineering	Central New Mexico Community College; University of New Mexico-Main; New Mexico State University-Main and Doña Ana; San Juan College
Technical Writers	BA/BS - Professional, Technical, Business, and Scientific Writing	New Mexico Institute of Mining and Technology; University of New Mexico; New Mexico State University
Set and Production Designers	Certificate – Construction for Film; Certificate – Film Crew Technician; AAS/AA/AFA/BA/BFA - Set and Production Design	Central New Mexico Community; University of New Mexico; New Mexico State University-Main and Doña Ana

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.

# High School Gets You Ready for College and Career

## Common Career Technical Core for Arts, A/V, Technology and Communications Career Cluster<sup>1</sup>:

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

Recommended Programs of Study <sup>2</sup>				
Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Set Design & Construction	0401 Construction Career Exploration	0416 Particular Topics in Carpentry	0495 Construction Trades- Related Subjects	1199 Fine/Performing Arts-Dual Credit
			1197 Business of Arts, Media, and Entertainment	0889 Academic Career Experience III 1606 Work Experience
Other Programs of Study Course Sequences				
Media Production	1603 Career Exploration	1172 Film/Videotape	1176 Digital Film Production II	1199 Fine/Performing Arts-Dual Credit
			1177 Digital Film Production III	0889 Academic Career Experience III
			1178 Digital Film Production IV	1606 Work Experience
			1197 Business of Arts/Media/ Entertainment	
Computer Graphics	1603 Career Exploration	0315 Computer Graphics	0307 Computer Graphics II	0397 Computer/Info Sc-OJT
			0308 Computer Graphics III	0399 Computer/Info Sc-Dual Credit
			0309 Computer Graphics IV	
			0310 Intro to 3D Design & Animation	
Careers in Performing Arts	1603 Career Exploration	1112 Drama/Stagecraft	1197 Business of Arts/Media/Entertainment	1199 Fine/Performing Arts-Dual Credit
		1102 Dance Repertory		0889 Academic Career Experience III
		1122 Concert Band		1606 Work Experience
Mass Communications	1300 Communication Exploration	1911 Mass Media Production	1921 Mass Media Communication	1199 Fine/Performing Arts-Dual Credit
			1996 Multimedia Communications-Independent Study	0889 Academic Career Experience III 1606 Work Experience

- It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.
- The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Business Management & Administration

In New Mexico, we are likely to see moderate new job growth in the Business Management and Administration career cluster in the next decade. Since almost any workplace benefits from strong leadership and organizational support, business and management occupations exist in all industries. Many of us value the peace of mind that comes from knowing that we have other options if we lose our current jobs. More than most clusters, business administration includes careers that move relatively easily from one industry or location to another. Recently, the U.S. Bureau of Labor Statistics listed a dozen careers that offer this kind of flexibility. The list included occupations from business management:

- Customer service representatives
- Secretaries and administrative assistants, except legal, medical, and executive
- General and operations managers
- General office clerks
- Management analysts
- Human resources specialists
- Sales managers

Work environments match the functions of specific businesses. While desk jobs with no schedules are typical, business and management workers in industries like transportation and construction may have variable schedules and need to travel to jobsites or work in the outdoors. Educational backgrounds for these jobs range from high school through bachelor's degrees. Places offering employment include but are not limited to corporate and regional management offices federal, state and local governments; temporary service agencies; banks; and public colleges and universities.

### CAREER RESEARCH

- **Business Professionals of America**  
[bpa.org](http://bpa.org)
- **Future Business Leaders of America/Phi Beta Lambda**  
[fbla-pbl.org](http://fbla-pbl.org)
- **Professionals In Human Resources Association™**  
[pihra.org](http://pihra.org)
- **Project Management Institute**  
[pmi.org](http://pmi.org)
- **DECA**  
[deca.org](http://deca.org)
- **Administration Jobs**  
[administrationjobs.com](http://administrationjobs.com)
- **New Mexico Small Business Development Center Network**  
[nmsbdc.org](http://nmsbdc.org)
- **Career Pathways-NM**  
[careerpathways-nm.com](http://careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Business, Management & Administration occupations at [oneline.org/find/career?c=4](http://oneline.org/find/career?c=4)





# Core Skills

- Management of Financial Resources
- Mathematics
- Writing
- Programming
- Reading Comprehension
- Negotiation
- Persuasion
- Speaking
- Operations Analysis
- System Analysis



## Operations Management Pathway

Occupation

- **Business & Financial Operations**  
Management Analysts; Budget Analysts
- **Computer & Mathematical**  
Computer Programmers; Other Computer Occupations; Database Administrators; Operations Research Analysts
- **Education, Training & Library**  
Engineering Teachers, Postsecondary
- **Management**  
Computer & Information Systems Managers; Natural Sciences Managers



## Administrative Support Pathway

Occupation

- **Arts, Design, Entertainment, Sports & Media**  
Public Relations Specialists
- **Office & Administrative Support**  
Customer Service Reps; Secretaries & Administrative Assistants, Except Legal, Medical & Executive; Office Clerks, General; Stock Clerks & Order Fillers; First-Line Supervisors of Office & Administrative Support Workers; Receptionists & Information Clerks; Executive Secretaries & Executive Administrative Assistants; Shipping, Receiving & Traffic Clerks; Medical Secretaries; Postal Service Mail Carriers; Interviewers, Except

Eligibility & Loan; Insurance Claims & Policy Processing Clerks; Human Resources Assistants, Except Payroll & Timekeeping; Order Clerks; Other Office & Administrative Support Workers; Mail Clerks & Mail Machine Operators, Except Postal Service; New Account Clerks; Postal Service Mail Sorters, Processors & Processing Machine Operators; Weighers, Measurers, Checkers & Samplers, Recordkeeping; File Clerks; Library Assistants, Clerical; Legal Secretaries; Couriers & Messengers; Procurement Clerks; Cargo & Freight Agents; Postal Service Clerks

## Business Information Management Pathway

Occupation

- **Business & Financial Operations**  
Accountants & Auditors; Financial Analysts; Credit Analysts; Tax Preparers; Tax Examiners & Collectors & Revenue Agents; Budget Analysts; Financial Examiners
- **Computer & Mathematical**  
Statisticians
- **Education, Training & Library**  
Business Teachers, Postsecondary; Mathematical Science Teachers, Postsecondary

- **Management**  
Other Managers; Financial Managers; Chief Executives; Natural Sciences Managers
- **Office & Administrative Support**  
Bookkeeping, Accounting & Auditing Clerks; Billing & Posting Clerks; Payroll & Timekeeping Clerks; Brokerage Clerks; Statistical Assistants

## Human Resources Management Pathway

Occupation

- **Business & Financial Operations**  
Human Resources Specialists; Training & Development Specialists; Compensation, Benefits & Job Analysis Specialists; Labor Relations Specialists
- **Education, Training & Library**  
Business Teachers, Postsecondary

- **Management**  
Human Resources Managers; Training & Development Managers; Compensation & Benefits Managers
- **Office & Administrative Support**  
Human Resources Assistants, Except Payroll & Timekeeping

## General Management Pathway

Occupation

- **Arts, Designs, Entertainment, Sports & Media**  
Public Relations Specialists
- **Business & Financial Operations**  
Management Analysts; Market Research Analysts & Marketing Specialists; Cost Estimators; Logisticians
- **Computer & Mathematical**  
Operations Research Analysts
- **Education, Training & Library**  
Business Teachers, Postsecondary; Communications Teachers, Postsecondary; Economics Teachers, Postsecondary
- **Installation, Maintenance & Repair**  
First-Line Supervisors of Mechanics, Installers & Repairers
- **Life, Physical & Social Science**  
Survey Researchers; Economists

- **Management**  
General & Operations Managers; Other Managers; Construction Managers; Computer & Information Systems Managers; Medical & Health Services Managers; Sales Managers; Industrial Production Managers; Administrative Services Managers; Chief Executives; Social & Community Service Managers; Transportation, Storage & Distribution Managers; Purchasing Managers; Public Relations & Fundraising Managers; Advertising & Promotions Managers
- **Office & Administrative Support**  
First-Line Supervisors of Office & Administrative Support Workers
- **Production**  
First-Line Supervisors of Production & Operating Workers



# Selected Careers

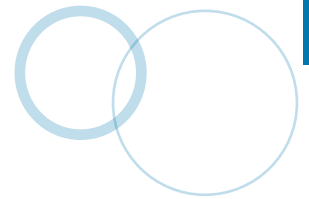
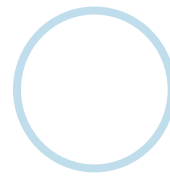
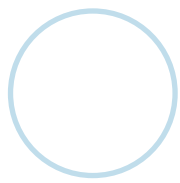
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Occupation <sup>1</sup>	Career Pathway	Job Description
Cost Estimators	<ul style="list-style-type: none"> <li>Business Information Management</li> </ul>	Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service.
General and Operations Managers	<ul style="list-style-type: none"> <li>General Management</li> <li>Operations Management</li> </ul>	Plan, direct, or coordinate the way organizations operate. Set policies, manage daily operations, and plan the use of materials and human resources. Responsibilities vary depending on setting within an organization. Examples of settings include offices like personnel, purchasing, or administrative services.
Human Resources Managers	<ul style="list-style-type: none"> <li>General Management</li> </ul>	Plan, direct, and coordinate the administrative functions of an organization. Oversee the recruiting, interviewing, and hiring of new staff; consult with top executives on strategic planning; and serve as a link between an organization's management and its employees.
Human Resources Specialists	<ul style="list-style-type: none"> <li>Human Resources Management</li> </ul>	Perform human resource activities like screening, recruiting, interviewing, and placing workers.
Administrative Service Managers	<ul style="list-style-type: none"> <li>General Management</li> <li>Business Information Management</li> </ul>	Study an organization to recommend ways to improve its efficiency. Advise managers about how to reduce costs and increase revenue. Plan, direct, or coordinate one or more administrative services of an organization, such as records and information management, mail distribution, facilities planning and maintenance, custodial operations, and other office support.
Management Analysts	<ul style="list-style-type: none"> <li>General Management</li> </ul>	Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants.
Training and Development Specialists	<ul style="list-style-type: none"> <li>Human Resources Management</li> </ul>	Design and lead training programs to improve employees' skills and knowledge. May analyze training needs.
First-Line Supervisors of Office and Administrative Support Workers	<ul style="list-style-type: none"> <li>Administrative Support</li> </ul>	Directly supervise and coordinate the activities of clerical and administrative workers.
Fundraisers	<ul style="list-style-type: none"> <li>Operations Management</li> </ul>	Organize activities to raise funds or otherwise solicit and gather monetary donations or other gifts for an organization. May design and produce promotional materials. May also raise awareness of the organization's work, goals, and financial needs.

**Source:** Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [ononline.org](http://ononline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
115	\$32,920	\$59,450	High	C and E
1,375	\$47,740	\$104,430	Middle	E, C and S
48	\$69,210	\$103,890	High	E, S and C
294	\$36,510	\$59,510	Middle	E, C and S
171	\$64,760	\$96,910	Middle	E and C
380	\$49,660	\$79,410	High	I, E and C
247	\$36,660	\$56,920	High	S, A and C
1,021	\$36,730	\$54,880	Middle	E, C and S
40	\$31,070	\$54,480	High	E, C and A

- The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.
- Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.
- There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Business Management & Administration Careers

## Workforce Certifications for the Business Management and Administration Career Cluster:

*Note: Students successfully exiting a course of study in the Business Management and Administration Career Cluster may be eligible to earn some or all of these certifications.*

Precision Exams: Business Office Specialist

Precision Exams: Business Concepts

Precision Exams: Entrepreneurship

Precision Exams: Business Management

Precision Exams: Exploring Business and Marketing

DECA School-Based Enterprise: Product/Service Management

DECA School-Based Enterprise: Human Resources Management

MBA Research (A\*S\*K): Fundamental Business Concepts

MBA Research (A\*S\*K): Concepts of Entrepreneurship and Management

MBA Research (A\*S\*K): Fundamentals of Ethics

OSHA: #7510 - Introduction to OSHA for Small Businesses

### Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



### Recommended Fourth Year of Mathematics Courses

- Operations Management Pathway: Pre-Calculus
- Human Resources Management Pathway: Pre-Calculus
- Business Information Pathway: Pre-Calculus
- General Management Pathway: Pre-Calculus
- Administrative Support Pathway: Pre-Calculus



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary Schools
Cost Estimators	BBA - Any	Diné College; Eastern New Mexico University-Portales; Northern New Mexico Community College; New Mexico Highlands University; New Mexico Institute of Mining and Technology; New Mexico State University; Northern New Mexico College; University of New Mexico; Western New Mexico University
General and Operations Managers	BBA - Operations Management	New Mexico State University; University of New Mexico
Human Resources Managers	BBA - Human Resources Management	University of New Mexico
Human Resources Specialists	Certificate - Human Resources; AAB - Business Administration	Clovis Community College; Central New Mexico Community College; Diné College; Eastern New Mexico University - Roswell and Ruidoso; Luna Community College; Mesalands Community College; New Mexico Highlands University; New Mexico Junior College; New Mexico Institute of Mining and Technology; New Mexico State University - Alamogordo, Carlsbad, Doña Ana and Grants; San Juan College; Santa Fe Community College; Southwestern Indian Polytechnic Institute; University of New Mexico - Gallup and Los Alamos; Western New Mexico University
Administrative Service Managers	AAB - Business Administration	Clovis Community College; Central New Mexico Community College; Diné College; Eastern New Mexico University - Roswell and Ruidoso; Luna Community College; Mesalands Community College; New Mexico Highlands University; New Mexico Junior College; New Mexico Institute of Mining and Technology; New Mexico State University - Alamogordo, Carlsbad, Doña Ana and Grants; San Juan College; Santa Fe Community College; Southwestern Indian Polytechnic Institute; University of New Mexico - Gallup and Los Alamos; Western New Mexico University
Management Analysts	BBA - Management	New Mexico Highlands University; New Mexico Institute of Mining and Technology; New Mexico State University; Northern New Mexico College; University of New Mexico; Western New Mexico University
Training and Development Specialists	BBA - Human Resources Management	University of New Mexico
First-Line Supervisors of Office and Administrative Support Workers	Certificate, AA, BBA -Business/Office Administration; BBA Management; AAS & AA General Business Administration	Northern New Mexico College; Eastern New Mexico University; San Juan College
Fundraisers	On the job	Industry

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.



# High School Gets You Ready for College and Career

## Common Career Technical Core for the Business Management & Administration Career Cluster<sup>1</sup>:

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

Recommended Programs of Study <sup>2</sup>				
Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Business Management	0201 Business/Office Career Exploration	0221 Introductory Business	0223 Business Management	0294 AP Microeconomics 0295 AP Macroeconomics 0297 Business Work Experience/Co-op 0299 Business-Dual Credit
Entrepreneurship	0201 Business/Office Career Exploration	0221 Introductory Business	0224 Business Ownership/Management 0250 Business Law	0294 AP Microeconomics 0295 AP Macroeconomics 0297 Business Work Experience/Co-op 0299 Business-Dual Credit
Other Programs of Study Course Sequences				
Business Information Management	0201 Business/Office Career Exploration	0221 Introductory Business	0313 Business Programming	0297 Business Work Experience/Co-op 0299 Business-Dual Credit 2060 AP Statistics
Human Resources Management	0201 Business/Office Career Exploration	0221 Introductory Business	0267 Human Resource Management	0297 Business Work Experience/Co-op 0299 Business-Dual Credit
Warehouse Operations Management	0201 Business/Office Career Exploration	0221 Introductory Business	1813 Warehouse Operations	0294 AP Microeconomics 0295 AP Macroeconomics 0297 Business Work Experience/Co-op 0299 Business-Dual Credit
Administrative Support	0201 Business/Office Career Exploration	0202 Business Communications & Technology	0203 Business Communications & Technology II 0204 Business Communications	0297 Business Work Experience/Co-op 0299 Business-Dual Credit

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.  
 2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Education & Training

Lifelong learning is a phrase we hear often. Finishing high school and other necessary training is the first step toward getting a job, and keeping our jobs often requires that we continue to update our skills. To meet these ongoing training needs, education options have broadened to include online training. Technology like electronic textbooks, notebooks, and smart boards support classroom innovations while also requiring educators to upgrade their technology skills and teaching techniques.

Most occupations in the Education and Training cluster require at least a bachelor's degree, with many postsecondary teaching professionals holding a doctoral or professional degree. Occupations with the most new jobs over the next 10 years are likely to include elementary, preschool, and middle school teachers. College-level health specialties teachers occupy the top position for highest estimated percentage increase in jobs.

Schedules for education workers vary by work setting. Preschool through high school employees work directly with students for approximately eight hours and often devote additional time at home to grading papers and planning lessons. Before and after-school workers' schedules revolve around times when students aren't in class, and coaches may work directly with students for hours beyond the usual class schedule. Industries that tend to offer many jobs for workers in this cluster include public and private schools, colleges and universities, as well as day care centers.

### CAREER RESEARCH

- Association for Career & Technical Education  
[acteonline.org](http://acteonline.org)
- Future Educators Association  
[futureeducators.org](http://futureeducators.org)
- TEACH  
[teach.org](http://teach.org)
- Teaching jobs  
[teachers-teachers.com](http://teachers-teachers.com)
- k-12 jobs  
[k-12jobs.com](http://k-12jobs.com)
- National Association of Special Education Teachers  
[naset.org](http://naset.org)
- School Spring  
[schoolspring.com](http://schoolspring.com)
- National Science Teachers Association  
[nsta.org](http://nsta.org)
- NM Public Education Department  
[ped.state.nm.us](http://ped.state.nm.us)
- Educators Rising New Mexico  
[educatorsrisingnm.nmsu.edu](http://educatorsrisingnm.nmsu.edu)
- New Mexico Department of Workforce Solutions  
[jobs.state.nm.us](http://jobs.state.nm.us)
- Career Pathways-NM  
[careerpathways-nm.com](http://careerpathways-nm.com)
- NM Career Solutions  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Education & Training occupations at  
[onetonline.org/find/career?c=5](http://onetonline.org/find/career?c=5)





# Core Skills

- Instructing
- Learning Strategies
- Writing
- Active Learning
- Speaking
- Reading Comprehension
- Systems Evaluation
- Service Orientation
- Management of Personnel Resources
- Monitoring



## Professional Support Services Pathway

Occupation

- Community & Social Service  
Educational, Guidance, School & Vocational Counselors
- Education, Training & Library  
Librarians; Other Postsecondary Teachers; Library Technicians
- Life, Physical & Social Science  
Clinical, Counseling, & School Psychologists
- Office & Administrative Support  
Library Assistants, Clerical



## Teaching/Training Pathway

Occupation

- **Arts, Design, Entertainment, Sports & Media**  
Coaches & Scouts; Writers & Authors; Athletes & Sports Competitors

- **Education, Training & Library**  
Elementary School Teachers, Except Special Education; Teacher Assistants; Secondary School Teachers, Postsecondary; Secondary School Teachers, Except Special & Career/Technical Education; Middle School Teachers, Except Special & Career/Technical Education; Preschool Teachers, Except Special Education; Health Specialties Teachers, Postsecondary; Special Education Teachers, Kindergarten & Elementary School; Other Teachers & Instructors; Vocational Education Teachers, Postsecondary; Self-Enrichment Education Teachers; Career/Technical Education Teachers, Secondary School; Adult Basic & Secondary Education & Literacy Teachers & Instructors; Librarians; Kindergarten Teachers, Except Special Education; Special Education Teachers, Secondary School; Instructional Coordinators; Other Postsecondary Teachers; English Language & Literature Teachers, Postsecondary; Special Education Teachers, Middle School; Business Teachers, Postsecondary; Nursing Instructors & Teachers, Postsecondary; Education Teachers, Postsecondary; Biological Science Teachers, Postsecondary; Mathematical Science Teachers, Postsecondary; Criminal Justice & Law Enforcement Teachers, Postsecondary; Computer Science Teachers, Postsecondary; Foreign Language

& Literature Teachers, Postsecondary; History Teachers, Postsecondary; Career/Technical Education Teachers, Middle School; Recreation & Fitness Studies Teachers, Postsecondary; Philosophy & Religion Teachers, Postsecondary; Chemistry Teachers, Postsecondary; Engineering Teachers, Postsecondary; Communications Teachers, Postsecondary; Sociology Teachers, Postsecondary; Political Science Teachers, Postsecondary; Special Education Teachers, Preschool; Curators; Law Teachers, Postsecondary; Physics Teachers, Postsecondary; Economics Teachers, Postsecondary; Social Work Teachers, Postsecondary

- **Healthcare Practitioners & Technicians**  
Dietitians & Nutritionists
- **Installation, Maintenance & Repair**  
Home Appliance Repairers
- **Personal Care & Service**  
Recreation Workers; Fitness Trainers & Aerobics Instructors

## Administration & Administrative Support Pathway

Occupation

- **Arts, Design, Entertainment, Sports & Media**  
Coaches & Scouts
- **Education, Training & Library**  
Instructional Coordinators; Recreation & Fitness Studies Teachers, Postsecondary

- **Management**  
Education Administrators, Elementary & Secondary School; Education Administrators, Postsecondary; Education Administrators, Preschool & Childcare Center/Program; Other Education Administrators
- **Personal Care & Service**  
Fitness Trainers & Aerobics Instructors



# Selected Careers

For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Adult Basic and Secondary Education and Literacy Teachers and Instructors	<ul style="list-style-type: none"> <li>Teaching/Training</li> </ul>	Teach basic reading, math, writing, GED preparation, or English as a second language. Teaching may take place in a traditional school or in other settings.
Education Administrators, Preschool and Childcare Center/Program	<ul style="list-style-type: none"> <li>Professional Support Services</li> </ul>	Plan, direct, or coordinate the academic and nonacademic activities of preschool and childcare centers or programs.
Educational, Guidance, School, and Vocational Counselors	<ul style="list-style-type: none"> <li>Professional Support Services</li> </ul>	Counsel individuals and provide group educational and career counseling services. Help people develop social, academic, and career skills.
Fitness Trainers and Aerobics Instructors	<ul style="list-style-type: none"> <li>Professional Support Services</li> </ul>	Instruct or coach groups or individuals in activities like cardiovascular exercise, strength training, and stretching. Demonstrate techniques and form. Observe participants and explain ways to improve their skills.
Elementary School Teachers	<ul style="list-style-type: none"> <li>Teaching/Training</li> </ul>	Teach students basic academic, social, and other formative skills in public or private schools at the elementary level.
Special Education Teachers, Kindergarten and Elementary School	<ul style="list-style-type: none"> <li>Teaching/Training</li> </ul>	Teach school subjects to kindergarten and elementary students who have a wide range of learning, mental, emotional, or physical disabilities. Adapt general education lessons to meet students' needs.
Secondary School Teachers	<ul style="list-style-type: none"> <li>Teaching/Training</li> </ul>	Teach students in one or more subjects, such as English, mathematics, or social studies at the secondary level in public or private schools. May be designated per subject matter specialty.
Teacher Assistants	<ul style="list-style-type: none"> <li>Teaching/Training</li> </ul>	Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher has ultimate responsibility for the design and implementation of educational programs and services.
Education Administrators Elementary and Secondary	<ul style="list-style-type: none"> <li>Teaching/Training</li> </ul>	Plan, direct, or coordinate the academic, administrative, or auxiliary activities or public or private elementary or secondary level schools.
Librarians	<ul style="list-style-type: none"> <li>Professional Support Services</li> </ul>	Administer libraries and perform related library services. Tasks may include selecting, acquiring, cataloguing, classifying, circulating, and maintaining library materials.

