Emerging and Evolving Occupations Projected to Offer Future Employment Opportunities in North Central Texas

Emerging Occupations are new occupations in the workforce with new titles and new skills.
Evolving Occupations are traditional occupations whose knowledge, skills, and abilities have changed or evolved.

(A) $8.00-10-00 per hour ~ (B) $10.00-15.00 per hour
(C) $15.00-20.00 ~ (D) 20.00+ per hour
Wages listed are expected median hourly
Education is the expected to be required

Advanced Digital Manufacturing (ADM) Technicians: Emerging Occupation - New technical breakthroughs for the pre-existing process for forming a product using a layered manufacturing process. Every ADM system consists of two parts: 1) a computer aided design system and 2) a layered manufacturing machine capable of producing a part in successive layers according to instructions from the CAD system. 2-4 yrs. (B-C)

Biotechnology Research Technicians: Emerging Occupation - Assist scientists in laboratories. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, make observations, and calculate and record results. 4 yrs. (B-C)

Composite Technicians (Bond Assembler): Evolving Occupation - Work with metals, ceramics, plastics, semiconductors, and combinations of materials called composites to create new materials that meet certain mechanical, electrical, and chemical requirements. There are numerous new developments within composite materials that make it possible to manipulate and use materials in various ways. For example, the ability to create and then study materials at an atomic level using advanced processes to replicate the characteristics of materials and their components with computers. OJT-2 yrs. (B-C)

Computer & Digital Forensics Technicians: Emerging Occupation – The science of conducting investigations related to computer crimes and abuse in a manner that is legally sound and reproducible. Using specialized hardware and software tools, computer forensics technicians gather evidence about all kinds of activity including fraud, embezzlement, child pornography, and intellectual property misappropriation. 2 yrs. (B-C)

Computer Security Specialists: Emerging Occupation - Plan, coordinate, and implement security measures to prevent unauthorized modification, destruction, or disclosure of information. Regulate users' access to computer data files and erect firewalls to keep out tainted digital transfers. These specialists use encryption coding to conceal confidential information as it is being transmitted. They also monitor reports of computer viruses and update the virus protection system as needed. 2 yrs. (B-C)

Convergence Technology Specialists/Technicians: Emerging Occupation - Combines telephony, data networking, voice over IP and hand held devices, to name a few, to solve real problems. Includes Home Technology Technicians who handle the multiple technologies needed in a home or small office environment and Convergence Technicians in large businesses who are merging legacy voice and data systems with voice over IP, wireless, etc. all in a secure environment. Note: This emerging occupation was identified by employers on InterLink's 2007 Survey as a high demand occupation. 2-4 yrs. (C-D)

Data Mining Technicians: Emerging Occupation – Research and problem solve by burrowing through gigabytes of information in search of unanticipated patterns. 1-2 yrs. (B-D)

Electronic Commerce Specialist: Emerging Occupation - Apply knowledge of marketing and advertising to design Internet business webpages. Determine the content, layout the design specifications, and convey this information to webmasters who program the page. Electronic commerce specialists test market the webpage through on-line focus groups and surveys. They also conduct trend analyses of resulting sales and gather statistical data on customer preferences in order to improve service. 2-4 yrs. (C)

Gaming Technician: Emerging Occupation - Create 2D/3D animation through the use of high-end software for a variety of industries including entertainment, advertising and corporate communications. Advancing toward network dependent interfaces/environments. Technology is evolving the concepts of cyberspace, media, computer mediated communication and education technology. 2-4 yrs. (C-D)

Geographic Information Systems Technicians (Surveying & Mapping Technician): Evolving Occupation - Help design

and coordinate the development of integrated geographical information system databases of spatial and non-spatial data. Decide effective presentation of information and create digital maps and graphs using GIS software and related equipment. In many companies, GIS technicians gather land survey data and other topographical details needed to build the geographic databases. 2-4 yrs. (B-C)