**Source:** Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
48	\$21,730	\$35,350	High	S, A and E
26	\$32,250	\$50,940	High	S, E and C
178	\$39,430	\$57,500	High	S
311	\$22,440	\$38,940	Middle	S, R and E
546	\$40,710	\$57,330	High	S, A and C
57	\$37,900	\$52,920	High	S and A
505	\$40,880	\$57,410	High	S, A and E
786	\$18,100	\$26,580	Middle	S and C
128	\$66,990	\$84,220	High	E, S, and C
72	\$28,250	\$48,050	High	C, S and E

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree; Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Education & Training Careers

## Workforce Certifications for Education & Training Career Cluster

*Note: Students successfully exiting a course of study in the Education and Training Cluster may be eligible to earn some or all of these certifications.*

Pre-professional Certification in Education Careers

Early Childcare Certification

Educational Aide Certification II

Para Pro (Educational Aids)

NM Early Care Education and Family Support

### Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



### Recommended Fourth Year of Mathematics Courses

- Administration and Administrative Support Pathway: Statistics
- Professional Support Services Pathway: Statistics
- Teaching/Training Pathway: Statistics



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Adult Basic and Secondary Education and Literacy Teachers and Instructors	Certificate - Childhood Development; AA - Early Childhood Multicultural Education; AA - Teacher Education; Endorsement Certificate - Bilingual Education	Central New Mexico Community College; Santa Fe Community College; University of the Southwest
Education Administrators, Preschool and Childcare Center/Program	BA - Teacher Education	Eastern New Mexico University; University of New Mexico; Western New Mexico University; New Mexico Highlands University; New Mexico State University
Educational, Guidance, School, and Vocational Counselors	BS - Health Sciences; BA - Human Services; BA - Education Services	Eastern New Mexico University; University of New Mexico; New Mexico State University; New Mexico Highlands University
Fitness Trainers and Aerobics Instructors	BS - Exercise Science; AA - Physical Education	Santa Fe Community College; Clovis Community College; Clovis Community College
Elementary School Teachers	BS - Teacher Education	Eastern New Mexico University; University of New Mexico; New Mexico Highlands University; New Mexico State University
Special Education Teachers, Kindergarten and Elementary School	BS - Teacher Education	Eastern New Mexico University; University of New Mexico; New Mexico Highlands University; New Mexico State University
Secondary School Teachers	BS - Teacher Education	Eastern New Mexico University; University of New Mexico; New Mexico Highlands University; New Mexico State University
Teacher Assistants	AA - Teacher Education	Central New Mexico University; New Mexico State University-Doña Ana; Diné College
Education Administrators Elementary and Secondary	MA Education Administration; MA Education Leadership	Eastern New Mexico University; New Mexico Highlands University; New Mexico State University; University of New Mexico; Western New Mexico University
Librarians	AAS Library Science	New Mexico State University-Doña Ana

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.



# High School Gets You Ready for College and Career

## Common Career Technical Core for Education & Training Career Cluster<sup>1</sup>:

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

Recommended Programs of Study <sup>2</sup>				
Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Teacher Education	0525 Introduction to Leadership	0550 Child & Human Development	0562 Teacher Academy 1	0597 Teaching & Practicum -OJT
			0563 Teacher Academy 2	0599 Family/Consumer Science-Dual Credit 2773 AP Psychology
Other Programs of Study Course Sequences				
Education Administration	0525 Introduction to Leadership	0550 Child & Human Development	0530 Entrepreneurship	0597 Teaching & Practicum -OJT 0599 Family/Consumer Science-Dual Credit 2773 AP Psychology

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.

2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Finance

Money is an essential element in each of our lives. We entrust our financial well-being to people who safeguard bank accounts, provide loans, insure cars and homes, and help us make wise investments. Their math skills must be strong, and they must be precise, paying close attention to detail and keeping accurate records. Workers also need good communication skills in order to respond to questions and clearly explain information. They must be service oriented and sometimes work with people who are under stress about their finances.

Finance jobs exist in settings that range from banks to tax return centers to private offices. Most large organizations like hospitals have finance employees. While financial specialists usually have an 8 to 5 schedule, some workers' schedules must accommodate their clients' after work hours. Tax preparers have intense work times from the beginning of January until April 15.

In New Mexico, the majority of finance occupations require a high school education or a bachelor's degree. The finance industry shows one of the highest rates of new jobs in the state, and occupations in the securities, commodities, and other financial investments sector should have some of the state's highest average weekly wages. Likely places to find jobs include banks, corporate management offices, insurance agencies, insurance underwriting companies, and offices of Certified Public Accountants.

### CAREER RESEARCH

- **National Association of Business Economics**  
[nabe.com](http://nabe.com)
- **American Bankers Association**  
[aba.com](http://aba.com)
- **Future Business Leaders of America/Phi Beta Lambda**  
[fbla-pbl.org](http://fbla-pbl.org)
- **DECA**  
[deca.org](http://deca.org)
- **New Mexico Association of School Business Officials**  
[nmasbo.org](http://nmasbo.org)
- **Business Professionals of America**  
[bpa.org](http://bpa.org)
- **Career Pathways-NM**  
[careerpathways-nm.com](http://careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Finance occupations at  
[oneline.org/find/career?c=6](http://oneline.org/find/career?c=6)





# Core Skills

- Mathematics
- Reading Comprehension
- Management of Financial Resources
- Persuasion
- Speaking
- Negotiation
- Writing
- Active Listening
- Critical Thinking
- Service Orientation



## Business Financial Management Pathway

Occupation

- Business & Financial Operations  
Financial Analysts

## Financial & Investment Planning Pathway

Occupation

- Business & Financial Operations  
Loan Officers; Financial Analysts; Personal Financial Advisors; Other Financial Specialists; Credit Analysts; Tax Preparers; Budget Analysts
- Education, Training & Library  
Business Teachers, Postsecondary
- Office & Administrative Support  
Brokerage Clerks
- Sales & Sales Related  
Sales Reps, Wholesale & Manufacturing, Except Technical & Scientific Products; Insurance Sales Agents; Telemarketers



## Insurance Services Pathway

Occupation

- **Business & Financial Operations**  
Claims Adjusters, Examiners & Investigators; Insurance Underwriters
- **Computer & Mathematical**  
Actuaries
- **Education, Training & Library**  
Business Teachers, Postsecondary
- **Office & Administrative Support**  
Insurance Claims & Policy Processing Clerks
- **Sales & Sales Related**  
Sales Reps, Wholesale & Manufacturing, Except Technical & Scientific Products; Insurance Sales Agents; Telemarketers

## Banking & Related Services Pathway

Occupation

- **Business & Financial Operations**  
Loan Officers; Credit Analysts
- **Legal**  
Title Examiners, Abstractors & Searchers
- **Office & Administrative Support**  
Tellers; Bill & Account Collectors; Loan Interviewers & Clerks; New Account Clerks; Credit Authorizers, Checkers, & Clerks





# Selected Careers

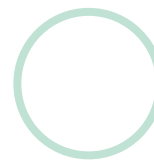
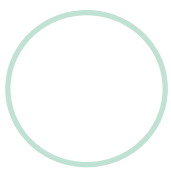
For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Claims Adjusters, Examiners, and Investigators	<ul style="list-style-type: none"> <li>Insurance Services</li> </ul>	Review settled insurance claims to make sure payments and settlements follow company guidelines. Consult attorneys about claims that need to go to court. May also settle insurance claims.
Financial Analysts	<ul style="list-style-type: none"> <li>Financial &amp; Investment Planning</li> </ul>	Use mathematical and statistical knowledge to analyze information that affects investment programs like stocks and bonds.
Financial Managers	<ul style="list-style-type: none"> <li>Financial &amp; Investment Planning</li> </ul>	Produce financial reports, direct investment activities, and develop strategies to meet an organization's long-term financial goals. Coordinate accounting, investing, banking, insurance, securities, and other financial activities of an establishment.
Insurance Sales Agents	<ul style="list-style-type: none"> <li>Insurance Services</li> </ul>	Contact potential customers to sell them life, property, casualty, health, automotive, or other types of insurance. Explain various insurance policies and help clients choose plans that suit them. May refer clients to independent brokers, work as an independent broker, or be employed by an insurance company.
Accountants and Auditors	<ul style="list-style-type: none"> <li>Business Financial Management</li> </ul>	Prepares asset, liability, and capital account entries by compiling and analyzing account information.
Loan Officers	<ul style="list-style-type: none"> <li>Financial &amp; Investment Planning</li> </ul>	Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers about conditions of the loan and payment methods. Includes mortgage loan officers and agents, collection analysts, loan servicing officers, and loan underwriters.
Personal Financial Advisors	<ul style="list-style-type: none"> <li>Financial &amp; Investment Planning</li> </ul>	Advise clients about financial plans using knowledge of tax and investment strategies, securities, insurance, pension plans, and real estate. Evaluate clients' assets, liabilities, cash flow, insurance coverage, tax status, and financial goals
Securities, Commodities, and Financial Services Sales Agents	<ul style="list-style-type: none"> <li>Securities &amp; Investments</li> </ul>	Buy and sell securities or commodities in investment and trading firms. Provide financial services to businesses and individuals. May advise customers about stocks, bonds, mutual funds, commodities, and market conditions..
Loan Interviewers and Clerks	<ul style="list-style-type: none"> <li>Banking &amp; Related Services</li> </ul>	Interview loan applicants to elicit information; investigate applicants' backgrounds and verify references; prepare loan request papers; and forward findings, reports, and documents to appraisal department. Review loan papers to ensure completeness, and complete transactions between loan establishment, borrowers, and sellers upon approval of loan.

**Source:** Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
79	\$37,730	\$63,170	High	C and E
106	\$53,310	\$76,220	High	C, I and E
228	\$67,870	\$107,260	High	E and C
190	\$26,950	\$45,990	Middle	E, C and S
679	\$42,380	\$64,770	Middle	C and E
143	\$35,050	\$61,190	Middle	C, E and S
55	\$46,280	\$124,790	High	C, E and S
126	\$34,420	\$57,350	Middle	E and C
145	\$26,570	\$37,640	Middle	C and E

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Finance Careers

## Workforce Certifications for the Finance Career Cluster:

*Note: Students successfully exiting a course of study in the Finance Cluster may be eligible to earn some or all of these certifications.*

Precision Exams: Accounting

Precision Exams: Economics

Precision Exams: General Financial Literacy

Precision Exams: Banking and Finance

DECA School-Based Enterprise: Financial Analysis

MBA Research (A\*S\*K): Concepts of Finance

### Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



### Recommended Fourth Year of Mathematics Courses

- Securities: Statistics
- Business Finance: Statistics
- Accounting Pathway: Pre-Calculus
- Insurance Pathway: Pre-Calculus
- Banking Services Pathway: Pre-Calculus



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Claims Adjusters, Examiners, and Investigators	Certificate - Associate in Claims - Management	Certifying Organization: The Institutes
Financial Analysts	BBA - Finance	Eastern New Mexico University-Portales; New Mexico Highlands University; New Mexico State University; University of New Mexico
Financial Managers	BBA - Finance	Eastern New Mexico University-Portales; New Mexico Highlands University; New Mexico State University; University of New Mexico
Insurance Sales Agents	AA - Business Administration or Marketing/Sales	Clovis Community College; Central New Mexico Community College; Diné College; Eastern New Mexico University - Portales, Roswell and Ruidoso; Luna Community College; Mesalands Community College; New Mexico Institute of Mining and Technology; New Mexico Junior College; New Mexico State University-Alamogordo, Carlsbad, Doña Ana and Grants; Santa Fe Community College; San Juan College; Southwestern Indian Polytechnic Institute; University of New Mexico-Gallup and Los Alamos; Western New Mexico University
Accountants and Auditors	Certificate - Accounting; AA - Accounting	Central New Mexico Community College; Luna Community College; Navajo Technical University; New Mexico Junior College; New Mexico State University; Carlsbad; New Mexico Highlands University; Santa Fe Community College; San Juan College; Southwestern Indian Polytechnic Institute; University of New Mexico-Los Alamos
Loan Officers Loan Interviewers and Clerks	Certificate - Finance; Certificate - Banking; AA - Banking	New Mexico Highlands University; New Mexico State University-Carlsbad and Doña Ana
Personal Financial Advisors	BBA - Finance	Eastern New Mexico University-Portales; New Mexico Highlands University; New Mexico State University; University of New Mexico
Securities, Commodities, and Financial Services Sales Agents	BBA - Finance	Eastern New Mexico University-Portales; New Mexico Highlands University; New Mexico State University; University of New Mexico

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.



# High School Gets You Ready for College and Career

## Common Career Technical Core for the Finance Career Cluster<sup>1</sup>:

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

### Recommended Programs of Study<sup>2</sup>

Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Accounting	0201 Business/Office Career Exploration	0207 Accounting	0210 Advanced Accounting	0294 AP Microeconomics
			0212 Cost Accounting	0295 AP Macroeconomics 2060 AP Statistics 0297 Business Work Experience/Co-op 0299 Business-Dual Credit
Financial Planning	0201 Business/Office Career Exploration	0231 Financial Spreadsheets	0225 Financial Services	0294 AP Microeconomics 0295 AP Macroeconomics 2060 AP Statistics 0297 Business Work Experience/Co-op 0299 Business-Dual Credit

### Other Programs of Study Course Sequences

Banking Services	0201 Business/Office Career Exploration	0221 Introductory Business	0225 Financial Services	0294 AP Microeconomics
				0295 AP Macroeconomics 2060 AP Statistics 0297 Business Work Experience/Co-op 0299 Business-Dual Credit
Insurance	0201 Business/Office Career Exploration	0228 Personal & Business Finance	1825 Principles of Selling	0294 AP Microeconomics 0295 AP Macroeconomics 2060 AP Statistics 0297 Business Work Experience/Co-op 0299 Business-Dual Credit

- It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.
- The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Government & Public Administration

Government ensures that citizens have vital services that they might not otherwise be able to access. Government employees provide regulatory oversight and support for transportation, public safety, healthcare, education, utilities, and courts. In New Mexico, most government employees work for state or local governments. However, there are many opportunities for federal government jobs through a major presence of the National Research Laboratories and Department of Defense. Occupations in government mirror careers found in almost every industry. They range from a number of business, management, and administrative occupations to jobs related to construction and transportation.

Public work sector jobs typically require the same educational requirements as private sector occupations. Government employees' work schedules and environments depend on workers' specific jobs and at time on the size and level of government. This cluster includes desk jobs with regular eight hour workdays as well as outdoor work with varying schedules. While hiring practices for most government workers are similar to those in other sectors, some public sector employees are elected or appointed to their jobs.

### CAREER RESEARCH

- **Federal Jobs Network**  
[federaljobs.net/student.htm](https://federaljobs.net/student.htm)
- **American Planning Association**  
[planning.org/join/students](https://planning.org/join/students)
- **United States Senate Youth Program**  
[ussenateyouth.org](https://ussenateyouth.org)
- **Junior Achievement**  
[jamyway.org/resources](https://jamyway.org/resources)
- **State Personnel Office**  
[spo.state.nm.us](https://spo.state.nm.us)
- **Career Pathways-NM**  
[careerpathways-nm.com](https://careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](https://nmcareersolutions.com)

Find more Government & Public Administration occupations at:  
[onetonline.org/find/career?c=7](https://onetonline.org/find/career?c=7)





# Core Skills

- Writing
- Negotiation
- Reading Comprehension
- Speaking
- Management of Financial Resources
- Mathematics
- Management of Personnel Resources
- Systems Analysis
- Social Perceptiveness
- Active Listening



## Revenue & Taxation Pathway

Occupation

- **Business & Financial Operations**  
Accountants & Auditors; Appraisers & Assessors of Real Estate; Financial Examiners
- **Tax**  
Tax Preparers; Tax Examiners & Collectors and Revenue Agents

## Governance Pathway

Occupation

- **Architecture & Engineering**  
Surveying & Mapping Technicians
- **Arts, Design, Entertainment, Sports & Media**  
Public Relations Specialists
- **Education, Training & Library**  
Communications Teachers, Postsecondary; Political Science Teachers, Postsecondary
- **Management**  
General & Operations Managers; Other Managers; Administrative Services Managers; Chief Executives; Social & Community Service Managers; Transportation, Storage & Distribution Managers; Postmasters & Mail Superintendents



## Planning Pathway

Occupation

- **Education, Training & Library**  
Political Science Teachers, Postsecondary
- **Life, Physical & Social Science**  
Urban & Regional Planners; Economists
- **Management**  
Architectural & Engineering Managers
- **Office & Administrative Support**  
Interviewers, Except Eligibility & Loan; Statistical Assistants

## Public Management & Administration Pathway

Occupation

- **Management**  
Other Managers; Social & Community Service Managers; Postmasters & Mail Superintendents
- **Office & Administrative Support**  
Postal Service Mail Carriers; Court Municipal & License Clerks; Eligibility Interviewers, Government Programs; Postal Service Mail Sorters, Processors & Processing Machine Operators; Postal Service Clerks

## Regulation Pathway

Occupation

- **Business & Financial Operations**  
Compliance Officers; Financial Examiners
- **Construction & Extraction**  
Construction & Building Inspectors
- **Protective Service**  
Detectives & Criminal Investigators
- **Transportation & Material Moving**  
Transportation Inspectors

## National Security Pathway

Occupation

- **Military Enlisted Tactical Operations & Air/Weapons Specialists & Crew Members**  
Air Crew Members, Aircraft Launch & Recovery Specialists, Armored Assault Vehicle Crew Members, Artillery & Missile Crew Members, Command and Control Center Specialists, Infantry, Radar & Sonar Technicians, Special Forces
- **Military Officer Special & Tactical Operations Leaders/Managers**  
Air Crew Officers, Aircraft Launch & Recovery Officers, Armored Assault Vehicle Officers, Artillery & Missile Officers, Command and Control Center Officers, Infantry Officers, Special Forces Officers
- **First-Line Enlisted Military Supervisor/Managers**  
First-Line Supervisors of Air Crew Members, First-Line Supervisors of Weapons Specialists/Crew Members





# Selected Careers

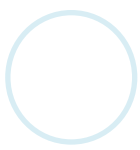
For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Tax Examiners, Collectors and Revenue Agents	<ul style="list-style-type: none"> <li>• Revenue &amp; Taxation</li> </ul>	Determine tax liability or collect taxes from individuals or business firms according to prescribed laws and regulations.
Administrative Services Managers	<ul style="list-style-type: none"> <li>• Governance</li> </ul>	Plan, direct, or coordinate one or more administrative services of an organization. Services may include records and information management, mail distribution, facilities planning and maintenance, custodial operations, or other office support services.
Public Relations Specialists	<ul style="list-style-type: none"> <li>• Governance</li> </ul>	Engage in promoting or creating an intended public image for individuals, groups, or organizations. May write or select material for release to various communications media.
Transportation Security Screeners	<ul style="list-style-type: none"> <li>• National Security</li> </ul>	Conduct screening of passengers, baggage, or cargo to ensure compliance with Transportation Security Administration (TSA) regulations. May operate basic security equipment such as x-ray machines and hand wands at screening checkpoints.
Construction and Building Inspectors	<ul style="list-style-type: none"> <li>• Regulation</li> </ul>	Inspect structures and to ensure that construction meets local and national building codes, zoning regulations, and contract specifications. Inspections may be general in nature or may be limited to a specific area like electrical systems or plumbing.
Court, Municipal, and License Clerks	<ul style="list-style-type: none"> <li>• Public Management &amp; Administration</li> </ul>	Perform clerical duties for courts, towns, or government licensing agencies and bureaus. to be called and get information for judges and court. Also may prepare documents for town or city council, answer official correspondence, and keep fiscal records and accounts. May issue licenses or permits, record data, administer tests, or collect fees. May prepare docket of cases.
Appraisers and Assessors	<ul style="list-style-type: none"> <li>• Revenue &amp; Taxation</li> </ul>	Appraise real and personal property to determine its fair value. May assess taxes in accordance with prescribed schedules.
Urban and Regional Planners	<ul style="list-style-type: none"> <li>• Planning</li> </ul>	Develop comprehensive plans and programs for the use of land and facilities. These plans help create communities, accommodate population growth, and revitalize physical facilities in towns, cities, counties, and metropolitan areas.
Military Enlisted Tactical Operations: Ordnance Specialist	<ul style="list-style-type: none"> <li>• National Security</li> </ul>	Ordnance specialists are responsible for the safety, security, and accountability of the Military's weapons and ammunition. They perform a wide variety of duties including the safe receipt, storage, and transport of ordnance. They also inspect, prepare, and dispose of weapons and ammunition. Some of these specialists deal solely with the destruction and demilitarization of explosive items.
Emergency Management Directors	<ul style="list-style-type: none"> <li>• Public Management &amp; Administration</li> </ul>	Plan and direct disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural (e.g., hurricanes, floods, earthquakes), wartime, or technological (e.g., nuclear power plant emergencies or hazardous materials spills) disasters or hostage situations.

Source: Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
17	\$34,480	\$49,250	High	C and E
171	\$64,760	\$96,910	Medium	E and C
108	\$34,450	\$59,200	High	E, A and S
14	\$32,500	\$37,570	Low	R, E and C
60	\$43,240	\$59,170	Middle	R, C and I
122	\$31,200	\$40,550	Low	C, E and R
68	\$28,760	\$50,410	Middle	C, E and I
61	\$39,630	\$58,240	High	I, E and A
Confidential	\$38,636	\$44,936	Low	R, I and C
8	\$51,670	\$93,440	High	S and E

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Government & Public Administration Careers

## Workforce Certifications Government & Public Administration Career Cluster:

*Note: Students successfully exiting a course of study in the Government and Public Administration Cluster may be eligible to earn some or all of these certifications.*

Precision Exams: Leadership Principles

Precision Exams: Leadership Management A

Precision Exams: Leadership Management B

### Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



### Recommended Fourth Year of Mathematics Courses

- Governance Pathway: Fundamentals of Statistics
- National Security Pathway: Trigonometry
- Foreign Service Pathway: Fundamentals of Statistics
- Planning Pathway: Fundamentals of Statistics
- Revenue & Taxation Pathway: Fundamentals of Statistics
- Regulation Pathway: Fundamentals of Statistics
- Public Management & Administration Pathway: Fundamentals of Statistics



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Tax Examiners	Certificate - Accounting; AA - Accounting	Central New Mexico Community College; Luna Community College; Navajo Technical University; New Mexico Junior College; New Mexico State University; Carlsbad; New Mexico Highlands University; Santa Fe Community College; San Juan College; Southwestern Indian Polytechnic Institute; University of New Mexico-Los Alamos
Administrative Services Managers	BBA - Business Administration	Luna Community College; Southwestern Indian Polytechnic Institute; Central New Mexico Community College; New Mexico State University-Doña Ana; Western New Mexico University
Public Relations Specialists	BA - Journalism and Mass Communications; AA - Communications	University of New Mexico-Gallup; Eastern New Mexico University; University of New Mexico
Transportation Security Screener	On the job	Industry
Construction and Building Inspectors	AAS - Building Technology; Certificate - Construction Technology	Central New Mexico Community College; New Mexico State University - Doña Ana; New Mexico Apprenticeship Programs
Court, Municipal, and License Clerks	Certificate - NM Municipal Clerks	The NM Municipal League
Appraisers and Assessors	AA - Accounting	Eastern New Mexico University-Ruidoso; Northern New Mexico College; University of New Mexico-Los Alamos; Santa Fe Community College
Urban and Regional Planners	BA - Environmental Planning	University of New Mexico
Military Enlisted Tactical Operations: Ordnance Specialist	BA or BS - US Military Training	Any Bachelors Degree granting institution
Emergency Management Directors	BAAS - Emergency Management	Eastern New Mexico University

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.



# High School Gets You Ready for College and Career

## Common Career Technical Core for the Government & Public Administration Career Cluster<sup>1</sup>:

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

### Recommended Programs of Study<sup>2</sup>

Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Revenue & Taxation	0201 Business/Office Career Exploration	0207 Accounting	0239 Individual Taxation	0294 AP Microeconomics 0295 AP Macroeconomics 0297 Business Work Experience/Co-op 0299 Business-Dual Credit

### Other Programs of Study Course Sequences

Urban and Regional Planning	0701 Drafting Careers Exploration 1603 Career Exploration	2501 Exploration of Public Service	2543 Civil Engineering	0799 Drafting-Dual Credit 0297 Business Work Experience/Co-op
Security Forces	0201 Business/Office Career Exploration	2501 Exploration of Public Service	2503 Community Protection	2736 AP Government and Politics: United States 0297 Business Work Experience/Co-op 2598 Public Protective Social Services-Co-op 2799 Social Sciences/History-Dual Credit
Public Management & Administration	0201 Business/Office Career Exploration	0223 Business Management	2504 Public Administration	2060 AP Statistics 2598 Public Protective Social Services-Co-op 2799 Social Sciences/History-Dual Credit
Political Science	0201 Business/Office Career Exploration	2501 Exploration of Public Service	2504 Public Administration	2737 AP Government & Politics: Comparative 0297 Business Work Experience/Co-op 2598 Public Protective Social Services-Co-op 2799 Social Sciences/History-Dual Credit
Environmental Protection	1603 Career Exploration	0250 Business Law	1751 Environmental Science	1752 AP Environmental Science 0297 Business Work Experience/Co-op 2598 Public Protective Social Services-Co-op 2599 Public Protective Social Services-Dual Credit

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.
2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Health Science

Where do medical technologies and human touch intersect? They meet within the Health Science career cluster, which is a New Mexico and national growth industry. As the proportion of Americans over age 65 grows and more people survive serious injuries and other health issues, the need for healthcare has increased. If you want to work in a cluster that has good job growth, this cluster may be for you. It is expected to include the greatest number of new jobs in New Mexico over the next 10 years and about one third of the state's hot jobs.

Hospitals or doctors' offices usually come to mind first when we think about healthcare workplaces, but home health care organizations and nursing homes also employ workers in this cluster. Some employees in this industry have 8 to 5 schedules, while others work less traditional shifts.

If you're thinking about a healthcare career, many jobs require good math and science skills. Jobs in this industry include a wide variety of educational backgrounds, ranging from medical degrees to many jobs that require less than four years of college.

### CAREER RESEARCH

- Council on Education for Public Health  
[ceph.org](http://ceph.org)
- Academy of Nutrition and Dietetics  
[eatright.org](http://eatright.org)
- Johnson & Johnson/Discovering Nursing  
[nursing.jnj.com](http://nursing.jnj.com)
- Commission on Accreditation of Allied Health Programs  
[caahep.org](http://caahep.org)
- Association of University Programs in Health Administration  
[aupha.org/resourcecenter/futurestudents](http://aupha.org/resourcecenter/futurestudents)
- HOSA Future Health Professionals  
[hosa.org](http://hosa.org)
- Careers at the Center for Disease Control & Prevention  
[jobs.cdc.gov](http://jobs.cdc.gov)
- New Mexico Public Health Association  
[nmpha.org](http://nmpha.org)
- Career Pathways-NM  
[careerpathways-nm.com](http://careerpathways-nm.com)
- NM Career Solutions  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Health Science occupations at:  
[onetonline.org/find/career?c=8](http://onetonline.org/find/career?c=8)





# Core Skills

- Science
- Service Orientation
- Social Perceptiveness
- Learning Strategies
- Active Learning
- Writing
- Instructing
- Reading Comprehension
- Active Listening
- Monitoring



## Support Services Pathway

Occupation

- **Community & Social Service**  
Mental Health & Substance Abuse Social Workers
- **Food Preparation & Serving Related**  
First Line Supervisors of Food Preparation & Serving Workers; Cooks, Institution & Cafeteria
- **Healthcare Practitioners & Technicians**  
Dietitians, Nutritionists, Clinical Laboratory Technologists and Technicians, Emergency Medical Technicians & Paramedics
- **Production Occupations**  
Food Batchmakers

## Biotechnology Research & Development Pathway

Occupation

- **Architecture & Engineering**  
Biomedical Engineers
- **Computer & Mathematical**  
Other Computer Occupations
- **Education, Training & Library**  
Health Specialties Teachers, Postsecondary
- **Healthcare Practitioners & Technicians**  
Pharmacists
- **Healthcare Support**  
Medical Equipment Preparers
- **Life, Physical & Social Science**  
Medical Scientists, Except Epidemiologists; Other Biological Scientists
- **Management**  
Natural Sciences Managers



## Diagnostic Services Pathway

Occupation

- **Education, Training & Library**  
Health Specialties Teachers, Postsecondary
- **Healthcare Practitioners & Technicians**  
Emergency Medical Technicians & Paramedics; Medical & Clinical Laboratory Technicians; Radiologic Technologists; Physician Assistants; Other Health Technologists & Technicians; Medical & Clinical Laboratory Technologists; Surgical Technologists; Diagnostic Medical Sonographers; Ophthalmic Medical Technicians; Cardiovascular Technologists & Technicians; Other Health Diagnosing & Treating Practitioners; Other Healthcare Practitioners & Technical Workers; Nuclear Medicine Technologists; Radiation Therapists; Athletic Trainers; Respiratory Therapy Technicians
- **Healthcare Support**  
Medical Assistants; Other Healthcare Support Workers; Veterinary Assistants & Laboratory Animal Caretakers; Medical Equipment Preparers
- **Life, Physical & Social Science**  
Other Physical Scientists
- **Management**  
Medical & Health Services Managers
- **Production**  
Ophthalmic Laboratory Technicians
- **Transportation & Material Moving**  
Ambulance Drivers & Attendants, Except Emergency Medical Technicians

## Health Informatics Pathway

Occupation

- **Architecture & Engineering**  
Other Engineers
- **Arts, Design, Entertainment, Sports & Media**  
Public Relations Specialists; Editors; Fine Artists, Including Painters, Sculptors & Illustrators
- **Business & Financial Operations**  
Claims Adjusters, Examiners & Investigators
- **Community & Social Service**  
Mental Health Counselors; Rehabilitation Counselors; Substance Abuse & Behavioral Disorder Counselors; Health Educators
- **Computer & Mathematical**  
Software Developers, Applications; Computer User Support Specialists; Computer Programmers
- **Education, Training & Library**  
Health Specialties Teachers, Postsecondary; Communications Teachers, Postsecondary
- **Healthcare Practitioners & Technicians**  
Physical Therapists; Medical Records & Health Information Technicians; Psychiatric Technicians; Occupational Therapists; Occupational Health & Safety Technicians
- **Healthcare Support**  
Medical Assistants; Medical Transcriptionists; Psychiatric Aides
- **Management**  
Medical & Health Services Managers; Administrative Services Managers
- **Office & Administrative Support**  
First-Line Supervisors of Office & Administrative Support Workers; Receptionists & Information Clerks; Executive Secretaries & Executive Administrative Assistants; Billing & Posting Clerks; Medical Secretaries
- **Production**  
Dental Laboratory Technicians; Medical Appliance Technicians

## Therapeutic Services Pathway

Occupation

- **Community & Social Service**  
Social & Human Service Assistants; Other Community & Social Service Specialists; Substance Abuse & Behavioral Disorder Counselors
- **Education, Training & Library**  
Health Specialties Teachers, Postsecondary; Art, Drama & Music Teachers, Postsecondary; Nursing Instructors & Teachers, Postsecondary; Psychology Teachers, Postsecondary
- **Healthcare Practitioners & Technicians**  
Registered Nurses; Licensed Practical & Licensed Vocational Nurses; Pharmacy Technicians; Other Physicians & Surgeons; Pharmacists; Medical & Clinical Laboratory Technicians; Family & General Practitioners; Dentists, General; Speech-Language Pathologists; Nurse Practitioners; Veterinary Technologists & Technicians; Respiratory Therapists; Veterinarians; Diagnostic Medical Sonographers; Nurse Anesthetists; Surgeons; Opticians, Dispensing; Dietitians & Nutritionists; Internists, General; Other Health Diagnosing & Treating Practitioners; Chiropractors; Optometrists; Other Healthcare Practitioners & Technical Workers; Anesthesiologists; Obstetricians & Gynecologists; Pediatricians, General; Nuclear Medicine Technologists; Radiation Therapists; Audiologists; Athletic Trainers;
- **Healthcare Support**  
Psychiatrists; Recreational Therapists; Occupational Health & Safety Technicians; Respiratory Therapy Technicians
- **Healthcare Support**  
Nursing Assistants; Medical Assistants; Dental Assistants; Massage Therapists; Other Healthcare Support Workers; Physical Therapist Assistants; Medical Equipment Preparers; Psychiatric Aides; Occupational Therapy Assistants; Physical Therapist Aides; Orderlies
- **Life, Physical & Social Science**  
Medical Scientists, Except Epidemiologists; Clinical, Counseling & School Psychologists; Other Life, Physical & Social Science Technicians
- **Management**  
Medical & Health Services Managers
- **Office & Administrative Support**  
Medical Secretaries
- **Production**  
Dental Laboratory Technicians; Ophthalmic Laboratory Technicians

# Selected Careers

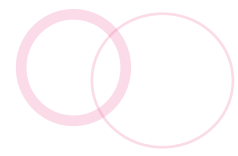
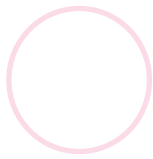
For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Dental Hygienists	<ul style="list-style-type: none"> <li>Therapeutic Services</li> </ul>	Clean teeth, examine patients for signs of oral diseases such as gingivitis, and provide other preventative dental care. Educate patients on ways to improve and maintain good oral health. May take and develop X-rays or apply fluoride or sealants.
Informatics Nurse Specialists (Computer System Analysts)	<ul style="list-style-type: none"> <li>Health Informatics</li> </ul>	Use nursing and informatics knowledge to help design, develop, and continually modify computerized health care systems. May teach staff and help solve problems related to using the system.
Medical and Clinical Laboratory Technologists	<ul style="list-style-type: none"> <li>Diagnostic Services</li> </ul>	Perform complex medical laboratory tests to diagnose, treat, and prevent disease. May train or supervise staff.
Medical and Health Services Managers	<ul style="list-style-type: none"> <li>Diagnostic Services</li> <li>Health Informatics</li> <li>Therapeutic Services</li> </ul>	Plan, direct, or coordinate medical and health services. May manage an entire facility or specialize in managing a specific clinical area or department, or manage a medical practice for a group of physicians.
Physical Therapist	<ul style="list-style-type: none"> <li>Therapeutic Services</li> </ul>	Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and improve or correct disabling conditions resulting from disease or injury.
Radiologic Technologists	<ul style="list-style-type: none"> <li>Diagnostic Services</li> </ul>	Maintain and use equipment and supplies necessary to show portions of the human body on X-ray film or fluoroscopic screen for diagnostic purposes.
Registered Nurses	<ul style="list-style-type: none"> <li>Therapeutic Services</li> </ul>	Provide and coordinate patient care and maintain accurate records. Assess health problems and implement patient care plans. Educate patients and the public about various health conditions.
Pharmacists	<ul style="list-style-type: none"> <li>Biotechnology Research &amp; Development</li> </ul>	Dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. May advise physicians and other health practitioners on the selection, dosage, interactions, and side effects of medications.
Dietitians and Nutritionists	<ul style="list-style-type: none"> <li>Support Services</li> </ul>	Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease. May supervise activities of a department providing quantity food services, counsel individuals, or conduct nutritional research.
Respiratory Therapists	<ul style="list-style-type: none"> <li>Therapeutic Services</li> </ul>	Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment.
Veterinarians	<ul style="list-style-type: none"> <li>Therapeutic Services</li> </ul>	Diagnose, treat, or research diseases and injuries of animals. Includes veterinarians who conduct research and development, inspect livestock, or care for pets and companion animals.

**Source:** Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
83	\$48,480	\$74,960	Middle	S, R and C
156	\$49,280	\$79,900	High	I, C and R
52	\$31,640	\$49,210	High	I, R and C
180	\$77,590	\$126,820	High	E, C and S
87	\$67,030	\$94,430	High	S, I and R
92	\$44,480	\$59,140	Middle	R and S
1,243	\$57,440	\$73,300	Middle	S, I and C
74	\$100,530	\$126,120	High	I, C and S
33	\$39,000	\$58,440	High	I and S
68	\$45,490	\$58,420	Middle	S, I and R
29	\$64,550	\$94,390	High	I and R

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Health Science Careers

## Workforce Certifications for the Health Science Career Cluster:

*Note: Students successfully exiting a course of study in the Health Science Cluster may be eligible to earn some or all of these certifications.*

Heart Saver CPR

Basic Life Support CPR Certification

National Health Care Foundation Skill Standards

State Certification in Certified Nursing Assistant

Precisions Exams Certification: Biotechnology, Health Sciences Introductions

BLS AED CPR for Medical Professionals

State Certification in Emergency Medical Technology

NCLEX PN — National Council for Licensure Exam for Practical Nursing

Health Care Professionals First Aid CPR

Biomedical Technician

Certified Coding Associate (CCA)

Certified Medical Assistant (CMA)

Dental Assistant

Dental Radiography (RHA)

Pharmacy Technician (CPhT)

National Health Care Foundation Skill Standards

Phlebotomy Technician (CPT)

## Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



## Recommended Fourth Year of Mathematics Courses

- Therapeutic Services Pathway: Pre-Calculus
- Diagnostic Services Pathway: Pre-Calculus
- Health Informatics Pathway: Statistics
- Support Services Pathway: Pre-Calculus
- Biotechnology Research & Development Pathway: Trigonometry



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Dental Hygienists	BS - Dental Hygiene	University of New Mexico; Eastern New Mexico University-Roswell; San Juan College; New Mexico State University-Doña Ana
Informatics Nurse Specialists	Certificate - Medical Billing and Coding; AAS - Health Information Technology	University of New Mexico-Taos; Eastern New Mexico University-Ruidoso; Central New Mexico Community College
Medical and Clinical Laboratory Technologists	BS - Biology	Western New Mexico University; University of New Mexico
Medical and Health Services Managers	BS - Public Health	New Mexico State University-Doña Ana
Physical Therapist	BS - Exercise Science	University of New Mexico-Main
Radiologic Technicians	AAS - Radiologic Technology	Central New Mexico Community College; Clovis Community College; Eastern New Mexico University; Luna Community College; Western New Mexico University
Registered Nurses	BSN - Nursing	Santa Fe Community College; New Mexico State University-Doña Ana; New Mexico Junior College; Central New Mexico Community College; San Juan College
Pharmacists	AA - Pre-pharmacy; AAS - Pharmacy Technician Advanced; Certificate - Entry level Pharmacy Technician; Allied Health	University of New Mexico; Central New Mexico Community College; Santa Fe Community College
Dietitians and Nutritionists	AS - Nutrition	Santa Fe Community College; New Mexico State University-Doña Ana; New Mexico Junior College; Central New Mexico Community College; San Juan College
Respiratory Therapists	AAS - Respiratory Therapy	University of New Mexico, Gallup, Los Alamos, Taos, Valencia; Central New Mexico Community College; San Juan College; Santa Fe Community College
Veterinarians	AAS - Veterinary Technology; AS Pre-Veterinary Medicine; BS Pre-Veterinary Medicine	Central New Mexico Community College; Navajo Technical University; San Juan College; University of New Mexico-Valencia; Eastern New Mexico University; New Mexico State University

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.

# High School Gets You Ready for College and Career

## Common Career Technical Core for the Health Science Career Cluster<sup>1</sup>:

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

Recommended Programs of Study <sup>2</sup>				
Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Pre-Nursing	1501 Health Care Occupations	1507 Nursing Science I	1504 Nursing-CNA	1597 Health Care Sciences-OJT
	1570 Medical Detectives PLTW		1505 Nursing-LPN	1598 Health Care Sciences-Co-Op 1599 Health Care Sciences-Dual Credit
Biomedical Sciences-PLTW	1570 Medical Detectives PLTW	1660 PLTW Principles of Biomedical Sciences-PLTW	1661 Human Body Systems-PLTW	1664 Biomedical Innovation-PLTW
			1662 Medical Intervention-PLTW	1597 Health Care Sciences-OJT 1598 Health Care Sciences-Co-Op 1599 Health Care Sciences-Dual Credit
Health Informatics-SREB	1603 Career Exploration	1560 Health Informatics Data & Use-AC	1561 Transforming Data into Information-AC	1563 Problems & Solutions-AC
			1562 Transforming Data into Knowledge-AC	1597 Health Care Sciences-OJT 1598 Health Care Sciences-Co-Op 1599 Health Care Sciences-Dual Credit
Allied Health	1570 Medical Detectives PLTW	1503 Allied Health Occupations	1506 Home Health Care	1597 Health Care Sciences-OJT
	1501 Health Care Occupations		1539 Sports Medicine 1524 Dental Laboratory Technician 1523 Dental Assisting	1598 Health Care Sciences-Co-Op 1599 Health Care Sciences-Dual Credit
Biotechnology	1501 Health Care Occupations	1551 Introduction to Biotechnology Research & Development	1550 Medical Anatomy & Physiology	1597 Health Care Sciences-OJT
	1570 Medical Detectives PLTW			1598 Health Care Sciences-Co-Op 1599 Health Care Sciences-Dual Credit
Other Programs of Study Course Sequences				
Veterinary Technician	1501 Health Care Occupations	0161 Science of Large Agriculture Animals	0164 Veterinary Science/Technician	1597 Health Care Sciences-OJT
	1570 Medical Detectives PLTW	0162 Science of Small Animals		1598 Health Care Sciences-Co-Op 1599 Health Care Sciences-Dual Credit
	0131 Agricultural Explorations			0191 Ag Internship/OJT
	0132 Agricultural Science			0199 Agriculture - Dual Credit
Medical Interpreter	1501 Health Care Occupations	1502 Health Care Occupations	1521 Spanish Medical Terminology	1597 Health Care Sciences-OJT
	1570 Medical Detectives PLTW			1598 Health Care Sciences-Co-Op 1599 Health Care Sciences-Dual Credit
Health Science Fundamentals	1501 Health Care Occupations	1502 Health Care Occupations	1550 Medical Anatomy & Physiology	1597 Health Care Sciences-OJT
	1570 Medical Detectives PLTW		1520 Medical Terminology	1598 Health Care Sciences-Co-Op 1599 Health Care Sciences-Dual Credit

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.
2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school’s course catalog for corresponding course.



## Hospitality & Tourism

When you pick up takeout food, eat in a restaurant or cafeteria, and enjoy food at catered events, you're helping support the hospitality industry. If you travel and stay in a hotel, bed-and-breakfast, or RV park, the tourism industry benefits. Going to baseball games, casinos, and museums are other activities that contribute to this industry's part of the economy.

As in most clusters, technology has changed how people work and serve customers. Some restaurants have recently decided to give customers tablets to use for ordering and paying for meals and for playing games while waiting to be served. Computer systems allow managers to track inventory and to set up worker schedules.

Hospitality and tourism occupations include many entry level positions. Although some management jobs require postsecondary education, a high school diploma is sufficient for a number of occupations. The work environment for these occupations varies according to job function. Kitchen employees work in hot, noisy surroundings while event planners may spend much of their time in an office. Tourism workers often have schedules that depend on their locations and on special events and seasons. Industries that tend to employ the highest number of hospitality and tourism workers include full-service and fast-food restaurants, hotels and motels, janitorial companies, and public schools.

### CAREER RESEARCH

- **Destination Marketing Association International**  
[destinationmarketing.org](https://www.destinationmarketing.org)
- **New Mexico Tourism Department**  
[newmexico.org/industry](https://www.newmexico.org/industry)
- **New Mexico Restaurant Association**  
[nmrestaurants.org](https://www.nmrestaurants.org)
- **IDEA Health & Fitness Association**  
[ideafit.com/fitness-career](https://www.ideafit.com/fitness-career)
- **New Mexico Wilderness Alliance**  
[nmwild.org](https://www.nmwild.org)
- **Family, Career and Community Leaders of America (FCCLA)**  
[fcclainc.org](https://www.fcclainc.org)
- **New Mexico Hospitality Association**  
[newmexicohospitality.org](https://www.newmexicohospitality.org)
- **Career Pathways-NM**  
[careerpathways-nm.com](https://www.careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](https://www.nmcareersolutions.com)

Find more Hospitality & Tourism occupations at  
[onetonline.org/find/career?c=9](https://www.onetonline.org/find/career?c=9)



## Core Skills

- Service Orientation
- Social Perceptiveness
- Coordination
- Management of Financial Resources
- Management of Personnel Resources
- Negotiation
- Management of Material Resources
- Persuasion
- Monitoring
- Speaking
- Resume Building
- Networking



### Travel & Tourism Pathway

Occupation

- **Business & Financial Operations**  
Meeting, Convention, & Event Planners
- **Management**  
Other Managers; Food Service Managers; Lodging Managers
- **Office & Administrative Support**  
Reservation & Transportation Ticket Agents & Travel Clerks
- **Personal Care & Service**  
Tour Guides; Travel Agents; Interpreters & Translators



## Lodging Pathway

Occupation

- **Building & Grounds Cleaning & Maintenance**  
Janitors & Cleaners, Except Maids & Housekeeping Cleaners; First-Line Supervisors of Housekeeping & Janitorial Workers
- **Management**  
Food Services Managers; Lodging Managers
- **Personal Care & Service**  
Residential Advisors; Concierges; Baggage Porters & Bellhops; Switchboard Operators; Ushers; Lobby Attendants & Ticket Takers

## Recreation, Amusements & Attractions Pathway

Occupation

- **Arts, Design, Entertainment, Sports & Media**  
Athletes & Sports Competitors; Umpires, Referees & Other Sports Officials; Set & Exhibit Designers; Motion Picture Projectionists
- **Education, Training & Library**  
Self-Enrichment Education Teachers; Museum Technicians & Conservators
- **Management**  
Lodging Managers; Natural Sciences Managers; Gaming Managers
- **Personal Care & Service**  
Recreation Workers; Animal Trainers

## Restaurants & Food/Beverage Services Pathway

Occupation

- **Food Preparation & Serving Related**  
First-Line Supervisors of Food Preparation & Serving Workers; Cooks, Restaurant; Cooks, Institution & Cafeteria; Chefs & Head Cooks; Bakers
- **Management**  
Food Service Managers; First-Line Supervisors of Food Preparation & Serving Workers
- **Production**  
Slaughterers & Meat Packers; Meat, Poultry & Fish Cutters & Trimmers; Bakers; Butchers & Meat Cutters; Separating, Filtering, Clarifying, Precipitating & Still Machine Setters, Operators & Tenders



# Selected Careers

For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Chefs and Head Cooks	<ul style="list-style-type: none"> <li>Restaurants &amp; Food/ Beverage Services</li> </ul>	Direct and may participate in the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts.
First-Line Supervisors of Housekeeping and Janitorial Workers	<ul style="list-style-type: none"> <li>Lodging</li> </ul>	Directly supervise and coordinate work activities of cleaning staff in hotels, hospitals, offices, and other establishments.
Food Service Managers	<ul style="list-style-type: none"> <li>Lodging</li> <li>Restaurants &amp; Food/ Beverage Services</li> <li>Travel &amp; Tourism</li> </ul>	Direct and may participate in the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts.
Lodging Managers	<ul style="list-style-type: none"> <li>Lodging</li> <li>Restaurants &amp; Food/ Beverage Services</li> <li>Travel &amp; Tourism</li> </ul>	Plan, direct, or coordinate activities of an organization or department that provides lodging and other accommodations.
Interpreters and Translators	<ul style="list-style-type: none"> <li>Travel &amp; Tourism</li> </ul>	Interpret oral or sign language, or translate written text from one language into another.
Recreation Workers (includes outdoor recreation and tourism)	<ul style="list-style-type: none"> <li>Recreation, Amusements &amp; Attractions</li> <li>Travel &amp; Tourism</li> </ul>	Design and lead recreation activities for groups in public, private, or volunteer agencies or recreation facilities. Organize and promote activities like arts and crafts, sports, games, music, dramatics, social recreation, and camping. (pathway dependent on industry experience)
Gaming Service Workers	<ul style="list-style-type: none"> <li>Recreation, Amusement &amp; Attractions</li> </ul>	In a gaming establishment, all gaming service workers not listed separately.
Ushers, Lobby Attendants, and Ticket Takers	<ul style="list-style-type: none"> <li>Recreations, Amusement &amp; Attractions</li> </ul>	Assist patrons at entertainment events by performing duties, such as collecting admission tickets and passes from patrons, assisting in finding seats, searching for lost articles, and locating such facilities as rest rooms and telephones.
Waiters and Waitresses	<ul style="list-style-type: none"> <li>Restaurants &amp; Food Beverage Services</li> </ul>	Take orders and serve food and beverages to patrons at tables in dining establishment.