Global Positioning Systems (GPS) Technicians: Emerging Occupation - Install, maintain, repair, and use electronic equipment that sends and receives electronic signals via satellites to determine the exact position of the sending unit. GPS devices are also used for navigating airplanes, ships, boats, and ground vehicles. Some technicians analyze GPS signals and use digital maps to locate the position of the sending signal. Cert.- 2 yrs. (B-C)

Laboratory Services Technician (Biological/Microbiological): Emerging Occupation - Conduct test and perform field investigations to obtain data for use by environmental engineering and scientific personnel. 2 yrs. (B)

Micro-electromechanical Systems (MEMS) Technician – Emerging Occupation - Miniaturized, self contained systems that integrate electrical and mechanical functionality allowing them to gather and process information, decide on a course of action and control the surrounding environment. MEMS will have a significant effect on the development of "intelligent" products in a wide range of industries including scientific, consumer goods, defense, aerospace, medical and healthcare, and automotive. 2 yrs. (B-C)

Nanotechnology Technician: Emerging Occupation – Operate and service microscopy equipment capable of characterizing nanostructures. Must have extensive background in materials science and optics. 2-4 yrs. (B-C)

Robotics Technicians: Emerging Occupation - Robotics technicians (automated) install, program, and repair robots and related equipment, such as programmable controllers, robot controllers, end-of-arm tools, and conveyors. They review related manuals, blueprints, and schematic diagrams to determine the tasks, tools, equipment, and parts needed to complete a work order. Specific duties include inspecting installation sites, positioning the robots using hydraulic tools, attaching wires between controllers, programming the robots to perform specific tasks, and testing electronic circuitry. Those that work for robot manufacturers, also assist in design and configuration. 2-4 yrs. (B-D)

North Central Texas Region
Projected Industry Growth to 2012
Source: TWC ~ Compiled by InterLink

Industry	Percentage Growth
Agriculture/Forestry/Fishing/Hunting	3%
Mining	10%
Utilities	-2%
Construction	15%
Manufacturing	5%
Wholesale Trade	14%
Retail Trade	13%
Transportation & Warehousing	18%
Information	8%
Finance & Insurance	15%
Real Estate & Rental & Leasing	12%
Professional, Scientific & Technical Services	27%
Management of Companies & Enterprises	29%
Administrative & Support & Waste Mgt. & Remediation Services	27%
Educational Services	36%
Health Care & Social Asst.	30%
Arts, Entertainment & Recreation	25%
Accommodation & Food Services	28%
Other Services Except Government	18%
Government	13%

2007-2012
Targeted Occupations

Identified by North Central Texas Employers for
Long Term Growth Potential

InterLink is a Business ~ Education
Alliance for A Regional Quality Workforce

Affiliated with the
North Texas Commission

The information included in this document is intended to be used as a guideline for high demand occupational opportunities in North Central Texas. The absence of an occupation on this list does not necessarily preclude it from career opportunities. Labor market conditions change very rapidly; therefore, it is important to validate this information prior to making career or program decisions. The occupations listed in this document may not be pertinent to other areas of the state or nation.

InterLink's 2007~2012
Targeted Occupations for
North Central Texas

(A) $8.00-10-00 per hour ~ (B) $10.00-15.00 per hour
(C) $15.00-20.00 ~ (D) 20.00+ per hour
Wages listed are regional median hourly
Education time is the minimum required for entry level to the highest expected degree
* Indicates potential for offshore outsourcing
** Indicates Critical Regional Need

Architecture & Construction Careers

Computer Aided Drafting (CAD) Technicians: Produce detailed drawings using computers and software. 1-2 yrs. (B)

Carpenters: Makes or repairs wooden structures, structural members, fixtures, and equipment. Study blueprints sketches or building plans for types of material required and dimensions of structure. 2-4 yrs. (B)

Electricians: Read blueprints, design, and install electrical wiring and equipment in all phases of construction. 2-5 yrs. (C)