**Source:** Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
64	\$30,590	\$50,560	Middle	E, R and A
170	\$24,030	\$38,550	Low	E, C and R
208	\$43,290	\$59,350	Low	E, C and R
47	\$45,270	\$67,580	High	E, C and S
91	\$36,860	\$53,810	High	A and S
491	\$17,890	\$24,470	Middle	S, E and A
18	\$19,700	\$31,430	Low	E and C
190	\$17,630	\$20,750	Low	S, C and E
3,441	\$17,690	\$19,940	Low	S, E and C

- The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.
- Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.
- There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Hospitality & Tourism Administration Careers

## Workforce Certifications:

*Note: Students successfully exiting a course of study in the Hospitality and Tourism Cluster may be eligible to earn some or all of these certifications.*

### National Restaurant Association Certifications:

- ServSafe Food Handlers
- ServSafe Manager

### Lodging Management Passport

- Lodging Management Program Certification I
- Lodging Management Program Certification II

### National Restaurant Association Education Foundation:

- Customer Service
- Food Service Accounting
- Manage First

### National Restaurant Association Certifications:

- ProStart I
- ProStart II

### NOCTI Certification:

- Culinary Arts Level 1 Prep Cook
- Culinary Arts Level 2 Cook

## Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



## Recommended Fourth Year of Mathematics Courses

- Restaurants & Food/Beverage Services Pathway: Statistics
- Lodging Pathway: Statistics
- Travel & Tourism Pathway: Statistics
- Recreation, Amusements & Attractions Pathway: Statistics



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Chefs and Head Cooks	AA/AAS - Culinary Arts/BS - Culinary Arts Management	University of New Mexico-Taos; Eastern New Mexico University - Main and Ruidoso; Central New Mexico Community College; Navajo Technical University; Luna Community College; New Mexico State University-Doña Ana
First-Line Supervisors of Housekeeping and Janitorial Workers	Certificate - Industry Standards; AA/AAS/BA/BS - Service Management/Custodial Services	New Mexico State University-Doña Ana; Eastern New Mexico University-Roswell; Santa Fe Community College; Navajo Technical University
Food Service Managers	Certificate - Hospitality and Tourism; AA/AAS/BA/BS - Foodservice Systems Administration/Service Management/Hospitality Management	Central New Mexico Community College; Eastern New Mexico University-Roswell and Ruidoso; New Mexico Highlands University; New Mexico State University-Main and Doña Ana; University of New Mexico; Santa Fe Community College; Western New Mexico University; Navajo Technical University
Lodging Managers	Certificate - Hospitality and Tourism; AA/BA/BS - Hotel/Motel/Resort Management	Central New Mexico Community College; Eastern New Mexico University-Roswell and Ruidoso; New Mexico Highlands University; New Mexico State University-Main and Doña Ana; University of New Mexico; Santa Fe Community College; Western New Mexico University; Navajo Technical University
Interpreters and Translators	Certificate - Interpreter; AAS/BA/BS - Languages, Linguistics, and Literature	Eastern New Mexico University; Central New Mexico Community College; New Mexico State University-Main; Santa Fe Community College
Recreation Workers (includes outdoor recreation and tourism)	BA/BS - Parks, Recreation and Leisure Studies	Eastern New Mexico University-Roswell and Main; New Mexico Highlands University; New Mexico State University; San Juan College; Santa Fe Community College
Gaming Service Workers	On the job	Industry
Ushers, Lobby Attendants, and Ticket Takers	On the job	Industry
Waiters and Waitresses	On the job	Industry

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.

# High School Gets You Ready for College and Career

## Common Career Technical Core for the Hospitality & Tourism Administration Career Cluster<sup>1</sup>:

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

Recommended Programs of Study <sup>2</sup>				
Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Restaurants & Food/Beverage Services-ProStart	0501 Family/Consumer Science-Exploratory 0503 Basic Foods	0504 Nutrition	0532 ProStart I 0533 ProStart II	0539 ProStart Internship 0599 Family/Consumer Science-Dual Credit
Travel & Tourism	0525 Introduction to Leadership	0540 Introduction to Hospitality & Tourism	0528 Hospitality/Tourism/Recreation 0530 Entrepreneurship	0297 Business Work Experience/Co-Op 0599 Family/Consumer Sc-Dual Credit
Other Programs of Study Course Sequences				
Lodging	0525 Introduction to Leadership	0261 Hospitality & Tourism	0265 Hotel Management I 0266 Hotel/Lodging Management II	0269 Hotel Management Internship 0549 Lodging Management Internship
Recreation, Amusements & Attractions	0201 Business/Office Career Exploration	0261 Hospitality & Tourism	0261 Hospitality & Tourism	0297 Business Work Experience/Co-Op 0299 Business-Dual Credit

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.
2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Human Services

From customer service representatives to mental health counselors to hairdressers, human services workers provide a wide range of assistance to individuals and families. People who choose to work in this cluster usually have a deep desire to enrich and make life easier for others. The Personal Care & Service and Community & Social Services industries show the largest projected job growth rate in New Mexico over the next 10 years, and is among the top 10 for total numbers of new jobs during that time.

What kinds of services do human services customers need? They may benefit from rehabilitation therapy, psychological assistance, help with daily activities such as meal preparation or housekeeping, spiritual guidance, or health education. Their needs have an impact on where workers provide services. Psychologists and Social and Community Service Managers are likely to work in office settings. Others, like clergy and social workers, may work part of the time in an office and also visit people at home.

Since the services provided in this industry vary greatly, workers in this cluster have educational backgrounds that range from high school diplomas to doctorates. They may also need credentials such as certifications and licenses. Day care centers, fitness and sports centers, social assistance organizations and local and state government tend to offer more human services jobs than other work settings.

### CAREER RESEARCH

- **National Association of Social Workers**  
[socialworkers.org](http://socialworkers.org)
- **National Association for Family Child Care**  
[nafcc.org](http://nafcc.org)
- **Association for Early Learning Leaders**  
[earlylearningleaders.org](http://earlylearningleaders.org)
- **Associated Bodywork & Massage Professionals**  
[abmp.com](http://abmp.com)
- **Association for Talent Development (ATD)**  
[td.org](http://td.org)
- **US Department of Health and Human Services**  
[hhs.gov/careers/index.html](http://hhs.gov/careers/index.html)
- **Career Pathways-NM**  
[careerpathways-nm.com](http://careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Human Services occupations at  
[onetonline.org/find/career?c=10](http://onetonline.org/find/career?c=10)





# Core Skills

- Service Orientation
- Social Perceptiveness
- Instructing
- Learning Strategies
- Operations Analysis
- Persuasion
- Speaking
- Negotiation
- Writing
- Active Listening



## Early Childhood Development & Services Pathway

Occup.

- Education, Training & Library  
Preschool Teachers, Except Special Education

## Consumer Services Pathway

Occupation

- Arts, Design, Entertainment, Sports & Media  
Public Relations Specialists; Writers & Authors; Technical Writers
- Management  
Sales Managers; Marketing Managers; Property, Real Estate & Community Association Managers
- Office & Administrative Support  
Customer Service Reps
- Sales & Related  
First-Line Supervisors of Retail Sales Workers



## Counseling & Mental Health Services Pathway

Occupation

- **Arts, Design, Entertainment, Sports & Media**  
Music Directors & Composers
- **Community & Social Service**  
Clergy; Other Religious Workers; Directors, Religious Activities & Education; Mental Health Counselors; Mental Health & Substance Abuse Social Workers; Rehabilitation Counselors; Healthcare Social Workers; Substance Abuse & Behavioral Disorder Counselors; Health Educators
- **Education, Training & Library**  
Mathematical Science Teachers, Postsecondary; Psychology Teachers, Postsecondary; Philosophy & Religion Teachers, Postsecondary; Social Work Teachers, Postsecondary
- **Healthcare Practitioners & Technicians**  
Other Physicians & Surgeons
- **Life, Physical, & Social Science**  
Clinical, Counseling & School Psychologists
- **Management**  
Social & Community Service Managers; Natural Science Managers
- **Personal Care & Service**  
Recreation Workers

## Family & Community Services Pathway

Occupation

- **Community & Social Service**  
Clergy; Child, Family & School Social Workers; Social & Human Service Assistants; Directors, Religious Activities & Education; Healthcare Social Workers; Probation Officers & Correctional Treatment Specialists; Other Social Workers
- **Education, Training & Library**  
Social Work Teachers, Postsecondary
- **Life, Physical & Social Science**  
Social Science Research Assistants; Other Social Scientists & Related Workers
- **Management**  
Other Managers; Chief Executives; Social & Community Service Managers
- **Office & Administrative Support**  
Eligibility Interviewers, Government Programs
- **Personal Care & Service**  
Residential Advisors
- **Protective Service**  
Other Protective Service Workers

## Personal Care Services Pathway

Occupation

- **Healthcare Support**  
Massage Therapists
- **Personal Care & Service**  
Hairdressers, Hairstylists & Cosmetologists; First-Line Supervisors of Personal Service Workers; Fitness Trainers & Aerobics Instructors; Funeral Attendants; Barbers; Morticians, Undertakers & Funeral Directors; Skincare Specialists
- **Production**  
Tailors, Dressmakers & Custom Sewers





# Selected Careers

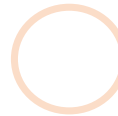
For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Child, Family, and School Social Workers	<ul style="list-style-type: none"> <li>Family &amp; Community Services</li> </ul>	Provide social services and assistance to improve the social and psychological functioning of children and their families and to maximize the family well-being and the academic functioning of children. May assist parents, arrange adoptions, and find foster homes for abandoned or abused children. In schools, they address such problems as teenage pregnancy, misbehavior, and truancy. May also advise teachers.
Healthcare Social Workers	<ul style="list-style-type: none"> <li>Counseling &amp; Mental Health Services</li> <li>Family &amp; Community Services</li> </ul>	Provide individuals, families, and groups with the psychosocial support needed to cope with chronic, acute, or terminal illnesses. Services include advising family care givers, providing patient education and counseling, and making referrals for other services. May also provide care and case management or interventions designed to promote health, prevent disease, and address barriers to access to healthcare.
Massage Therapists	<ul style="list-style-type: none"> <li>Personal Care Services</li> </ul>	Perform therapeutic massages of soft tissues and joints. Relieve pain and stress, improve circulation, and aid in clients' general wellness. May help assess range of motion and muscle strength or propose client therapy plans.
Mental Health Counselors	<ul style="list-style-type: none"> <li>Counseling &amp; Mental Health Services</li> </ul>	Counsel with emphasis on prevention. Work with individuals and groups to promote optimum mental and emotional health. May help individuals deal with issues associated with addictions and substance abuse; family, parenting, and marital problems; stress management; self-esteem; and aging.
Mental Health and Substance Abuse Social Workers	<ul style="list-style-type: none"> <li>Counseling &amp; Mental Health Services</li> </ul>	Assess and treat individuals who have mental, emotional, or substance abuse problems, including alcohol, tobacco and/or drug abuse. Activities may include individual and group therapy, crisis intervention, case management, client advocacy, prevention, and education.
Rehabilitation Counselors	<ul style="list-style-type: none"> <li>Counseling &amp; Mental Health Services</li> </ul>	Counsel individuals to maximize the independence and employability of persons coping with personal, social, and vocational difficulties that result from birth defects, illness, disease, accidents, or the stress of daily life. Coordinate activities for residents of care and treatment facilities. Assess client needs and design and implement rehabilitation programs that may include personal and vocational counseling, training, and job placement.
Social and Human Service Assistants	<ul style="list-style-type: none"> <li>Family &amp; Community Services</li> </ul>	Assist in providing client services in a wide variety of fields, such as psychology, rehabilitation, or social work, including support for families. May assist clients in identifying and obtaining available benefits and social and community services. May assist social workers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse, human relationships, rehabilitation, or dependent care.
Fitness Trainers and Aerobics Instructors	<ul style="list-style-type: none"> <li>Family &amp; Community Services</li> </ul>	Instruct or coach groups or individuals in exercise activities. Demonstrate techniques and form, observe participants, and explain to them corrective measures necessary to improve their skills.
Credit Counseling	<ul style="list-style-type: none"> <li>Consumer Services</li> </ul>	Advise and educate individuals or organizations on acquiring and managing debt. May provide guidance in determining the best type of loan and explaining loan requirements or restrictions. May help develop debt management plans, advise on credit issues, or provide budget, mortgage, and bankruptcy counseling.
Child Care Workers	<ul style="list-style-type: none"> <li>Early Childhood Development &amp; Services</li> </ul>	Attend to children at schools, businesses, private households, and childcare institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play.

Source: Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Total Avg. Annual Opening	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
195	\$28,150	\$44,430	Middle	S and E
157	\$38,250	\$58,720	High	S and I
90	\$26,540	\$47,450	Low	S and R
21	\$31,360	\$50,430	High	S, I and A
61	\$35,310	\$49,220	High	S, I and A
34	\$29,300	\$38,310	High	S and I
453	\$25,300	\$34,810	Middle	C, S and E
311	\$22,440	\$38,940	Middle	S, R and E
44	\$31,120	\$38,820	High	E, S and C
532	\$18,210	\$23,470	Low	S and A

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree, Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Human Services Careers

## Workforce Certifications:

*Note: Students successfully exiting a course of study in the Human Services Cluster may be eligible to earn some or all of these certifications.*

NM Child Development Association Certification

Cosmetology License

Mental Health First Aid Adult

Mental Health First Aid Youth

Certified Personal Trainer

Child Development Associate Certification

## Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



NEW MEXICO  
BUSINESS  
PROFESSIONALS  
of AMERICA



## Recommended Fourth Year of Mathematics Courses

- Early Childhood Development & Services Pathway: Trigonometry or Statistics
- Counseling & Mental Health Services Pathway: Trigonometry or Statistics
- Family & Community Services Pathway: Trigonometry or Statistics
- Personal Care Services Pathway: Statistics
- Consumer Services Pathway: Statistics



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Child, Family, and School Social Workers	BS - Social Work	New Mexico State University-Carlsbad; New Mexico State University-Grants; San Juan College; New Mexico State University-Alamogordo; Eastern New Mexico University-Roswell
Healthcare Social Workers	BS - Social Work	Western New Mexico University; New Mexico State University-Main
Massage Therapists	Certificate - Integrative Massage Therapy	University of New Mexico-Taos Campus; Northern New Mexico College; Massage Therapy Training Institute; Pima Medical Institute-Albuquerque
Mental Health Counselors	Licensed Mental Health Counselor (LMHC)	University of the Southwest
Mental Health and Substance Abuse Social Workers	BS - Social Work	New Mexico State University
Rehabilitation Counselors	Licensed Mental Health Counselor (LMHC)	Western New Mexico University
Social and Human Service Assistants	AA Social Services	New Mexico State University-Alamogordo, Carlsbad, Grants
Fitness Trainers and Aerobics Instructors	BS - Exercise Science, AA - Physical Education	Santa Fe Community College; San Juan College; Western New Mexico University
Credit Counselors	AA - Early Childhood Education	Eastern New Mexico University
Childcare Workers	AA - Early Childhood Education	New Mexico State University-Doña Ana

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.



# High School Gets You Ready for College and Career

## Common Career Technical Core for Human Services Career Cluster<sup>1</sup>:

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

Recommended Programs of Study <sup>2</sup>				
Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Counseling	0525 Introduction to Leadership	0550 Child & Human Development	0521 Human Growth & Behavior	0597 Teaching & Practicum -OJT 0599 Family/Consumer Science-Dual Credit 2773 AP Psychology
Other Programs of Study Course Sequences				
Consumer Services	0525 Introduction to Leadership	2501 Exploration of Public Service	2504 Public Administration 2595 Public Protective Social Services-Subject	2598 Public Protective Social Services-Co-Op 2599 Public Protective Social Services-Dual Credit 2773 AP Psychology
Early Childhood Development	0525 Introduction to Leadership	0550 Child & Human Development	0552 Child Development Lab 0553 Child Development Lab II 0554 Child Development Lab III 0555 Child Development Lab IV 0519 Child Care/Work Experience	0597 Teaching & Practicum -OJT 0599 Family/Consumer Sc-Dual Credit 2773 AP Psychology
Family & Community Services	0525 Introduction to Leadership	0517 Consumer Economics/Personal Finance	0520 Elder Care/Gerontology	0597 Teaching & Practicum -OJT 0599 Family/Consumer Sc-Dual Credit 2773 AP Psychology
Personal Care Human Services	0525 Introduction to Leadership	0603 Cosmetology-Licensing	0605 Cosmetology-Non-licensing 0604 Barbering 0606 Cosmetology-Nail Specialization 0607 Cosmetology Facial Specialize 0695 Cosmetology-Related Subjects	0698 Cosmetology-Internship 0699 Cosmetology-Dual Credit

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.
2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



# Information Technology

Maybe you used to shop more at the mall but now order things online. Smart electronics can give directions, and even turn on your oven while you're out. You can push a button to start your car and immediately stop to move the bicycle that showed up in your backup camera. Who's responsible for these tools?

Workers in the information technology (IT) industry develop the software and hardware that make our lives easier, and they fix and help us use these tools. As organizations and individuals face the threats and consequences of data theft, they need information security analysts to maintain online privacy. In New Mexico, this occupation has the highest expected percentage of new job growth in the IT career cluster. Because they occur in almost any industry, three IT occupations are likely to be among those that have the largest number of new jobs in New Mexico: applications software developers, computer user support specialists, and computer systems analysts.

All IT jobs are professional, and most new jobs will require postsecondary education. IT careers can be found in many work settings. The kinds of organizations most likely to employ more IT workers include custom computer programming companies; computer systems design companies; corporate and regional managing offices; software publishers and data processing and hosting businesses.

IT has changed the technical skills required in many occupations. While reducing the availability of some jobs, it has also produced totally new career options. As IT continues to evolve, we will need to keep pace with its changes in our workplaces.

## CAREER RESEARCH

- **Center of Excellence for Information and Computing Technology**  
[coeforict.org](http://coeforict.org)
- **National Center for Women and Information Technology**  
[ncwit.org](http://ncwit.org)
- **Institute of Electrical and Electronics Engineers Computer Society**  
[computer.org](http://computer.org)
- **Technology Services Industry Association**  
[tsia.com](http://tsia.com)
- **National Center for Systems Security and Information Assurance**  
[cssia.org](http://cssia.org)
- **Technology Student Association**  
[tsaweb.org](http://tsaweb.org)
- **New Mexico Technology Council**  
[nmtechcouncil.org](http://nmtechcouncil.org)
- **The Supercomputing Challenge**  
[supercomputingchallenge.org](http://supercomputingchallenge.org)
- **GenYES: Technology Student Leaders**  
[genyes.org](http://genyes.org)
- **Oracle Academy**  
[academy.oracle.com/en/oa-web-overview.html](http://academy.oracle.com/en/oa-web-overview.html)
- **Cisco Networking Academy**  
<https://www.netacad.com/>
- **National Integrated Cyber Education Research Center**  
[cyber.org](http://cyber.org)
- **Career Pathways-NM**  
[careerpathways-nm.com](http://careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](http://nmcareersolutions.com)

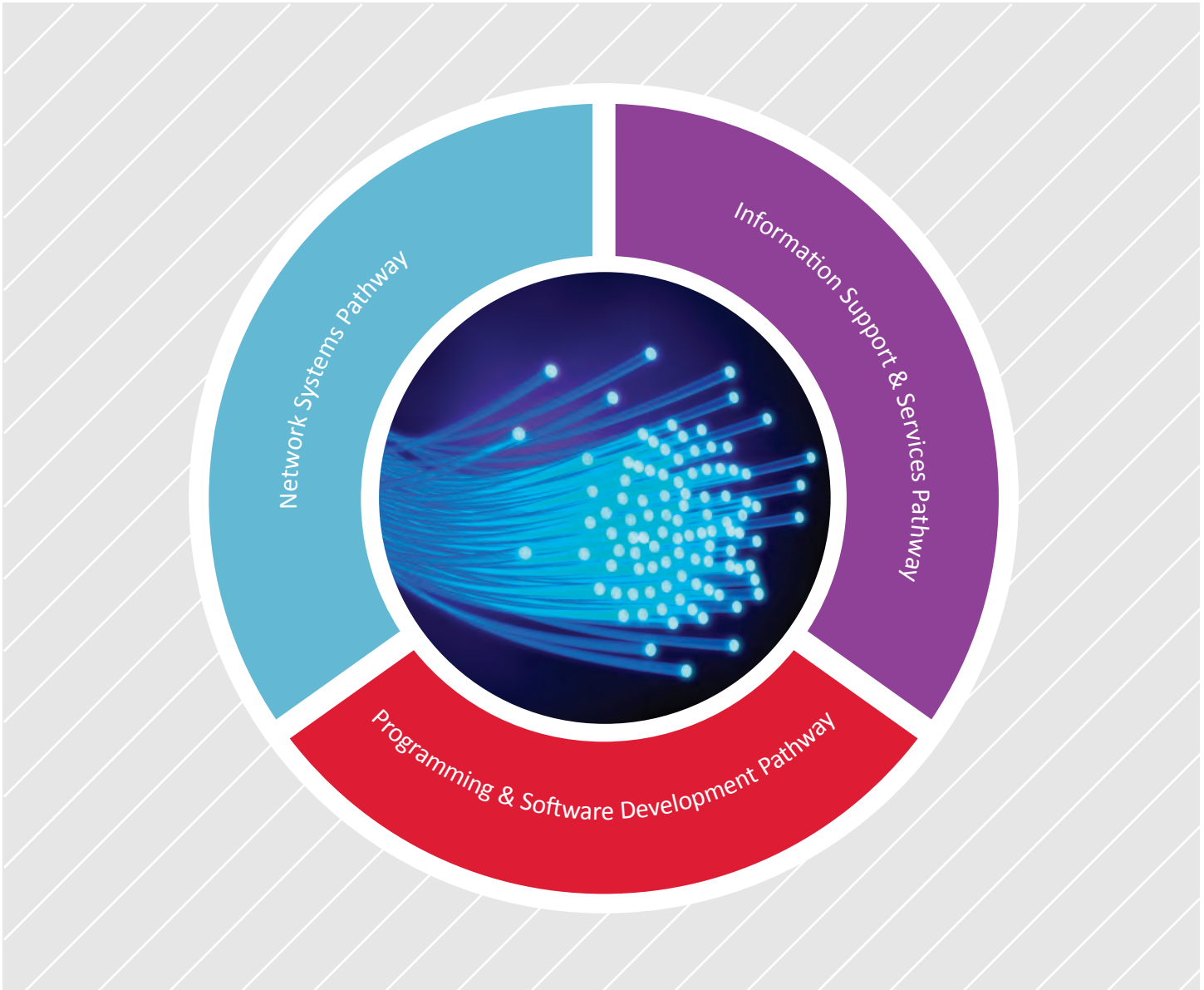
Find more Information Technology occupations at [oneline.org/find/career?c=11](http://oneline.org/find/career?c=11)





# Core Skills

- Programming
- Technology Design
- Operation Analysis
- Installation
- Systems Analysis
- Systems Evaluation
- Troubleshooting
- Equipment Selection
- Mathematics
- Science



## Network Systems Pathway

Occupation

- **Computer & Mathematical**  
Software Developers, Applications; Software Developers, Systems Software; Network & Computer Systems Administrators; Computer Programmers; Computer Network Support Specialists; Computer Network Architects; Information Security Analysts; Other Computer Occupations; Database Administrators
- **Education, Training & Library**  
Computer Science Teachers, Postsecondary
- **Management**  
Computer & Information Systems Managers

## Information Support & Services Pathway

Occupation

- **Computer & Mathematical**  
Software Applications Developers; Computer User Support Specialists; Computer Systems Analysts; Software Developers, Systems Software; Network & Computer Systems Administrators; Computer Network Architects; Other Computer Occupations; Database Administrators
- **Education, Training & Library**  
Computer Science Teachers, Postsecondary
- **Management**  
Computer & Information Systems Managers
- **Production**  
Computer Numerically Controlled Machine Tool Programmers, Metal & Plastic

## Programming & Software Development Pathway

Occupation

- **Architecture & Engineering**  
Computer Hardware Engineers
- **Computer & Mathematical**  
Software Applications Developers; Computer Systems Analysts; Software Developers, Systems Software; Network & Computer Systems Administrators; Computer Programmers; Computer Network Architects; Web Developers; Information Security Analysts; Database Administrators
- **Education, Training & Library**  
Computer Science Teachers, Postsecondary; Engineering Teachers, Postsecondary
- **Management**  
Computer & Information Systems Managers; Architectural & Engineering Managers
- **Production**  
Computer Numerically Controlled Machine Tool Programmers, Metal & Plastic





# Selected Careers

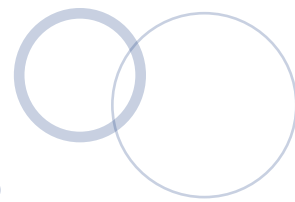
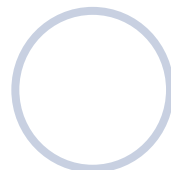
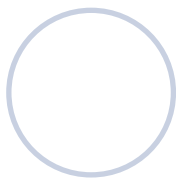
For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Computer and Information Systems Managers	<ul style="list-style-type: none"> <li>Information Support &amp; Services</li> <li>Network Systems</li> <li>Programming &amp; Software Development</li> </ul>	Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.
Computer Network Support Specialists	<ul style="list-style-type: none"> <li>Network Systems</li> </ul>	Analyze, test, troubleshoot, and evaluate existing network systems, such as local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Perform network maintenance to ensure networks operate correctly with minimal interruption.
Computer Systems Analysts	<ul style="list-style-type: none"> <li>Information Support &amp; Services</li> <li>Programming &amp; Software Development</li> </ul>	Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations.
Computer User Support Specialists	<ul style="list-style-type: none"> <li>Information Support &amp; Services</li> </ul>	Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically.
Information Security Analysts	<ul style="list-style-type: none"> <li>Network Systems</li> <li>Programming &amp; Software Development</li> </ul>	Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure.
Network and Computer Systems Administrators	<ul style="list-style-type: none"> <li>Information Support &amp; Services</li> <li>Network Systems</li> <li>Programming &amp; Software Development</li> </ul>	Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability.
Software Developers, Applications	<ul style="list-style-type: none"> <li>Information Support &amp; Services</li> <li>Network Systems</li> <li>Programming &amp; Software Development</li> </ul>	Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency.
Web Developers	<ul style="list-style-type: none"> <li>Programming &amp; Software Development</li> </ul>	Design, create, and modify websites. Analyze user needs to implement website content, graphics, performance, and capacity. May integrate websites with other computer applications.
Computer Programmers	<ul style="list-style-type: none"> <li>Programming &amp; Software Development</li> </ul>	Create, modify, and test the code, forms, and script that allow computer applications to run. Work from specifications drawn up by software developers or other individuals.

Source: Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
103	\$76,680	\$118,020	High	E, C and I
133	\$40,200	\$57,600	Middle	R, E and C
156	\$49,280	\$79,900	Middle	I, C and R
224	\$28,450	\$42,360	Middle	R, I and C
109	\$74,110	\$109,550	High	C, I and R
163	\$53,340	\$75,590	Middle	I, R and C
142	\$51,770	\$88,980	High	I, R and C
31	\$42,170	\$59,200	High	I, R and C
41	\$38,480	\$70,970	High	I and C

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Information Technology Careers

## Workforce Certifications:

*Note: Students successfully exiting a course of study in the Information Technology Cluster may be eligible to earn some or all of these certifications.*

Certified Novell Administrator

Certified Web Designer

Comp TIA Security+

Comp TIA Server+

Computer Maintenance Technician

iNet+ Certification

jCert JAVA Programmer Certification

Macromedia Director Certification

Microsoft Technology Associate

Windows Operating System Fundamentals

## Career Technical Student Organization

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



## Recommended Fourth Year of Mathematics Courses

- Network Systems Pathway: Pre-Calculus
- Information Support & Services Pathway: Pre-Calculus
- Web & Digital Communications Pathway: Pre-Calculus
- Programming & Software Development Pathway: Pre-Calculus



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Computer and Information Systems Managers	BAAS - Information Systems; BAS - Information Technology; BS - Information Technology; AAS - Systems Administration	Central New Mexico Community College; Eastern New Mexico University; Navajo Technical University; New Mexico Institute of Mining and Technology; New Mexico Highlands University; New Mexico State University
Computer Network Support Specialists	AAS - Network Management; AAS Network Administration	Central New Mexico Community College; Southwestern Indian Polytechnic Institute
Computer Systems Analyst	AAS - Information Systems; AAS - Systems Administrator	Central New Mexico University; Eastern New Mexico University-Ruidoso
Computer User Support Specialists	AAS - IT Specialist Concentration	New Mexico State University-Doña Ana
Information Security Analysts	AAS Cyber Security; AAS - Computer Information Systems - Cybersecurity; AAS - Computer Technology; BS - Computer Science - Cybersecurity	Central New Mexico Community College; Eastern New Mexico University-Ruidoso; New Mexico State University, Doña Ana and Grants
Network and Computer Systems Administrators	BS - Computer Science	New Mexico Institute of Mining and Technology; New Mexico State University; University of New Mexico
Software Developers, Applications	AAS - Computer Science; BS - Computer Science; BS Computer Science - Software Development; BS - Engineering Information Technology	Luna Community College; Northern New Mexico College; New Mexico State University; University of New Mexico
Web Developers	Certificate - Web Design Creative Media Technology; BS - Computer Science	New Mexico State University-Main and Doña Ana; New Mexico Institute of Mining and Technology
Computer Programmers	Certificate & AAS - Computer Technology (Programming)	New Mexico State University-Doña Ana

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.

# High School Gets You Ready for College and Career

## Common Career Technical Core for the Information Technology Career Cluster<sup>1</sup>:

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

### Recommended Programs of Study<sup>2</sup>

Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Java Programming-Oracle	0313 Business Programming	0323 Computer Science/Programming	0324 Programming	0397 Computer/IT Sc-OJT
	0312 CS/Programming		0325 Advanced Programming	0399 Computer/IT Sciences-Dual Credit
Networking Academy - Cisco	0318 Network Technology	0341 CCNA Routing & Switching Part 1-Cisco Academy	0326 Computer Programming-Other Lang	0336 AP Computer Science Principles
	0317 Computer Technology		0342 CCNA Routing & Switching Part 2	0327 AP Computer Science A
Programming & Cyberbersecurity-PLTW	0348 App Creators-PLTW	0344 Computer Science Essentials-PLTW	0345 AP Computer Science Principles-PLTW	0397 Computer/IT Sc-OJT
	0349 Computer Science for Innovators & Makers		0346 AP Computer Science A-PLTW	0399 Computer/IT Sciences-Dual Credit
Computer Technology Assistant	0317 Computer Technology	0320 Computer Technology Assistant I	0321 Computer Technology Assistant II	0336 AP Computer Science Principles
			0322 Computer Technology Assistant III	0327 Computer Science A
Informatics-SREB	0312 CS/Programming	0332 Computers, Networks & Databases-AC	0331 Computer Technology Assistant III	0397 Computer/IT Sc-OJT
			0333 Design for the Digital World-AC	0399 Computer/IT Sciences-Dual Credit
Database Design & Programming-Oracle	0313 Business Programming	0314 Database Foundations-Oracle Academy	0334 Databases in the Cloud-AC	0335 Developing a Cloud Presence-AC
			0330 Database Design/Programming-Oracle Academy	0397 Computer/IT Sc-OJT

### Other Programs of Study Course Sequences

Networking	0312 CS/Programming	0318 Network Technology	0319 Computer Networking II	0397 Computer/IT Sc-OJT
				0399 Computer/IT Sciences-Dual Credit

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.
2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Law, Public Safety, Corrections & Security

When there's something strange in your neighborhood, who are you going to call? Typically someone from this career cluster will respond to your request for help. These workers protect us from crime and other sources of harm like natural disasters. They help us receive fair treatment and get justice when we've been wronged. Some workers also set up and implement security plans.

If you pay attention to the evening news or watch television dramas, you're aware of the most obvious occupations in this industry: police officers, fire fighters, and lawyers. Less apparent careers include hazardous material removal workers, ski patrol workers, and postsecondary educators who teach criminal justice, psychology, and anthropology classes. Occupations with faster than average growth in New Mexico include security guards, paralegals, and emergency medical technicians.

Work environments and educational backgrounds differ in these careers. Although some workers stay in offices most of the day, others work outdoors. For certain jobs, workers have to pass medical exams and demonstrate strength and agility. Some careers may be dangerous and require shift work, sometimes with long hours. Many of these jobs can be found at all levels of government, in law offices, and security businesses.

### CAREER RESEARCH

- American Bar Association  
[americanbar.org](http://americanbar.org)
- International City/County Management Association  
[icma.org](http://icma.org)
- U.S. Department of Homeland Security  
[dhs.gov](http://dhs.gov)
- National Institute of Corrections  
[nicic.gov](http://nicic.gov)
- Fraternal Order of Police  
[fop.net](http://fop.net)
- Federal Law Enforcement Jobs  
[federaljobs.net/law.htm](http://federaljobs.net/law.htm)
- Center for Civic Values: Mock Trial  
[civicvalues.org/mock-trial](http://civicvalues.org/mock-trial)
- American Red Cross: Training and Certification  
[redcross.org/take-a-class](http://redcross.org/take-a-class)
- Career Pathways-NM  
[careerpathways-nm.com](http://careerpathways-nm.com)
- NM Career Solutions  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Law, Public Safety, Corrections & Security occupations at  
[oneline.org/find/career?c=12](http://oneline.org/find/career?c=12)





# Core Skills

- Negotiation
- Persuasion
- Speaking
- Social Perceptiveness
- Active Listening
- Writing
- Service Orientation
- Critical Thinking
- Judgement & Decision Making
- Instructing



## Security & Protective Services Pathway

Occupation

- Education, Training & Library  
Criminal Justice & Law Enforcement Teachers, Postsecondary
- Protective Service  
Security Guards; Other First-Line Supervisors of Protective Service Workers; Private Detectives & Investigators; Crossing Guards; Animal Control Workers

## Correction Services Pathway

Occupation

- Community & Social Service  
Child, Family & School Social Workers; Probation Officers & Correctional Treatment Specialists; Other Social Workers
- Education, Training & Library  
Criminal Justice & Law Enforcement Teachers, Postsecondary; Psychology Teachers, Postsecondary
- Protective Service  
Security Guards; Correctional Officers & Jailers; First-Line Supervisors of Police & Detectives; Other Protective Service Workers; First-Line Supervisors of Correctional Officers



## Emergency & Fire Management Services Pathway

Occupation	<ul style="list-style-type: none"> <li>• <b>Construction &amp; Extraction</b> Hazardous Materials Removal Workers</li> <li>• <b>Healthcare Practitioners &amp; Technicians</b> Emergency Medical Technicians &amp; Paramedics</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Office &amp; Administrative Support</b> Police, Fire &amp; Ambulance Drivers</li> <li>• <b>Protective Service</b> Correctional Officers &amp; Jailers; Firefighters; First-Line Supervisors of Firefighting &amp; Prevention Workers; Fire Inspectors &amp; Investigators</li> </ul>
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## Law Enforcement Services Pathway

Occupation	<ul style="list-style-type: none"> <li>• <b>Education, Training &amp; Library</b> Criminal Justice &amp; Law Enforcement Teachers, Postsecondary</li> <li>• <b>Life, Physical &amp; Social Science</b> Forensic Science Technicians</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Protective Service</b> Police &amp; Sheriff's Patrol Officers; Correctional Officers &amp; Jailers; First-Line Supervisors of Police &amp; Detectives; Detectives &amp; Criminal Investigators; Other Protective Service Workers; Transportation Security Screeners; Animal Control Workers; Bailiffs</li> </ul>
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## Legal Services Pathway

Occupation	<ul style="list-style-type: none"> <li>• <b>Education, Training &amp; Library</b> Law Teachers, Postsecondary</li> <li>• <b>Legal</b> Lawyers; Paralegals &amp; Legal Assistants; Other Legal Support Workers; Title Examiners, Abstractors &amp; Searchers</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Office &amp; Administrative Support</b> Legal Secretaries</li> </ul>
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# Selected Careers

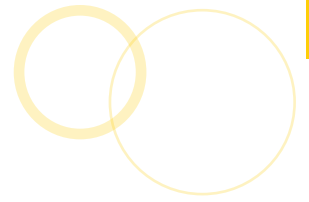
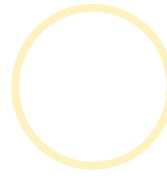
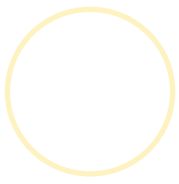
For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Correctional Officers and Jailers	<ul style="list-style-type: none"> <li>Correction Services</li> <li>Law Enforcement Services</li> </ul>	Oversee individuals who have been arrested and are awaiting trial or who have been sentenced to serve time in a jail or prison. Guard inmates following regulations and procedures. May guard prisoners traveling between jail, courtroom, prison, or other points.
Detectives and Criminal Investigators	<ul style="list-style-type: none"> <li>Law Enforcement Services</li> </ul>	Gather facts and collect evidence of possible federal, state, or local crimes to help determine if enough evidence exists to recommend going to court.
Emergency Medical Technicians and Paramedics	<ul style="list-style-type: none"> <li>Emergency &amp; Fire Management Services</li> </ul>	Assess injuries, administer emergency medical care, and remove people who are trapped. Transport injured or sick persons to hospitals.
Firefighters	<ul style="list-style-type: none"> <li>Emergency &amp; Fire Management Services</li> </ul>	Control and put out fires or respond to emergency situations where life, property, or the environment is at risk. Duties may include fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster assistance.
Forest Fire Fighting and Prevention Supervisors	<ul style="list-style-type: none"> <li>Emergency &amp; Fire Management Services</li> </ul>	Directly supervise and coordinate activities of workers engaged in firefighting and fire prevention and control.
Forensic Science Technicians	<ul style="list-style-type: none"> <li>Law Enforcement Services</li> </ul>	Help investigate crimes by collecting and analyzing physical evidence. Many technicians specialize in either crime scene investigation or laboratory analysis. Most forensic science technicians spend some time writing reports.
Paralegals and Legal Assistants	<ul style="list-style-type: none"> <li>Legal Services</li> </ul>	Investigate facts, prepare legal documents, or research previous legal findings to assist lawyers. Conduct research to support a legal proceeding, build a defense, or start legal action.
Police Patrol Officers	<ul style="list-style-type: none"> <li>Law Enforcement Services</li> </ul>	Enforce laws to keep order and protect lives and property. May patrol a specific area, direct traffic, and issue traffic citations. Also may investigate accidents, apprehend and arrest suspects, or serve legal documents.
Forest and Conservation Technicians	<ul style="list-style-type: none"> <li>Emergency &amp; Fire Management Services</li> </ul>	Provide technical assistance regarding the conservation of soil, water, forests, or related natural resources. May compile data pertaining to size, content, condition, and other characteristics of forest tracts, under the direction of foresters; or train and lead forest workers in forest propagation, fire prevention and suppression. May assist conservation scientists in managing, improving, and protecting rangelands and wildlife habitats.

Source: Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
322	\$32,040	\$37,450	Middle	R, E and C
93	\$51,710	\$77,170	Middle	E and I
116	\$24,880	\$36,410	Middle	S, I and R
178	\$22,930	\$36,620	Middle	R, S and E
61	\$45,020	\$61,610	High	E, R and C
33	\$23,180	\$43,370	High	I, R and C
168	\$35,410	\$49,020	Middle	C, I and E
332	\$41,660	\$53,750	Middle	R, E and C
110	\$28,820	\$42,780	Middle	R, I and E

- The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.
- Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.
- There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Law, Public Safety, Corrections & Security Careers

## Workforce Certifications:

*Note: Students successfully exiting a course of study in the Law, Public Safety, Corrections, and Security Cluster may be eligible to earn some or all of these certifications.*

American Heart Association CPR, BLS, AED, ACLS, PALS, or PEARS

Red Cross AED, CPR, BLS, ALS or PALS

Basic Wildland Firefighting Certification

Emergency Medical Technician (EMT)

Paralegal Studies Certification

CERT or ICS

Precision Exams Certification: Law Enforcement

## Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



## Recommended Fourth Year of Mathematics Courses

- Correction Services Pathway: Statistics
- Emergency & Fire Management Services Pathway: Statistics
- Law Enforcement Services Pathway: Statistics
- Legal Services Pathway: Statistics
- Security & Protective Services Pathway: Trigonometry



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Correctional Officers and Jailers	AAS - Criminal Justice	Central New Mexico Community College; Clovis Community College; Eastern New Mexico University-Ruidoso; Luna Community College; San Juan College; Santa Fe Community College; University of New Mexico-Gallup; University of New Mexico
Detectives and Criminal Investigators	AAS - Criminal Justice	Central New Mexico Community College; Clovis Community College; Eastern New Mexico University-Ruidoso; Luna Community College; San Juan College; Santa Fe Community College; University of New Mexico-Gallup; University of New Mexico
Emergency Medical Technicians and Paramedics	AAS - Emergency Medical Services - Paramedic Concentration	Central New Mexico Community College; New Mexico State University- Carlsbad and Doña Ana; Santa Fe Community College; San Juan College
Firefighters	AAS - Fire Science	Clovis Community College; Northern New Mexico College; San Juan College; New Mexico State University-Doña Ana; Eastern New Mexico University-Roswell
Forest Fire Fighting and Prevention Supervisors	Certificate - Fire Prevention Specialist; AAS - Fire Science	Clovis Community College; Northern New Mexico College; San Juan College; New Mexico State University-Doña Ana; Eastern New Mexico University-Roswell
Forensic Science Technicians	BS - Forensic Anthropology; BS Forensic Biology; BS Forensic Chemistry	Eastern New Mexico University-Portales
Paralegals and Legal Assistants	Certificate - Legal Secretary; Certificate-Paralegal Studies; AAS - Paralegal Studies	Santa Fe Community College; New Mexico State University-Alamogordo; Clovis Community College; San Juan College; Santa Fe Community College; Central New Mexico Community College
Police Patrol Officers	AAS - Criminal Justice	Central New Mexico Community College; Clovis Community College; Eastern New Mexico University-Ruidoso; Luna Community College; San Juan College; Santa Fe Community College; University of New Mexico-Gallup; University of New Mexico
Forest and Conservation Technicians	Certificate - Erosion, Sediment and Storm Water Inspector	EnviroCert International, Inc.

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.



# High School Gets You Ready for College and Career

## Common Career Technical Core for Human Services Career Cluster<sup>1</sup>:

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

Recommended Programs of Study <sup>2</sup>				
Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
<b>Emergency &amp; Fire Management</b>	1405 Safety & First Aid	2503 Community Protection	2523 Fire Fighting 1517 Emergency Medical Technician	2598 Public Protective Social Services-Co-op 2599 Public Protective Social Services-Dual Credit
<b>Emergency Medical Technician-Basic</b>	1405 Safety & First Aid	1517 Emergency Medical Technician 1792 Emergency Medical Tech (Applied Science)	1516 EKG Technician 1550 Medical Anatomy	1597 Health Care Sciences-OJT 1598 Health Care Sciences-Co-Op 1599 Health Care Sciences-Dual Credit
<b>Law Enforcement</b>	1603 Career Exploration	2503 Community Protection	2513 Criminal Justice Assisting 1718 Forensic Science 2761 Law Studies	2598 Public Protective Social Services-Co-op 2599 Public Protective
Other Programs of Study Course Sequences				
<b>Correction Services</b>	1603 Career Exploration	2501 Exploration of Public Service	2513 Criminal Justice Assisting	2598 Public Protective Social Services-Co-op 2599 Public Protective Social Services-Dual Credit
<b>Law</b>	1603 Career Exploration	2761 Law Studies	2763 Business Law 2762 Consumer Law 2765 Mock Trial	2598 Public Protective Social Services-Co-op 2599 Public Protective Social Services-Dual Credit
<b>Legal Services</b>	1603 Career Exploration	2764 Legal System	2513 Criminal Justice Assisting 2765 Mock Trial	2773 AP Psychology 2598 Public Protective Social Services-Co-op 2599 Public Protective Social Services-Dual Credit
<b>Military Science</b>	1603 Career Exploration	2111 Introduction to ROTC	2112 Military ROTC 2121 ROTC Drill 2195 Military Science-Related Subjects	2773 AP Psychology 2199 Military Science-Dual Credit

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.  
 2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Manufacturing

Although manufacturing often brings to mind huge, wide open factory floors, it also includes small businesses. Manufacturing businesses can range from in-home bakeries to large corporations like Intel. One thing most manufacturing businesses have in common: increasing use of technology. From roastmasters who use programmable coffee roasting machines to industrial engineering technicians who operate 3-D printers that make metal parts, manufacturing is quite different than it was even a decade ago.

Manufacturing workers change materials, substances, or components into new products. Manufactured goods include or are made from chemicals, computers and electronics, fabricated metal products, food, machinery, plastics and rubber products, or transportation equipment. While businesses still hire workers for traditional mass production of simple products, manufacturing jobs increasingly use technologies that enable workers to customize, shorten production time, and create lighter weight, more durable products.