Heating/AC Technicians: Climate control professionals that design operate and maintain heating and cooling systems. Creates indoor environments for people, food, medicine, computers, & other products. 1-5 yrs. (C)

Maintenance Repairers, General Utility: Keep machines, mechanical equipment, and/or structure of an establishment in repair. Duties may involve pipefitting, boilermaking, insulating, welding, machining, machine and equipment repairing, carpentry, and electrical work, as well as installing equipment. OJT-4 yrs. (B)

Plumbers/Pipefitters/Steamfitters: Assemble, install, altar and repair pipe systems that carry water, steam, air or other liquids or gases. 5 yrs. + OJT (C)

Welders/Cutters/Solders/Brazers: Use hand welding and flame-cutting equipment to weld together metal components and parts or to cut, trim, or scarf metal objects to dimensions, as specified by layouts, work orders, or blueprints. OJT-4yrs. (B)

Education & Training Careers

Teachers, Elementary/Preschool: Teach basic academic, social, and other formative skills. 4-10 yrs. (C-D)

Teachers, Secondary (High School Teachers): Instruct in one or more subjects such as English, mathematics, social studies, vocational programs, according to subject matter specialty. 4-10 yrs. (C-D)

Teachers, Special: Teach school subjects to mentally and physically handicapped students. Include teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.
4-10 yrs (C-D)

Finance Careers

***Accountants & Auditors:** Examine, analyze, and interpret accounting records to advise or prepare statements and install or advise on systems of recording costs or other financial and budgetary data. 4-10 yrs. (D)

Health Science Careers

Medical & Clinical Lab Technician & Technologists: Play a crucial role in the detection, diagnosis, and treatment of disease. Clinical laboratory technologists also referred to as clinical laboratory scientists or medical technologists, and clinical laboratory technicians, also known as medical technicians or medical laboratory technicians, perform most of these tests. Technician – 2 yrs, Technologist – 4 yrs (C)

Patient Care Techs. Certified (Includes Nurses Aides & Assistants & Home Health Aides): Under the direct supervision of a licensed professional, provides patient care activities, which include: bathing, feeding, positioning, ambulating, monitoring vital signs and intake and output. OJT (A-B)

Nurses - Licensed Vocational: Care for ill, injured, convalescent and handicapped persons in hospitals, clinics, private homes and similar institutions. 2 yrs. (B)

**** Nurses - Registered Nurses:** Administer care to ill or injured persons in hospitals, clinics, private homes and similar institutions. 4 yrs. (D)

Pharmacists: Fill prescriptions and act as member of primary health team. May own their own company, work for corporate chains, work in hospitals or work for pharmaceutical companies. 5-6 yrs. (D)

Pharmacy Technicians: Work under supervision of licensed pharmacists to perform technical and clerical duties in the operation of the pharmacy including filling prescriptions. 2 yrs. (B)

Radiologic Technologists & Technicians: Use "diagnostic imaging" such as x-ray, ultrasound, and magnetic resonance imaging to view and diagnose images of the interior of the body and to diagnose and treat cancer. 2-4 yrs. (C)

Respiratory Care Technicians (Certified): Conduct diagnostic tests of patients' cardiopulmonary functions and give appropriate treatment as ordered by a physician. 2-4yrs. (B-C)

Hospitality & Culinary Careers

Chefs/Head Cooks and Restaurant Cooks: Direct and/or prepare foodstuffs in restaurants. May order supplies, keep records and accounts, price items on menu or plan menu. 2-4 yrs. (C-D)

Food Service Managers: Plan, direct, or coordinate activities of an organization or department that serves food and beverages. (D)

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Information Technology Careers

***Computer Systems Analysts:** Solve computer problems and apply computer technology to meet the individual needs of an organization. May plan and develop new computer systems or devise ways to apply existing systems' resources to additional operations. May design new systems, including both hardware and software, or add a new software application to harness more of the computer's power. 4 yrs. (C)