Manufacturing includes occupations with a variety of education and experience backgrounds, but job numbers have been decreasing in occupations that require the least amount of education. New Mexico's growth careers in manufacturing often involve installing, maintaining, and repairing increasingly technical equipment. Industries most likely to hire this cluster's workers include Computer & Electronic Product, chemical and non-metal, and food and beverage manufacturers.

### CAREER RESEARCH

- **Manufacturing Extension Partnership**  
[newmexicomep.org](http://newmexicomep.org)
- **Association for Manufacturing Technology**  
[amtonline.org](http://amtonline.org)
- **National Nanomanufacturing Network**  
[internano.org](http://internano.org)
- **Manufacturing Day**  
[mfgday.com](http://mfgday.com)
- **SkillsUSA**  
[skillsusa.org](http://skillsusa.org)
- **Biomufacturing Training and Education Center**  
[btec.ncsu.edu](http://btec.ncsu.edu)
- **Food Manufacturing Industry**  
[collegegrad.com/industries/food-manufacturing](http://collegegrad.com/industries/food-manufacturing)
- **Career Pathways-NM**  
[careerpathways-nm.com](http://careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Manufacturing occupations at  
[onetonline.org/find/career?c=13](http://onetonline.org/find/career?c=13)





# Core Skills

- Repairing
- Equipment Maintenance
- Operation & Control
- Equipment Selection
- Troubleshooting
- Operation Monitoring
- Quality Control Analysis
- Installation
- Technology Design
- Monitoring



## Manufacturing Production Process Development Pathway

Occup.

- Life, Physical & Social Science  
Chemical Technicians; Environmental Science & Protection Technicians , Including Health; Other Life, Physical & Social Science Technicians
- Production  
Chemical Equipment Operators & Tenders; Electromechanical Equipment Assemblers

## Quality Assurance Pathway

Occupation

- Architecture & Engineering  
Environmental Engineering Technicians
- Healthcare Practitioners & Technicians  
Occupational Health & Safety Specialists
- Production  
Inspectors, Testers, Sorters, Samplers & Weighers



## Maintenance, Installation & Repair Pathway

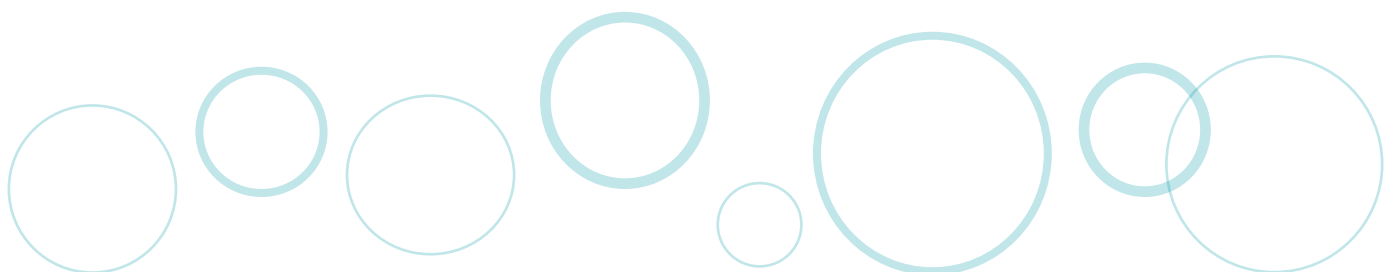
Occupation

- **Architecture & Engineering**  
Civil Engineering Technicians; Electrical & Electronic Engineering Technicians; Industrial Engineering Technicians; Mechanical Engineering Technicians; Other Engineering Technicians, Except Drafters
- **Arts, Design, Entertainment, Sports & Media**  
Interior Designers
- **Computer & Mathematical**  
Software Developers, Applications; Computer User Support Specialists
- **Construction & Extraction**  
Other Construction & Related Workers; Hazardous Materials Removal Workers; Fence Erectors; Elevator Installers & Repairers
- **Installation, Maintenance & Repair**  
Maintenance & Repair Workers, General; First-Line Supervisors of Mechanics, Installers & Repairers; Industrial Machinery Mechanics; Telecommunications Equipment Installers & Repairers, Except Line Installers; Helpers – Installation, Maintenance & Repair Workers; Computer Automated Teller & Office Machine Repairers; Maintenance Workers, Machinery; Other Installation, Maintenance & Repair Workers; Mobile Heavy Equipment Mechanics, Except Engines; Telecommunications Line Installers & Repairers; Security & Fire Alarm Systems Installers; Electrical & Electronics Repairers, Commercial & Industrial Equipment; Medical Equipment Repairers; Outdoor Power Equipment & Other Small Engine Mechanics; Home Appliance Repairers; Millwrights; Rail Car Repairers; Locksmiths & Safe Repairers; Other Precision Instrument & Equipment Repairers
- **Life, Physical & Social Science**  
Biological Technicians
- **Office & Administrative Support**  
Production, Planning & Expediting Clerks
- **Computer & Mathematical**  
Inspectors, Testers, Sorters, Samplers & Weighers; Electromechanical Equipment Assemblers; Engine & Other Machine Assemblers; Jewelers & Precious Stone Metal Workers; Medical Appliance Technicians

## Production Pathway

Occupation

- **Architecture & Engineering**  
Industrial Engineering Technicians; Mechanical Engineering Technicians
- **Business & Financial Operations**  
Purchasing Agents, Except Wholesale, Retail, & Farm Products
- **Construction & Extraction**  
Sheet Metal Workers; Hazardous Materials Removal Workers
- **Installation, Maintenance & Repair**  
Millwrights; Recreational Vehicle Service Technicians
- **Management**  
Industrial Production Managers
- **Office & Administrative Support**  
Weighers, Measurers, Checkers & Samplers, Recordkeeping
- **Production**  
Team Assemblers; First-Line Supervisors of Production & Operating Workers; Inspectors, Testers, Sorters, Samplers, & Weighers; Helpers – Production Workers; Packaging & Filling Machine Operators & Tenders; Machinists; Welders, Cutters, Solderers & Brazers; Bakers; Mixing & Blending Machine Setters, Operators & Tenders; Computer-Controlled Machine Tool Operators; Metal & Plastic; Woodworking Machine Setters, Operators & Tenders, Except Sawing; Other Production Workers; Paper Goods Machine Setters, Operators & Tenders; Separating, Filtering, Clarifying, Precipitating & Still Machine Setters, Operators & Tenders; Coating, Painting & Spraying Machine Setters, Operators & Tenders; Structural Metal Fabricators & Fitters; Tool & Die Makers; Chemical Equipment Operators & Tenders; Painters, Transportation Equipment; Photographic Process Workers & Processing Machine Operators; Electromechanical Equipment Assemblers; Adhesive Bonding Machine Operators & Tenders; Forging Machine Setters, Operators & Tenders, Metal & Plastic; Engine & Other Machine Assemblers; Plating & Coating Machine Setters, Operators, & Tenders, Metal & Plastic; Computer Numerically Controlled Machine Tool Programmers, Metal & Plastic; Jewelers & Precious Stone & Metal Workers; Molders, Shapers & Casters, Except Metal & Plastic; Painting, Coating, & Decorating Workers; Fiberglass Laminators & Fabricators; Tool Grinders, Filers & Sharpeners; Crushing, Grinding, & Polishing Machine Setters, Operators, & Tenders; Ophthalmic Laboratory Technicians
- **Transportation & Material Moving**  
Machine Feeders & Offbearers





# Selected Careers

For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Maintenance and repair workers	<ul style="list-style-type: none"> <li>Maintenance, Installation &amp; Repair</li> </ul>	Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs.
Industrial Machinery Mechanics	<ul style="list-style-type: none"> <li>Maintenance, Installation &amp; Repair</li> </ul>	Repair, install, adjust, or maintain machinery used in industrial production and processing. Provide similar services for refinery and pipeline distribution systems.
Machinists	<ul style="list-style-type: none"> <li>Production</li> </ul>	Set up and operate machine tools to produce precision parts and instruments. Includes precision instrument makers who make, modify, or repair mechanical instruments. Use knowledge of mechanics, mathematics, metal properties, layout, and machining procedures to perform work.
Environmental Science and Protection Technicians, Including Health	<ul style="list-style-type: none"> <li>Manufacturing Production Process Development</li> </ul>	Perform laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health, under the direction of an environmental scientist, engineer, or other specialist. May collect samples of gases, soil, water, and other materials for testing.
Inspectors, Testers, Sorters, Samplers, and Weighers	<ul style="list-style-type: none"> <li>Quality Assurance</li> </ul>	Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.
Occupational Health and Safety Specialists	<ul style="list-style-type: none"> <li>Quality Assurance</li> </ul>	Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors. May conduct inspections and enforce adherence to laws and regulations governing the health and safety of individuals.
Electrical and Electronic Technicians	<ul style="list-style-type: none"> <li>Manufacturing Production Process Development</li> </ul>	Test or modify developmental or operational electrical machinery or electrical control equipment and circuitry in industrial or commercial plants or laboratories. Usually work under direction of engineers or technologists.
Welders, Cutters, Solderers, and Brazers	<ul style="list-style-type: none"> <li>Production</li> </ul>	Weld or join metal parts using hand welding, flame cutting, hand soldering, or brazing equipment. Fill holes, indentations, or seams of fabricated metal products.
Wind Turbine Service Technicians	<ul style="list-style-type: none"> <li>Maintenance, Installation &amp; Repair</li> </ul>	Inspect, diagnose, adjust, or repair wind turbines. Perform maintenance on wind turbine equipment including resolving electrical, mechanical, and hydraulic malfunctions.
Telecommunications Line Installers and Repairers	<ul style="list-style-type: none"> <li>Maintenance, Installation &amp; Repair</li> </ul>	Install and repair telecommunications cable, including fiber optics.

Source: Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
22	\$25,830	\$43,440	Middle	R, C and I
282	\$38,140	\$56,590	Middle	R, I and C
96	\$34,450	\$52,520	Middle	R, C and I
73	\$32,410	\$48,110	High	I, R and C
186	\$28,270	\$52,100	Middle	C and R
69	\$49,590	\$74,260	High	I and C
124	\$43,010	\$64,110	Middle	R, I and C
242	\$32,250	\$56,740	Middle	R and C
43	\$43,470	\$52,530	Middle	R and C
21	\$29,290	\$50,580	Low	R and E

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Manufacturing Careers

## Workforce Certifications:

*Note: Students successfully exiting a course of study in the Manufacturing Cluster may be eligible to earn some or all of these certifications.*

NCCER Basic Core

AWS-SENSE

Welding Technician

NCCER HVAC Excellence

S/P2 Valvoline Safety & Pollution Prevention

NCCER Industrial Maintenance

NCCER Sheet Metal

NCCER Welding

Gas Metal Arc Welding

Gas Tungsten Arc Welding

Shielded Metal Arc Welding

Flux Core Arc Welding D9.4 4 2F

PhlebFlux Core Arc Welding D9.4 4 2F

NCCER Industrial Maintenance

## Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



## Recommended Fourth Year of Mathematics Courses

- Production Pathway: Trigonometry
- Manufacturing Production Process Development Pathway: Trigonometry
- Maintenance, Installation & Repair Pathway: Trigonometry
- Quality Assurance Pathway: Trigonometry
- Logistics & Inventory Control Pathway: Trigonometry
- Health, Safety & Environmental Assurance Pathway: Trigonometry



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Maintenance and Repair Workers	AAS Building Construction Technology	New Mexico State University-Doña Ana; Navajo Technical University; Santa Fe Community College; Eastern New Mexico University-Roswell; NM Apprenticeship Programs
Industrial Machinery Mechanics	AAS Industrial Mechanics	San Juan College
Machinists	AAS - Machine Tool Technology	Central New Mexico Community College; NM Apprenticeship Programs
Environmental Science and Protection Technicians, Including Health	BS - Environmental Science	Diné College; New Mexico Institute of Mining and Technology; University of New Mexico
Inspectors, Testers, Sorters, Samplers, and Weighers	Certificate - Certified Welding Inspector; Certificate - Weighing Technicians	NM Apprenticeship Programs
Occupational Health and Safety Specialists	BS - Public Health	New Mexico State University
Electrical Engineering Technicians	AAS - Electrical Trades	Central New Mexico Community College; New Mexico State University-Doña Ana; Clovis Community College; Western New Mexico University; NM Apprenticeship Programs
Welders, Cutters, Solderers, and Brazers	AAS - Welding Technology	Northern New Mexico College; Eastern New Mexico University-Roswell; New Mexico State University-Doña Ana; Clovis Community College; San Juan College; Central New Mexico Community College; NM Apprenticeship Programs
Wind Turbine Service Technicians	Certificate & AAS Wind Energy Technology	Mesalands Community College
Telecommunications Line Installers and Repairers	Electrical Lineworker Certificate; NM Apprenticeships	New Mexico State University - Doña Ana; Industry

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.



# High School Gets You Ready for College and Career

## Common Career Technical Core for the Manufacturing Career Cluster<sup>1</sup>:

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

Program	Recommended Programs of Study <sup>2</sup>			
	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Welding	0401 Construction Career Exploration	2414 Welding	2416 Welding 2	2497 Precision Metalwork-OJT
			2417 Welding 3	2498 Precision Metalwork-Co-Op
Automated Materials Joining-SREB	1603 Career Exploration	1636 Introduction to Automated Materials Joining-AC	2415 Particular Topics in Welding	2499 Precision Metalwork-Dual Credit
			1637 Applications in Automated Materials Joining-AC	1639 Projects in Automated Materials Joining-AC
Computer Integrated Manufacturing-PLTW	1668 Automation & Robotics-PLTW	1615 Introduction to Engineering Design-PLTW	1638 Advanced Concepts in Materials Joining-AC	1606 Work Experience
			1618 Computer Integrated Manufacturing-PLTW	1620 Engineering Design/Development-PLTW
Integrated Production Technologies-SREB	1602 Gateway to Technology-PLTW	1683 Advanced Technology for Design & Production-AC	1606 Work Experience	1686 Design for the Production of Advanced Products-AC
			1684 Systems of Advanced Technology-AC	1685 Mechatronic Systems for Advanced Production-AC
<b>Other Programs of Study Course Sequences</b>				
Maintenance, Installation & Repair	0401 Construction Career Exploration	0462 Electricity/Electronics-General	0473 Building Maintenance	0498 Construction Trades-Internship
			1634 Equipment Maintenance & Repair	0499 Construction Trades-Dual Credit
Manufacturing Systems	1603 Career Exploration	1623 Production Systems	1624 Manufacturing Systems	1699 Technology Education-Dual Credit
				1606 Work Experience

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.

2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Marketing, Sales & Service

Who helps form your first opinion of a business or other organization? First impressions count, so employees from hotel desk clerks to cashiers to property managers serve as important marketers. Marketing, Sales and Service also includes jobs that have a more obvious connection with marketing such as marketing managers and merchandise displayers and window trimmers. The main goal of employees in this cluster is to help their organization reach its objectives.

Among New Mexico's occupations with expected above average growth are customer service representatives, market research analysts, and meeting, convention, and event planners. Retail salespersons top the list of the highest number of new jobs. While many workers in the Marketing, Sales and Service cluster need a high school education, careers that require an Associate or Bachelor's degree tend to have higher wages. Workplaces that are most likely to offer marketing positions include grocery stores, warehouse clubs, gasoline stations with convenience stores, home centers, and wholesale goods businesses.

The work environment for these occupations varies by job responsibilities. While some workers have desk jobs and regular weekday schedules, others will need to be on their feet most of the time. Work in marketing and advertising can involve long work hours with pressure to be creative within short time frames to meet deadlines. People who work in this industry need strong persuasive and customer service skills.

### CAREER RESEARCH

- American Association of Advertising Agencies  
[aaaa.org](http://aaaa.org)
- Insurance Vocational Education Student Training  
[investprogram.org](http://investprogram.org)
- International Association of Business Communicators  
[iabc.com](http://iabc.com)
- New Mexico American Marketing Association  
[nmama.org](http://nmama.org)
- Learn How to Become  
[learnhowtobecome.org/finance-business-careers/marketing/](http://learnhowtobecome.org/finance-business-careers/marketing/)
- Career Profiles: Career and Job Search Guide – Advertising, Marketing, and Sales Associations  
[careerprofiles.info/advertising-marketing-associations.html](http://careerprofiles.info/advertising-marketing-associations.html)
- DECA  
[deca.org](http://deca.org)
- Business Professionals of America  
[bpa.org](http://bpa.org)
- Career Pathways-NM  
[careerpathways-nm.com](http://careerpathways-nm.com)
- NM Career Solutions  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Marketing, Sales & Service occupations at [oneline.org/find/career?c=14](http://oneline.org/find/career?c=14)





## Core Skills

- Persuasion
- Negotiation
- Service Orientation
- Management of Financial Resources
- Social Perceptiveness
- Speaking
- Mathematics
- Active Listening
- Management of Material Resources
- Coordination



### Merchandising Pathway

Occupation

- **Business & Financial Operations**  
Purchasing Agents, Except Wholesale, Retail & Farm Products;  
Wholesale & Retail Buyers, Except Farm Products
- **Office & Administrative Support**  
Customer Service Reps; Office Clerks, General; Order Clerks;  
Procurement Clerks
- **Sales & Sales Related**  
Retail Salespersons; Sales Reps, Wholesale & Manufacturing,  
Except Technical & Scientific Products; Counter & Rental Clerks;  
Telemarketers
- **Transportation & Material Moving**  
Parking Lot Attendants



## Marketing Research Pathway

Occupation

- Business & Financial Operations  
Market Research Analysts & Marketing Specialists
- Education, Training & Library  
Business Teachers, Postsecondary
- Management  
Marketing Managers

## Professional Sales Pathway

Occupation

- Arts, Design, Entertainment, Sports & Media  
Merchandise Displayers & Window Trimmers; Interior Designers; Floral Designers
- Business & Financial Operations  
Wholesale & Retail Buyers, Except Farm Products; Meeting, Convention & Event Planners; Appraisers & Assessors of Real Estate
- Management  
Marketing Managers; Property, Real Estate & Community Association Managers; Lodging Managers
- Office & Administrative Support  
Stock Clerks & Order Fillers; Reservation & Transportation Ticket Agents & Travel Clerks
- Sales & Related  
Retail Salespersons; First-Line Supervisors of Retail Sales Workers; Sales Reps, Wholesale & Manufacturing, Except Technical & Scientific Products; Other Sales Reps, Services; First-Line Supervisors of Non-Retail Sales Workers; Counter & Rental Clerks; Real Estate Brokers; Sales Reps, Wholesale & Manufacturing, Technical & Scientific Products; Real Estate Brokers; Parts Salespersons; Telemarketers; Other Sales & Related Workers; Demonstrators & Product Promoters Sales Engineers; Door-to-Door Sales Workers; News & Street Vendors & Related Workers
- Transportation & Material Moving  
Drivers/Sales Workers

## Marketing Communications Pathway

Occup.

- Management  
Sales Managers; Account Executives; Advertising Managers; Contract Administrators; Promotions Managers; Public Relations Managers

## Marketing Management Pathway

Occup.

- Management  
Inventory Manager/Analyst; Logistics Manager; Forecasting Manager





# Selected Careers

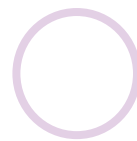
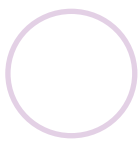
For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Advertising and Promotions Managers	<ul style="list-style-type: none"> <li>Marketing Communication</li> </ul>	Plan, direct, or coordinate advertising policies and programs or produce collateral materials, such as posters, contests, coupons, or giveaways to create extra interest in the purchase of a product or service.
Merchandise Displayers & Window Trimmers	<ul style="list-style-type: none"> <li>Merchandising</li> </ul>	Plan and erect commercial displays, such as those in windows and interiors of retail stores and at trade exhibitions.
Market Research Analysts and Marketing Specialists	<ul style="list-style-type: none"> <li>Marketing Research</li> </ul>	Research market conditions in local, regional, or national areas. Gather information to determine potential sales of a product or service or create a marketing campaign. May gather information about competitors, prices, sales, and methods of marketing and distribution.
Marketing Managers	<ul style="list-style-type: none"> <li>Marketing Management</li> </ul>	Plan, direct, or coordinate marketing policies and programs, such as determining the demand for products and services offered by a firm and its competitors, and identify potential customers. Develop pricing strategies with the goal of maximizing the firm's profits or share of the market while ensuring the firm's customers are satisfied. Oversee product development or monitor trends that indicate the need for new products and services.
First-line Supervisors of Retail Sales Workers	<ul style="list-style-type: none"> <li>Professional Sales</li> </ul>	Directly supervise and coordinate activities of retail sales workers in an establishment or department. Duties may include management functions, such as purchasing, budgeting, accounting, and personnel work, in addition to supervisory duties.
Sales Managers	<ul style="list-style-type: none"> <li>Marketing Management</li> </ul>	Plan, direct, or coordinate the actual distribution or movement of a product or service to the customer. Coordinate sales distribution by establishing sales territories, quotas, and goals and establish training programs for sales representatives. Analyze sales statistics gathered by staff to determine sales potential and inventory requirements and monitor the preferences of customers.
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	<ul style="list-style-type: none"> <li>Professional Sales</li> </ul>	Sell goods for wholesalers or manufacturers using technical or scientific knowledge of fields like biology, engineering, chemistry, and electronics. Contact customers, explain product features, answer customers' questions, and negotiate prices.
Retail Salesperson	<ul style="list-style-type: none"> <li>Professional Sales</li> </ul>	Sell merchandise, such as furniture, motor vehicles, appliances, or apparel to consumers.
Real Estate Sales Agents	<ul style="list-style-type: none"> <li>Professional Sales</li> </ul>	Rent, buy, or sell property for clients. Perform duties, such as study property listings, interview prospective clients, accompany clients to property site, discuss conditions of sale, and draw up real estate contracts. Includes agents who represent buyer.

**Source:** Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
10	\$71,390	\$133,130	High	E, A and C
52	\$26,010	\$29,860	Middle	A, E and R
212	\$32,960	\$55,160	High	I, E and C
38	\$63,490	\$98,330	High	E and C
1,205	\$26,130	\$41,040	Low	E, C and S
101	\$55,370	\$111,570	High	E and C
509	\$38,150	\$107,830	Middle	E and C
3,818	\$19,200	\$27,310	Low	E and C
228	\$34,820	\$55,900	Middle	E and C

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Marketing Careers

## Workforce Certifications:

*Note: Students successfully exiting a course of study in the Marketing, Sales and Service Cluster may be eligible to earn some or all of these certifications.*

**Precision Exams:** Digital Business Applications

**Precision Exams:** Digital Marketing

**Precision Exams:** Exploring Business and Marketing

**DECA School-based Enterprise:** Marketing Information Management

**DECA School-based Enterprise:** Market Planning

**DECA School-based Enterprise:** Pricing

**DECA School-based Enterprise:** Selling

## Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



## Recommended Fourth Year of Mathematics Courses

- Marketing Management Pathway: Pre-Calculus
- Professional Sales Pathway: Pre-Calculus
- Merchandising Pathway: Pre-Calculus
- Marketing Communications Pathway: Pre-Calculus
- Marketing Research Pathway: Pre-Calculus



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Advertising and Promotions Managers	BBA - Marketing	Eastern New Mexico University-Portales; New Mexico Highlands University; New Mexico State University; University of New Mexico; Western New Mexico University
Merchandise Displayers & Window Trimmers	On the job	Industry
Market Research Analysts and Marketing Specialists	BBA - Marketing	Eastern New Mexico University-Portales; New Mexico Highlands University; New Mexico State University; University of New Mexico; Western New Mexico University
Marketing Managers	BBA - Marketing	Eastern New Mexico University-Portales; New Mexico Highlands University; New Mexico State University; University of New Mexico; Western New Mexico University
First-Line Supervisors of Retail Sales Workers	Certificate - Retail Management; Certificate - Retail Marketing and Sales	Central New Mexico Community College; New Mexico Highlands University; New Mexico State University-Doña Ana
Sales Managers	BBA - Marketing; BBA - Management	Eastern New Mexico University-Portales; New Mexico Highlands University; New Mexico State University; University of New Mexico; Western New Mexico University
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Certificate - Retail Business Marketing	New Mexico State University - Doña Ana
Retail Salespersons	On the job	Industry
Real Estate Sales Agents	CE Real Estate Pre-Licensing; NM Real Estate License	Central New Mexico Community College; NM Real Estate Commission

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.



# High School Gets You Ready for College and Career

## Common Career Technical Core for Marketing Career Cluster<sup>1</sup>:

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

Recommended Programs of Study <sup>2</sup>				
Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Marketing Management	1801 Marketing Career Exploration	1802 Principles of Marketing - Fundamentals	1826 Marketing Management	1808 Marketing Lab Advanced 1897 Marketing-Mentorship/ Internship 1898 Marketing Work Experience-Co-Op 1899 Marketing-Dual Credit
Other Programs of Study Course Sequences				
Marketing Communications	1801 Marketing Career Exploration	1802 Principles of Marketing - Fundamentals	1824 Principles of Advertising 1832 Marketing Strategy	1808 Marketing Lab Advanced 1897 Marketing-Mentorship/ Internship 1898 Marketing Work Experience-Co-Op 1899 Marketing-Dual Credit
Marketing Research	1801 Marketing Career Exploration	1802 Principles of Marketing - Fundamentals	1834 Marketing Research	1808 Marketing Lab Advanced 1897 Marketing-Mentorship/ Internship 1898 Marketing Work Experience-Co-Op 1899 Marketing-Dual Credit
Merchandising	1801 Marketing Career Exploration	1802 Principles of Marketing - Fundamentals	1814 Retail Marketing	1808 Marketing Lab Advanced 1897 Marketing-Mentorship/ Internship 1898 Marketing Work Experience-Co-Op 1899 Marketing-Dual Credit
Professional Sales	1801 Marketing Career Exploration	1825 Principles of Selling	1807 Marketing Lab 1804 Marketing-Real Estate	1808 Marketing Lab Advanced 1897 Marketing-Mentorship/ Internship 1898 Marketing Work Experience-Co-Op 1899 Marketing-Dual Credit

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.
2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Science, Technology, Engineering & Mathematics

The Science, Technology, Engineering, and Mathematics STEM career cluster includes as many as 184 occupations. What do they have in common? Workers in these careers use scientific, technological, engineering, and or mathematical processes to do research and solve problems. The problems they approach are as different as growing enough food, reducing our reliance on fossil fuels, developing medicines to treat mental illness, and creating computers that enhance our lives. Their career focus can be as small as a nanoparticle or as large as the universe.

Work settings vary with the topic of STEM research. While some jobs take place in front of a computer or in a laboratory, others require people to work in outdoor environments. Schedules also depend on the focus of STEM workers' research. Some individuals have very regular hours, but others' schedules depend upon availability of the subject they analyze. Employers who are likely to hire STEM qualified workers include engineering companies; the federal, state, and local government; scientific research companies; colleges and universities; and medical device manufacturers.

More than any of the other clusters, many STEM careers require at least an associates degree or higher. Most occupations require a bachelor's degree, and some workers need master's or doctoral level credentials for a significant number of jobs. Typical educational backgrounds for entry into five occupations that are projected to have the most new jobs in New Mexico include:

- Market Research Analysts and Marketing Specialists - Bachelor's degree
- Applications Software Developers - Bachelor's degree
- Computer User Support Specialists - Some college, no degree
- Health Specialties Teachers - Doctoral or professional degree
- Civil Engineers - Bachelor's degree

### CAREER RESEARCH

- **National Center for Women & Information Technology**  
[ncwit.org](http://ncwit.org)
- **Society for Industrial and Applied Mathematics**  
[siam.org](http://siam.org)
- **National Oceanic and Atmospheric Administration**  
[noaa.gov](http://noaa.gov)
- **Technology Student Association (TSA)**  
[tsaweb.org](http://tsaweb.org)
- **New Mexico Biotechnology & Biomedical Association**  
[nmbio.org](http://nmbio.org)
- **New Scientist**  
[jobs.newscientist.com/searchjobs](http://jobs.newscientist.com/searchjobs)
- **Institute of Electrical and Electronics Engineers**  
[careers.ieee.org](http://careers.ieee.org)
- **National Science Foundation**  
[nsf.org](http://nsf.org)
- **SREB Advanced Career**  
[sreb.org/advanced-career](http://sreb.org/advanced-career)
- **Project Lead the Way Engineering**  
[pltw.org/our-programs](http://pltw.org/our-programs)
- **Career Pathways-NM**  
[careerpathways-nm.com](http://careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Science, Technology, Engineering & Mathematics occupations at [onetonline.org/find/career?c=15](http://onetonline.org/find/career?c=15)





# Core Skills

- Science
- Programming
- Mathematics
- Technology Design
- Operations Analysis
- Systems Analysis
- Systems Evaluation
- Writing
- Reading Comprehension
- Complex Problem Solving



## Engineering & Technology Pathway

Occupation

- **Architecture & Engineering**  
Civil Engineers; Industrial Engineers; Mechanical Engineers; Electrical Engineers; Electronics Engineers, Except Computer; Surveying & Mapping Technicians; Electrical & Electronic Engineering Technicians; Architectural & Civil Drafter; Other Engineers; Environmental Engineers; Computer Hardware Engineers; Industrial Engineering Technicians; Other Engineering Technicians, Except Drafters; Chemical Engineers; Electrical & Electronic Drafters; Aerospace Engineers; Biomedical Engineers; Health & Safety Engineers, Except Mining Safety Engineers & Inspectors
- **Arts, Design, Entertainment, Sports & Media**  
Technical Writers
- **Business & Financial Operations**  
Cost Estimators
- **Education, Training & Library**  
Other Education, Training & Library Workers; Engineering Teachers, Postsecondary
- **Management**  
Architectural & Engineering Managers



## Science & Math Pathway

Occupation

- **Architecture & Engineering**  
Cartographers & Photogrammetrists
- **Business & Financial Operations**  
Market Research Analysts & Marketing Specialists
- **Community & Social Service**  
Other Community & Social Service Specialists
- **Management**  
Software Developers, Applications; Computer User Support Specialists; Computer Programmers; Other Computer Occupations; Statisticians
- **Education, Training & Library**  
Health Specialties Teachers, Postsecondary; Other Education, Training & Library Workers; Vocational Education Teachers, Postsecondary; Biological Science Teachers, Postsecondary; Mathematical Science Teachers, Postsecondary; History Teachers, Postsecondary; Philosophy & Religion Teachers, Postsecondary; Chemistry Teachers, Postsecondary; Engineering Teachers, Postsecondary; Political Science Teachers, Postsecondary; Curators; Physics Teachers, Postsecondary; Economics Teachers, Postsecondary
- **Healthcare Practitioners & Technicians**  
Family & General Practitioners; Dietitians & Nutritionists
- **Life, Physical & Social Science**  
Environmental Scientists & Specialists, Including Health; Medical Scientists, Except Epidemiologists; Chemists; Chemical Technicians; Biological Technicians; Other Physical Scientists; Social Science Research Assistants; Other Life Scientists; Other Biological Scientists; Other Social Scientists & Related Workers; Agricultural & Food Science Technicians; Geoscientists, Except Hydrologists & Geographers; Other Life, Physical & Social Science Technicians; Zoologists & Wildlife Biologists; Biochemists & Biophysicists; Microbiologists; Survey Researchers; Conservation Scientists; Material Scientists; Economists
- **Management**  
Architectural & Engineering Managers; Natural Science Managers





# Selected Careers

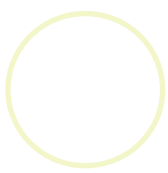
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Occupation <sup>1</sup>	Career Pathway	Job Description
Mechanical Engineers	<ul style="list-style-type: none"> <li>Engineering &amp; Technology</li> </ul>	Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems.
Aerospace Engineering and Operations Technicians	<ul style="list-style-type: none"> <li>Engineering &amp; Technology</li> </ul>	Operate, install, calibrate, and maintain integrated computer/communications systems, consoles, simulators, and other data acquisition, test, and measurement instruments and equipment, which are used to launch, track, position, and evaluate air and space vehicles.
Civil Engineering Technicians	<ul style="list-style-type: none"> <li>Engineering &amp; Technology</li> </ul>	Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists.
Civil Engineers	<ul style="list-style-type: none"> <li>Engineering &amp; Technology</li> </ul>	Use engineering skills to plan, design, and oversee construction and maintenance of buildings and facilities. Project examples include roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, and water and sewage systems.
Electrical Engineering Technicians	<ul style="list-style-type: none"> <li>Engineering &amp; Technology</li> </ul>	Use electrical and electronic knowledge to help engineers design and develop products like computers, communications equipment, and medical monitoring devices. May design, build, repair, adjust, and modify electrical components, circuitry, controls, and machinery.
Electrical Engineers	<ul style="list-style-type: none"> <li>Engineering &amp; Technology</li> </ul>	Research, design, develop, test, or supervise the manufacture and installation of electrical equipment like electric motors, radar and navigation systems, and power generation equipment. Equipment may be used for commercial, industrial, military, or scientific purposes.
Hydrologists	<ul style="list-style-type: none"> <li>Science &amp; Math</li> </ul>	Research the distribution, circulation, and physical properties of underground and surface waters; and study the form and intensity of precipitation, its rate of infiltration into the soil, movement through the earth, and its return to the ocean and atmosphere.
Physicists	<ul style="list-style-type: none"> <li>Science &amp; Math</li> </ul>	Conduct research into physical phenomena, develop theories on the basis of observation and experiments, and devise methods to apply physical laws and theories.
Medical Scientists	<ul style="list-style-type: none"> <li>Science &amp; Math</li> </ul>	Conduct research dealing with the understanding of human diseases and the improvement of human health. Engage in clinical investigation, research and development, or other related activities. Includes physicians, dentists, public health specialists, pharmacologists, and medical pathologists who primarily conduct research.
Statisticians	<ul style="list-style-type: none"> <li>Science &amp; Math</li> </ul>	Use mathematical or statistical theory and methods to collect, organize, interpret, and summarize numerical data to provide accurate information. May specialize in fields such as bio-statistics, agricultural statistics, business statistics, or economic statistics. Includes mathematical and survey statisticians.

Source: Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
100	\$79,990	\$114,420	High	I, R and C
24	\$54,870	\$68,650	Middle	R, I and C
92	\$35,410	\$ 46,430	Middle	R, C and I
128	\$58,830	\$88,850	High	R, I and C
124	\$43,010	\$64,110	Middle	R, I and C
123	\$78,990	\$117,190	High	I and R
20	\$50,970	\$87,250	High	I and R
185	\$110,330	\$166,720	High	I and R
40	\$46,840	\$82,030	High	I, R and A
11	\$46,790	\$82,400	High	C and I

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Science, Technology, Engineering & Mathematics Careers

## Workforce Certifications:

*Note: Students successfully exiting a course of study in the Science, Technology, Engineering & Mathematics Cluster may be eligible to earn some or all of these certifications.*

Precision Exams: Foundations of Technology

Precision Exams: Certificate in Biofuels

## Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



## Recommended Fourth Year of Mathematics Courses

- Engineering & Technology Pathway: Pre-Calculus/Calculus
- Science & Mathematics Pathway: Pre-Calculus/Calculus



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Mechanical Engineers	BS - Mechanical Engineering	New Mexico Institute of Mining and Technology; New Mexico State University; University of New Mexico
Aerospace Engineering and Operations Technicians	Certificate & AAS - Aerospace Technology	New Mexico State University-Doña Ana
Civil Engineering Technicians	AAS - Engineering Technologies; AAS - Construction Technology	Central New Mexico Community College; Santa Fe Community College
Civil Engineers	BS - Civil Engineering	New Mexico Institute of Mining and Technology; New Mexico State University; University of New Mexico
Electrical Engineering Technicians	AAS - Electrical Engineering	Central New Mexico Community College; New Mexico State University-Doña Ana; Clovis Community College; Western New Mexico University
Electrical Engineers	BS - Electronics Engineering Technology; BS - Electrical Engineering	New Mexico State University; University of New Mexico; New Mexico Institute of Mining and Technology; New Mexico Highlands University
Hydrologists	Certificate & AS - Water Technology; Graduate Certificate	New Mexico State University-Doña Ana; New Mexico Institute of Mining and Technology
Physicists	BS - Physics, BS - Physics Engineering	New Mexico Institute of Mining and Technology; New Mexico Highlands University; San Juan College; University of New Mexico; New Mexico State University; Central New Mexico Community College
Medical Scientists	BS - Medical Laboratory Sciences	University of New Mexico
Statisticians	BS - Mathematics	Eastern New Mexico University; New Mexico Highlands University; University of New Mexico; New Mexico Institute of Mining and Technology; New Mexico State University

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.

# High School Gets You Ready for College and Career

## Common Career Technical Core for Science, Technology, Engineering & Mathematics Career Cluster<sup>1</sup>:

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

Recommended Programs of Study <sup>2</sup>				
Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
<b>Aerospace Engineering - SREB</b>	1603 Career Exploration	1674 Aerospace Engineering-AC	1675 Advanced Aerospace Technology-AC	1677 Astronautics Engineering Applications-AC
			1676 Aeronautics Engineering Applications-AC	1699 Technology Education- Dual Credit 1606 Work Experience
<b>Clean Energy Technology - SREB</b>	1603 Career Exploration	1678 Clean Energy Systems-AC	1679 Clean Energy Applications-AC	1681 Clean Energy Innovations-AC
			1680 Clean Energy Strategies-AC	1699 Technology Education- Dual Credit 1606 Work Experience
<b>Engineering - PLTW</b>	1602 Gateway to Technology-PLTW (or other PLTW MS courses that are part of GTT)	1615 Introduction to Engineering Design	1617 Principles of Engineering-PLTW	1620 Engineering Design/Development-PLTW
			1616 Digital Electronics-PLTW 1621 Aerospace Engineering-PLTW	1739 AP Physics 1 1740 AP Physics 2 1699 Technology Education- Dual Credit 1606 Work Experience
<b>Energy &amp; Power - SREB</b>	1603 Career Exploration	0964 Energy & Power Foundations-AC	0965 Energy Transmission & Distribution-AC	0967 Advanced Science & Engineering Systems-AC
			0966 Electronics & Control Systems	1699 Technology Education- Dual Credit 1606 Work Experience
<b>Innovations in Science &amp; Technology - SREB</b>	1603 Career Exploration	1670 Nature of Science/Technology-AC	1671 Core Applications of Science/Technology-AC	1673 Creativity & Innovations-AC
			1672 Impacts of Science/Technology-AC	1699 Technology Education- Dual Credit 1606 Work Experience

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.  
 2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school's course catalog for corresponding course.



## Transportation, Distribution & Logistics

Transportation keeps our economy, people, and products moving. Occupations involved in transporting, distributing, and coordinating the movement of goods range from airline pilots to mechanics to logisticians. Additionally, this cluster includes occupations related to warehouse storage, including jobs like cargo and freight agents; supervisors; and non-emergency dispatchers.

The majority of this career cluster’s work takes place on the ground via highways and railroads, but it also includes workers who move people and products over the water and through the air. Work environments vary by occupation. While some truck drivers may work long hours and travel great distances, people who work in warehouses are more likely to work eight hour shifts. Physical strength is necessary for some jobs, while word processing and spreadsheet skills are priorities in other occupations.

For the Transportation, Distribution and Logistics career cluster, the greatest number of new jobs in New Mexico are projected to include heavy and tractor-trailer truck drivers; freight laborers, stock, and material movers; operating engineers and other construction equipment operators; and heavy diesel mechanics. Many jobs require a high school education, but postsecondary education, usually no higher than a bachelor’s degree, is needed for some occupations. Workers may often find jobs in temporary service agencies, long distance freight trucking businesses, new car dealerships, warehouse and storage facilities, and express delivery companies.

### CAREER RESEARCH

- **American Trucking Associations**  
[trucking.org](http://trucking.org)
- **Global Cold Chain Alliance**  
[gcca.org](http://gcca.org)
- **Transportation Alliance**  
[thetransportationalliance.org](http://thetransportationalliance.org)
- **Association of American Railroads**  
[aar.org](http://aar.org)
- **Airlines for America**  
[airlines.org](http://airlines.org)
- **SkillsUSA**  
[skillsusa.org](http://skillsusa.org)
- **Jobs in Motion**  
[jobsinmotion.com](http://jobsinmotion.com)
- **Career Pathways-NM**  
[careerpathways-nm.com](http://careerpathways-nm.com)
- **NM Career Solutions**  
[nmcareersolutions.com](http://nmcareersolutions.com)

Find more Transportation, Distribution & Logistics occupations at [onetonline.org/find/career?c=16](http://onetonline.org/find/career?c=16)





# Core Skills

- Repairing
- Equipment Maintenance
- Operation & Control
- Troubleshooting
- Operation Monitoring
- Equipment Selection
- Quality Control Analysis
- Installation
- Management of Material Resources
- Monitoring



## Sales & Service Pathway

Occupation

- Office & Administrative Support  
First-Line Supervisors of Office & Administrative Support Workers; Billing & Posting Clerks; Reservation & Transportation Ticket Agents & Travel Clerks; Cargo & Freight Agents
- Sales & Related  
Parts Salespersons

## Logistics Planning & Management Services Pathway

Occup.

- Business & Financial Operations  
Logisticians
- Management  
Other Managers; Administrative Services Managers; Chief Executives



## Facility & Mobile Equipment Maintenance Pathway

Occupation

### • Installation, Maintenance & Repair

Automotive Service Technicians & Mechanics; Bus & Truck Mechanics & Diesel Engine Specialists; Automotive Body & Related Repairers; Aircraft Mechanics & Service Technicians; Other Installation, Maintenance & Repair Workers; Mobile Heavy Equipment Mechanics, Except Engines; Tire Repairers & Changers; Outdoor Power Equipment & Other Small Engine Mechanics; Automotive Glass Installers & Repairers; Avionics Technicians; Motorboat Mechanics & Service Technicians; Rail Car Repairers; Motorcycle Mechanics; Bicycle Repairers;

Recreational Vehicle Service Technicians

### • Production

Painters; Transportation Equipment; Engine & Other Machine Assemblers

## Transportation Operations Pathway

Occupation

### • Construction Extraction

Operating Engineers & Other Construction Equipment Operators

### • Healthcare Practitioners & Technicians

Occupational Health & Safety Specialists

### • Installation, Maintenance & Repair

Automotive Service Technicians & Mechanics

### • Management

Transportation, Storage & Distribution Managers

### • Office & Administrative Support

Dispatchers, Except Police, Fire & Ambulance

### • Production

Print Binding & Finishing Workers

### • Transportation & Material Moving

Manual Laborers & Freight, Stocks & Material Movers; Heavy & Tractor-Trailer Truck Drivers; Light Truck or Delivery Services Drivers; Bus Drivers, School or Special Client; Industrial Truck & Tractor Operators; First-Line Supervisors of Transportation & Material-Moving Machine & Vehicle Operators; First-Line Supervisors of Helpers, Laborers & Material Movers; Bus Drivers, Transit & Intercity; Parking Lot Attendants; Excavating & Loading Machine & Dragline Operators; Crane & Tower Operators; Other Transportation Workers; Commercial Pilots; Railroad Conductors & Yardmasters; Air Traffic Controllers; Ambulance Drivers & Attendants, Except Emergency Medical Technicians; Captains, Mates & Pilots of Water Vessels; Transportation Inspectors

## Warehousing & Distribution Center Operations Pathway

Occupation

### • Office & Administrative Support

Shipping, Receiving & Traffic Clerks; Production, Planning & Expediting Clerks

### • Transportation & Material Moving

Laborers & Freight, Stock & Material Movers, First-Line Supervisors of Transportation & Material-Moving Machine & Vehicle Operators; First-Line Supervisors of Helpers, Laborers & Material Movers, Tank Car, Truck & Ship Loaders

## Health, Safety & Environmental Management Pathway

Occupation

### • Engineering

Industrial Safety and Health Engineers

## Transportation Systems/Infrastructure Planning, Management & Regulation Pathway

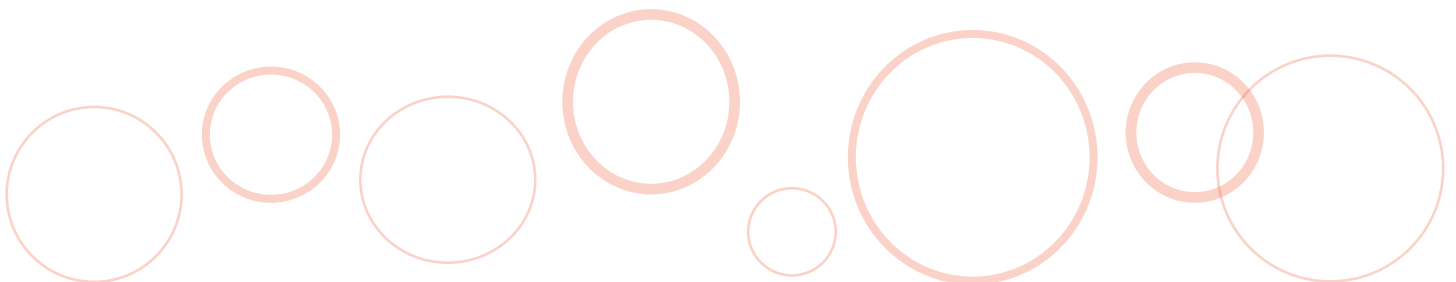
Occupation

### • Transportation & Material Moving

Aviation Inspectors, Freight & Cargo Inspectors, Traffic Technicians, Transportation Vehicle, Equipment & Systems Inspectors, Transportation Planners

### • Business & Financial Operations

Customs Brokers





# Selected Careers

For the most up-to-date information, visit [careerpathways-nm.com](http://careerpathways-nm.com), and watch career videos: [mynextmove.org](http://mynextmove.org) or [careeronestop.org](http://careeronestop.org)

Occupation <sup>1</sup>	Career Pathway	Job Description
Air Traffic Controllers	<ul style="list-style-type: none"> <li>Transportation Operations</li> </ul>	Coordinate air traffic to make sure aircraft stay safe distances apart. Authorize, regulate, and control commercial airline flights following government or company regulations for safe and efficient flight.
Aircraft Mechanics and Service Technicians	<ul style="list-style-type: none"> <li>Facility &amp; Mobile Equipment Maintenance</li> </ul>	Diagnose, adjust, repair, or overhaul aircraft engines and assemblies like hydraulic and pneumatic systems. Includes helicopter and aircraft engine specialists.
Automotive Service Technicians and Mechanics	<ul style="list-style-type: none"> <li>Transportation Operations</li> </ul>	Inspect, diagnose problems, adjust, repair, or overhaul automotive vehicles.
Bus and Truck Mechanics & Diesel Engine Specialists	<ul style="list-style-type: none"> <li>Transportation Operations</li> </ul>	Diagnose, adjust, repair, or overhaul buses and trucks, or maintain and repair diesel engines. Includes mechanics working primarily with automobile or marine diesel engines.
Cargo and Freight Agents	<ul style="list-style-type: none"> <li>Sales &amp; Service</li> <li>Warehousing &amp; Distribution Center Operations</li> </ul>	Direct movement of cargo and freight shipments in airline, train, and trucking terminals and shipping docks. Take orders from customers and arrange pickup and delivery of products. Prepare and examine documents to determine shipping charges and tariffs.
Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	<ul style="list-style-type: none"> <li>Warehousing &amp; Distribution Center Operations</li> <li>Transportation Operations</li> </ul>	Directly supervise and coordinate activities of transportation and material-moving machine and vehicle operators and helpers.
Heavy and Tractor-Trailer Truck Drivers	<ul style="list-style-type: none"> <li>Transportation Operations</li> </ul>	Transport goods by driving a tractor-trailer combination or a truck with a capacity of at least 26,000 pounds Gross Vehicle Weight (GVW). May need to unload truck. Requires commercial driver's license.
Automotive Body and Related Repairers	<ul style="list-style-type: none"> <li>Facility &amp; Mobile Equipment Maintenance</li> </ul>	Repair and refinish automotive vehicle bodies and straighten vehicle frames.
Logisticians	<ul style="list-style-type: none"> <li>Logistics Planning &amp; Management Services</li> </ul>	Analyze and coordinate an organization's system that moves a product from supplier to consumer. Manage the entire life cycle of a product, which includes how a product is acquired, distributed, allocated, and delivered.
Transportation Storage and Distribution Managers	<ul style="list-style-type: none"> <li>Logistics Planning &amp; Management</li> </ul>	Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with organizational policies and applicable government laws or regulations. Includes logistics managers.