Law, Public Safety, Corrections & Security Careers

Correctional Officers (Detention Service): Guard inmates in penal or rehabilitative institutions. May guard prisoners in transit situations. May be designated deputy guard. 3-6 mos. (B)

Emergency Medical Technicians: Dispatched by 911 operators, they determine the nature and extent of the patient's condition while trying to ascertain whether the patient has preexisting medical problems. Following strict rules and guidelines, they give appropriate emergency care and, when necessary, transport the patient. Certification (B)

Fire Fighters: Control and extinguish 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 management. OJT-4 yrs. (D)

Police & Sheriff's Patrol Officers: Maintain order, enforce laws/ordinances. Patrol, direct traffic, issue summons, investigate, apprehend, and arrest. 1-4 yrs. (D)

Marketing, Sales & Service Careers

Advertising/Marketing Sales Managers: Formulate marketing policies, direct sales activities, and plan, organize, and direct advertising and public relations activities. 4-10 yrs. (C-D)

Manufacturing Careers

Manufacturing Machine Technician (including Computer Numeric Control (CNC)): Use machine tools, such as lathes, milling machines, and machining centers, to produce precision metal parts. Computer-control programmers and operators use computer numerically controlled (CNC) machines to cut and shape precision products, such as automobile parts, machine parts, and compressors. OJT-2 yrs. (B)

Science, Technology, Engineering & Mathematics Careers

Aerospace Engineers: Perform a variety of engineering work in designing, constructing, and testing aircraft, missiles, and spacecraft. May conduct basic and applied research to evaluate adaptability of materials and equipment to aircraft design and manufacture. May recommend improvements in testing equipment and techniques. 4-10 yrs. (D)
***Computer Software Engineers & Applications & Systems Software Engineers:** Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications. Set operational specifications, formulate, and analyze software requirements. Apply principles and techniques of computer science, engineering, and mathematical analysis. 4-10 yrs. (D)

***Electrical & Electronic Engineers:** Design, develop, test, and supervise the manufacturing and installation of electrical and electronic equipment, components, or systems for commercial, industrial, military, or scientific use. 4-10 yrs. (D)

Electrical/Electronic Engineering Technicians: Help to design, develop, test, and manufacture electrical and electronic

equipment such as communication equipment, radar, industrial and medical measuring or control devices, navigational equipment, and computers. They may work in product evaluation and testing, using measuring and diagnostic devices to adjust, test, and repair equipment. 2-4 yrs. (C-D)

Mechanical Engineers: Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of such equipment as centralized heat, gas, water, and steam systems. 4-10 yrs. (D)

Transportation, Distribution & Logistics Careers

Automotive Technicians: Adjust, repair, and overhaul automotive vehicles. Uses stand-alone and on-board computer diagnostic equipment. 2-4 yrs. (C)

Automotive Body Repairer: Use special equipment to restore damaged metal frames and body sections. Use benchmark systems to make accurate measurements of how much each section is out of alignment and hydraulic machinery to return the vehicle to its original shape. 2 – 4 yrs. (C)

Diesel Engine Technicians: Repair and maintain trucks, buses and heavy equipment. Use computer diagnostic equipment to diagnose trouble, disassemble engines, and examine for defects and wear. 2-4 yrs. (C)

Logistics Managers/Specialists – Shipping & Warehousing: Monitor inventory levels, planning, directing distribution, and customer relations. Increasingly, these managers are using enterprise resource planning software systems to improve the speed and efficiency of shipping and receiving. Radio Frequency Information Devices and Global Positioning Technology have further advanced shipping and transportation operations. 2-4 yrs. (C-B)

Truck Drivers, Heavy: Drives 3+ ton trucks. Prepares paperwork for loads. Collects payments for goods delivered. Inspects truck for equipment and supplies, performs emergency repairs. 3-6 mos. (C)

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