**Source:** Annual openings, wages, and education level information is from the NM DWS OES <https://www.dws.state.nm.us/en-us/Researchers/Data/Occupations-Wages> and Career Pathways-NM <http://www.careerpathways-nm.com/>

**Notes:**

1. Occupations, career pathways, job descriptions, and interests information is from O\*NET [onetonline.org](http://onetonline.org)



Annual Average Openings	NM Entry Annual Wage <sup>2</sup>	NM Median Annual Wage <sup>2</sup>	Minimum Education <sup>3</sup>	Interest <sup>4</sup>
27	\$66,730	\$109,290	Middle	E and C
38	\$38,460	\$62,010	Middle	R, C and I
499	\$23,830	\$42,340	Middle	R, I and C
171	\$33,120	\$47,790	Low	R and C
19	\$24,680	\$46,940	Low	C, E and R
133	\$34,520	\$58,350	Low	E, C and R
1,510	\$32,080	\$44,650	Low	R and C
88	\$25,080	\$41,800	Middle	R
71	\$53,370	\$80,800	High	E and C
32	\$58,050	\$83,570	High	E and C

2. The Occupational Employment Statistics OES program of the Bureau of Labor Statistics produces estimates of wages paid to employees in each occupation. These occupational wage estimates are either mean wages or percentiles. The mean of the first third of the wage distribution is used as a proxy for the entry wage. A percentile wage is a boundary. An occupational median wage (50th percentile) estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in each occupation earn more than the median wage, and half the workers earn less than the median wage.

3. Minimum Education Requirements for occupations are determined by the U.S. Bureau of Labor Statistics <http://www.bls.gov>. High Education = Doctoral or Professional Degree; Master's Degree, Bachelor's Degree; Middle Education = Associate's Degree, Postsecondary Certification; Low Education = Some College - No Degree, High School Diploma or Equivalent, Less than High School.

4. There are six interest types Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Discover your work-related interests on pages 5-8 to find out which types you are most like and the careers that best fit you.



# Career Readiness Benchmarks for Transportation, Distribution & Logistics Careers

## Workforce Certifications:

*Note: Students successfully exiting a course of study in the Transportation, Distribution and Logistics Cluster may be eligible to earn some or all of these certifications.*

NATEF Credential

Precision Exams: Customer Service

Automotive Service Excellence (ASE) Certifications: Automotive Steering and Suspension

Automotive Service Excellence (ASE) Certifications: Automotive Brakes

Automotive Service Excellence (ASE) Certifications: Electrical

Automotive Service Excellence (ASE) Certifications: Engine Performance

## Career Technical Student Organizations

Career Technical Student Organizations (CTSOs) align with the 16 career clusters. Students involved in these organizations gain hands-on and real-world work experience that supplements what they learn in the classroom. The following CTSOs align with this career cluster.



NEW MEXICO  
BUSINESS  
PROFESSIONALS  
of AMERICA



## Recommended Fourth Year of Mathematics Courses

- Transportation Operations Pathway: Pre-Calculus
- Logistics Planning & Management Services Pathway: Pre-Calculus
- Warehousing & Distribution Center Operations Pathway: Pre-Calculus
- Facility & Mobile Equipment Maintenance Pathway: Pre-Calculus
- Transportation Systems/Infrastructure Planning, Management & Regulation Pathway: Pre-Calculus
- Health, Safety & Environmental Management Pathway: Pre-Calculus
- Sales & Service Pathway: Pre-Calculus



# Postsecondary Programs, Degrees, and Colleges

Occupation	Postsecondary Program Name	NM Postsecondary School
Air Traffic Controllers	AAS - Air Traffic Control	Eastern New Mexico University-Roswell
Aircraft Mechanics and Service Technicians	AAS - Aircraft Maintenance Technology	Central New Mexico Community College; Eastern New Mexico University-Roswell
Automotive Service Technicians and Mechanics	AAS - Automotive Technology	University of New Mexico-Gallup; New Mexico State University-Doña Ana; Northern New Mexico College; Central New Mexico Community College; Clovis Community College; Mesalands Community College; Santa Fe Community College; San Juan College
Bus and Truck Mechanics & Diesel Engine Specialists	AAS - Equipment Technology	Central New Mexico Community College; San Juan College
Cargo and Freight Agents	AAS - Office Administration	Central New Mexico Community College; Eastern New Mexico University-Roswell
Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	Certificate - Certified Supervisor of Maintenance/Equipment	North American Transportation Management Institute
Heavy and Tractor-Trailer Truck Drivers	Certificate(s) - Truck and Bus Driver/Commercial Vehicle Operator and Instructor	San Juan College; New Mexico Junior College; Navajo Technical University; Central New Mexico Community College; Eastern New Mexico University-Roswell
Automotive Body and Related Repairers	Certificate & AAS Auto Body	Western New Mexico University; Clovis Community College; San Juan College
Logisticians	AAS - Project Management; AAS - Business Analytics; Certificate - Project Management; Certificate - Business Analytics	Western New Mexico University; Clovis Community College
Transportation, Storage, and Distribution Managers	BBA Operations Management	New Mexico State University; University of New Mexico

Note: The schools listed on this page are a representative sampling of schools that offer the course of studies shown here. Please contact New Mexico colleges directly for more current and relevant offerings.



# High School Gets You Ready for College and Career

## Common Career Technical Core for Transportation, Distribution & Logistics Career Cluster<sup>1</sup>:

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

Recommended Programs of Study <sup>2</sup>				
Program	Middle School Exploration	Introduction Course Options	Concentration Course Options	Capstone Completion Course Options
Automotive Technology	1603 Career Exploration	0901 Introduction to Automobiles	0920 Auto Tech 0921 Auto Tech 3	0998 Transportation Tech-Internship 0999 Transportation Tech-Dual Credit
		0912 Automobile Technology-Comprehensive		
		0918 Small Engine Mechanics		
Global Logistics & Supply Chain Management - SREB	1603 Career Exploration	0925 Introduction to Logistics-AC	0926 Functional Areas in Logistics-AC 0927 Global Logistics Management-AC	0928 Logistics & Supply Chain Management-AC 0998 Transportation Tech-Internship 0999 Transportation Tech-Dual Credit
Other Programs of Study Course Sequences				
Aircraft Maintenance	1603 Career Exploration	0922 Aircraft Power Plant	0923 Aircraft Airframe 0953 Aviation 0955 Aviation II	0998 Transportation Tech-Internship 0999 Transportation Tech-Dual Credit
Collision Repair	1603 Career Exploration	0933 Auto Detailing/Reconditioning	0942 Auto Body Repair/Refinishing-General 0943 Particular Topics in Automotive Body Repair & Refinishing	0998 Transportation Tech-Internship 0999 Transportation Tech-Dual Credit
Health, Safety & Environmental Management	1603 Career Exploration	1611 General Technology Education	1614 Industrial Safety/First Aid	0998 Transportation Tech-Internship 0999 Transportation Tech-Dual Credit
Transportation Operations	1603 Career Exploration	0911 Introduction to Transportation	0963 Energy/Power	0998 Transportation Tech-Internship 0999 Transportation Tech-Dual Credit
Transportation Systems/Infrastructure Planning, Management & Regulation	1603 Career Exploration	1625 Technology Systems	1695 Technology Education-Related	0998 Transportation Tech-Internship 0999 Transportation Tech-Dual Credit
Warehousing & Distribution Center Operations	1603 Career Exploration	1623 Production Systems	1813 Warehouse Operations	1699 Technology Education-Dual Credit 1606 Work Experience
Sales & Service	1603 Career Exploration	0912 Automobile Technology-Comprehensive	1805 Marketing-Transportation	0998 Transportation Tech-Internship 0999 Transportation Tech-Dual Credit

1. It is expected that a student completing any programs of study in this career cluster would transition to postsecondary college and career being able to know and do each of these Standards, unless otherwise noted.  
 2. The PED recommends the programs of study here based on rigor of the course, quality curriculum and course resources, relevance to state workforce needs, and a capstone, such as a dual credit course, or AP course and exam. It is expected that a student completing these programs of study would transition to postsecondary prepared for college and career.

Note: The course numbers are from the State Teacher Accountability Reporting System (STARS). Examine your school’s course catalog for corresponding course.



## Experiencing Real Jobs

Getting experience while exploring career options will give you a head start on your future career. Take advantage of opportunities to “try out” a career through work-based learning programs, summer or part-time jobs, or as a community volunteer. Your local school or college will offer some or all of the programs noted here. You’ll find others by searching the Internet and by contacting community businesses and organizations. Work-based learning is also helpful if you want or need to change careers.

Here are a few ways you can get involved in work-based learning:

- **Job Shadowing** programs usually involve going to work for one or several days with someone whose career interests you. You can observe tasks and skills required for the job, experience the work environment, and interact with people who currently work in your potential career field.
- **Internships and Cooperative Education** experiences usually last for a couple of weeks to several months. You not only observe individuals in your career field of interest, but also get a chance to perform some of the job’s tasks and duties. Internships and Cooperative Education include mentoring by an experienced career professional who can discuss your career decisions and goals. Internships can be paid or unpaid, but Cooperative Education is an activity that must provide pay. Either program may be eligible for academic credit at a high school or college.
- **School-Based Enterprises** allow you to plan and run a simulated or actual business at school. It’s an experience that provides direct links between what you learn in the classroom and what it’s like to work in an actual job
- **Apprenticeships** offer combined academic instruction, structured training, and paid work experience that usually last for one to two years. Employers offer these programs in collaboration with the New Mexico Department of Commerce. [dws.state.nm.us/en-us/Job-Seekers/Explore-Career-Options/Apprenticeship](https://dws.state.nm.us/en-us/Job-Seekers/Explore-Career-Options/Apprenticeship)
- **Service Learning** can be a great way to learn about a career and help out your community while developing new skills or applying existing skills. You will see how the services you provide connect with what you’ve learned in classes.
- **Business/Industry Field Trips** are opportunities to leave the classroom to see how what you’ve learned applies in workplaces. You can observe and investigate activities that relate to a specific school subject and to your career plans.

Work-based learning opportunities give you the edge when applying for new jobs. Not only will you gain valuable work experience, but you’ll also meet people who can become part of your career network. They may be your best resource for meeting potential employers and other people who can provide job referrals. You’ll also find that these experiences can improve the quality of your resume!

Information on child labor laws may be found here: <https://www.dws.state.nm.us/Internships/InternshipEmployerLegal>



## Exploring the Job Market

Specific job requirements change from industry to industry, business to business, and hiring manager to hiring manager. Whether you're still planning your future career or getting ready to enter the job market, getting a well-rounded understanding of what employers are looking for in job candidates is always helpful. The more research you do in understanding job and employer requirements and preparing yourself to meet those needs, the better positioned you will be to land your dream job. Some steps you can take include:

- **Read job postings** – Get online and search to find what kinds of jobs are out there. Places to start include [jobs.state.nm.us](http://jobs.state.nm.us), [wwwIndeed.com](http://wwwIndeed.com), and [LinkedIn.com/Job](http://LinkedIn.com/Job).
- **Research the occupation** – Make sure you understand the occupation and its potential. The Bureau of Labor Statistics' Occupational Outlook Handbook ([www.bls.gov/ooh](http://www.bls.gov/ooh)) and CareerOneStop ([www.careerinfonet.org/Occupations](http://www.careerinfonet.org/Occupations)) have thorough descriptions of hundreds of occupations with data on wages and job growth.
- **Research the industry that interests you** – Whether you're preparing for an interview or just trying to better understand a career, learn what you can about the business's industry or occupations. By doing this, you will gain understanding of the opportunities and challenges in this field. Is it growing and successful? Are global or technological changes likely to affect future jobs in this industry? Search engines can help you find information. Look specifically for industry associations — either national or state chapters. In this Career Clusters Guide, the first page of each Career Cluster contains references to industry associations.
- **Find local employers** – Reviewing job postings will likely help you start to identify employers. However, remember that not all companies will be hiring at the moment and not all will post jobs online. Another way to find employers in your area is to use CareerOneStop's Employer Locator tool at [careerinfonet.org/employerlocator/employerlocator.asp?nodeid=18](http://careerinfonet.org/employerlocator/employerlocator.asp?nodeid=18). Or you can conduct a simple Google search for businesses in your town or city. Limiting your search to industries (advertising agencies, machine shops, medical clinics) may be more helpful than just looking for occupations (social media specialists, welders, nurses).
- **Research the company** – Before ever contacting a potential employer, do your homework and learn what the company does. The more you know about their business, the more impressive employers will find you when you talk with them. Start by reading the company's website and social media pages. If the business is especially large, it may post an annual report on its corporate website. Conduct a Google News search to gather other information about it.
- **Ask for an informational interview** – Talking directly with someone in the company is the best way to learn about what a business does and what the employer looks for in job candidates. Check with friends and other people that you or your family know to see if someone could introduce you to a company employee. If no one within your network is familiar with the business, call it directly. Explain that you would like to know more about the company and its jobs. If you're patient and polite, employers will often find 20-30 minutes to meet and talk with a student or someone who wants to get into their line of work. Make sure you come prepared with questions, don't ask for a job, and be respectful and appreciative of the person's time. For tips on networking and conducting an informational interview, go to [careeronestop.org/JobSearch/Network/form-a-network.aspx](http://careeronestop.org/JobSearch/Network/form-a-network.aspx).

**The New Mexico Department of Workforce Solutions has created important websites for students, parents, and educators in our state:**

- **Career Solutions** – at [nmcareersolutions.com](http://nmcareersolutions.com) – offers a Career Solutions Toolbox and steps to Build Your Own Path
- **DWS Internship Portal** – at [dws.state.nm.us/internships](http://dws.state.nm.us/internships) – offers ways for students to apply what they have learned in their program of study in high school and develop their skills to prepare for their future.
- **Why I Work** – at [dws.state.nm.us/WhyIWork](http://dws.state.nm.us/WhyIWork) - is a financial budgeting tool that estimates the minimum income needed for a person to cover their monthly living costs.



# NMPED College & Career Readiness is NEW MEXICO *True*

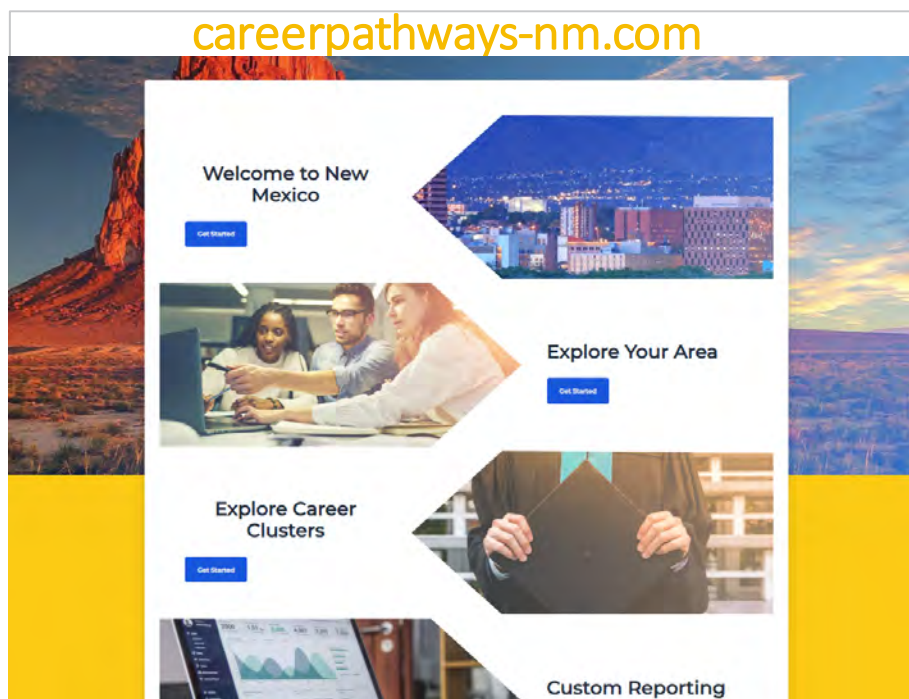
## Quick Tips for Understanding Your Local Job Market Using the *NM Career Pathways System*

The NM Career Pathways System is an innovative labor market tool that was developed by Pathway2Careers. It includes information for all New Mexico school districts.

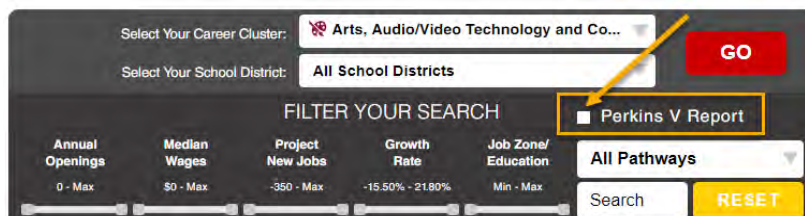
It has tremendous value in its ability to reveal local career opportunities through the use of simple labor market data.

### Quick Tips for Using the Dashboard

- Explore your interests and related opportunities frequently (your interests change)!
- Take time to explore each of the sections.
- Focus on your school district. Get a sense of basic population statistics and identify your workforce region(s).
- Get a general sense of the top career clusters for your district workforce region(s).
- Dive in and examine specific career clusters. Identify the top 5-10 occupations within each cluster for your region(s).



**Filter your search hint:** Click the “Perkins V” box to display high-value occupations within a cluster.

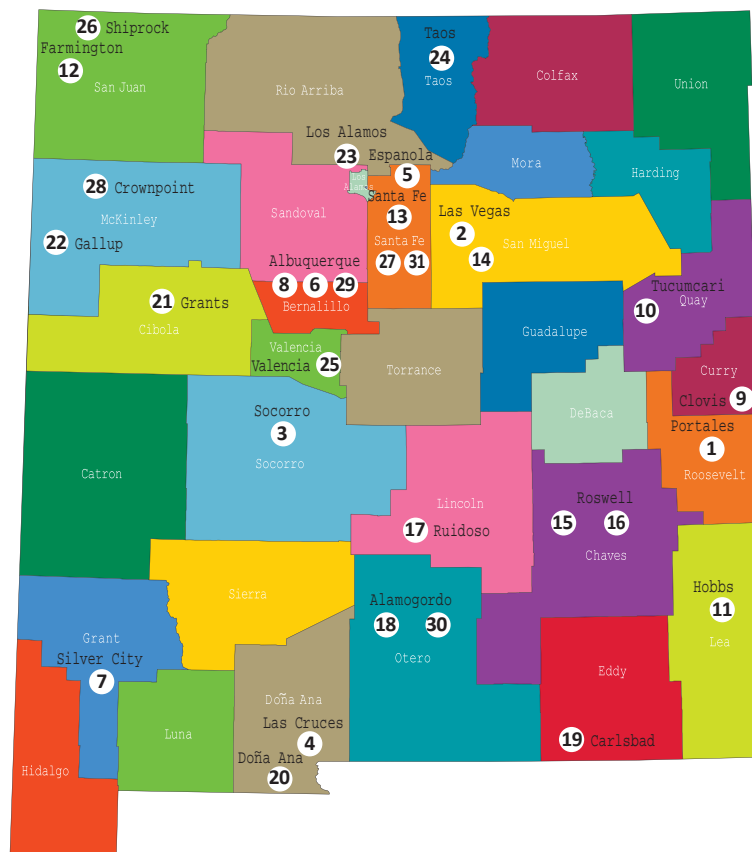


- Scroll over headings to reveal basic definitions for common labor market data categories.
- Explore the pathway descriptions and programs of study listed below each career cluster table.

**Use the data to make informed decisions about courses to take and to chart next steps in your career.**



# STATE-FUNDED COLLEGES, UNIVERSITIES, TRIBAL COLLEGES & SPECIAL SCHOOLS IN NEW MEXICO



## FOUR-YEAR PUBLIC COLLEGES & UNIVERSITIES:

- 1 Eastern New Mexico University, Portales (1934)
- 2 New Mexico Highlands University, Las Vegas (1893)
- 3 New Mexico Institute of Mining and Technology, Socorro (1889)
- 4 New Mexico State University, Las Cruces (1888)
- 5 Northern New Mexico College, Española (1909)
- 6 University of New Mexico, Albuquerque (1889)
- 7 Western New Mexico University, Silver City (1893)

## TWO-YEAR BRANCH COMMUNITY COLLEGES:

- 16 ENMU-Roswell (1958)
- 17 ENMU-Ruidoso (1958)
- 18 NMSU-Alamogordo (1959)
- 19 NMSU-Carlsbad (1950)
- 20 NMSU-Doña Ana (1973)
- 21 NMSU-Grants (1968)
- 22 UNM-Gallup (1968)
- 23 UNM-Los Alamos (1956)
- 24 UNM-Taos (1923)
- 25 UNM-Valencia (1978)

## TWO-YEAR COMMUNITY COLLEGES:

- 8 Central New Mexico Community College, Albuquerque (1965)
- 9 Clovis Community College, Clovis (1961)
- 10 Mesalands Community College, Tucumcari (1979)
- 11 New Mexico Junior College, Hobbs (1966)
- 12 San Juan College, Farmington (1956)
- 13 Santa Fe Community College, Santa Fe (1983)
- 14 Luna Community College, Las Vegas (1969)
- 15 New Mexico Military Institute, Roswell (1945)

## TRIBAL COLLEGES:

- 26 Diné College, Shiprock (1968)
- 27 Institute of American Indian Arts, Santa Fe (1962)
- 28 Navajo Technical University, Crownpoint (1979)
- 29 Southwestern Indian Polytechnic Institute, Albuquerque (1971)

## SPECIAL SCHOOLS:

- 30 New Mexico School for the Blind and Visually Impaired, Alamogordo (1903)
- 31 New Mexico School for the Deaf, Santa Fe (1887)