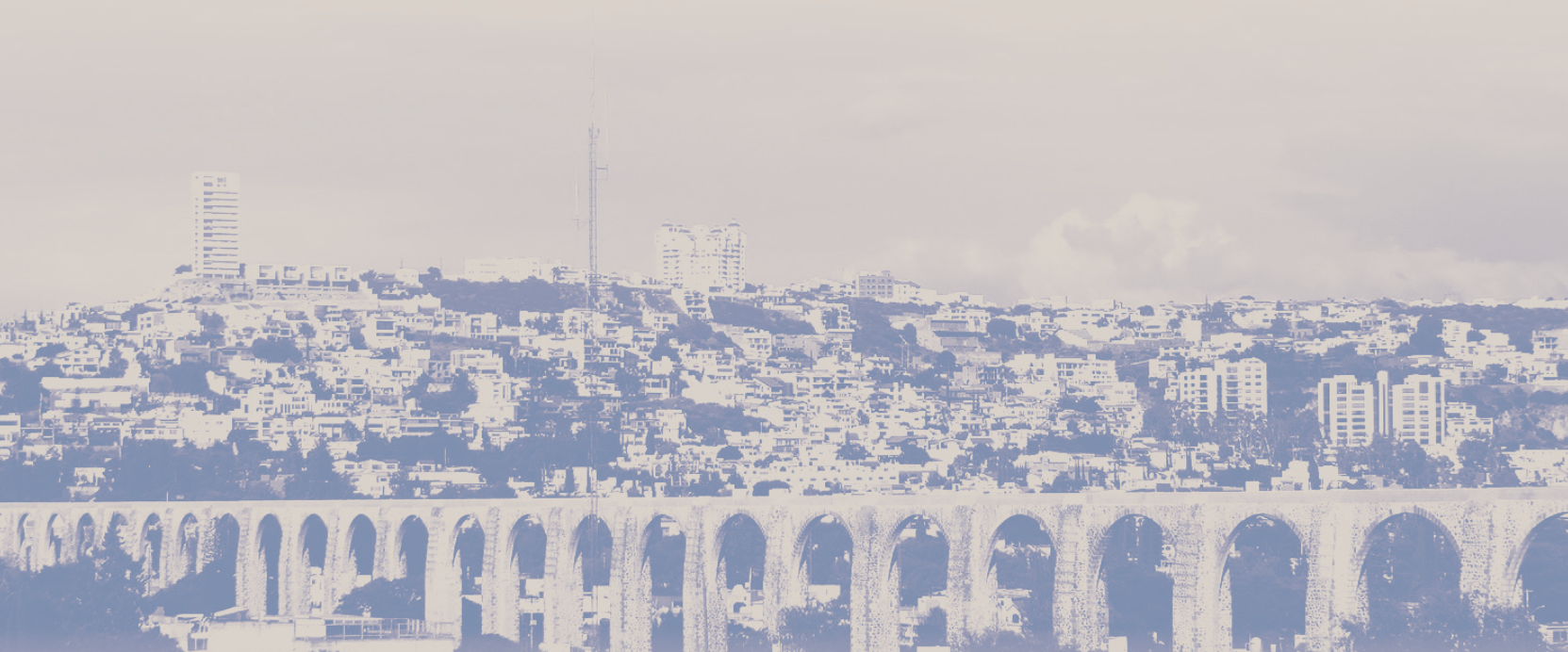


# Sectors & Professions

*Tecnológico de Monterrey  
Campus Queretaro*



2017

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# Aeronautical Sector



## Aircraft Maintenance Engineer

*Aircraft Maintenance Engineers install, maintain and repair aircraft engines; airframes; airframe systems; electrical, instrument and radio systems; and aircraft structures and surface finishes.*

Aircraft Maintenance Engineers may perform the following tasks:

- dismantle, inspect, repair and reassemble aircraft engines, airframe components and systems, electrical components and systems, avionic components and systems, and aircraft structures
- test aircraft communication equipment, instruments and electronic systems
- conduct routine pre-flight inspections.



# Architecture Sector



## Architectural Draftsperson

*Architectural Draftspersons complete architects' and other designers' concepts by preparing documents (drawings or plans) and liaising with builders and contractors.*

Architectural Draftspersons may perform the following tasks:

- prepare architectural drawings for development and construction applications, showing internal and external layouts of new and proposed buildings
- analyse architects' and building designers' concepts, and prepare preliminary sketches and detailed drawings
- produce designs, detailed drawings and documentation using manual or computer-aided technology
- prepare drawings showing site layouts, proposed site layouts, site analysis, floor plans, elevations, sections, three-dimensional images, materials and finishes, well as other aspects such as joinery detailing, construction details, lighting layouts, plumbing, drainage, car parking and landscaping
- select quality of materials needed, taking into consideration the material and labour costs, as well as construction completion dates
- prepare building specifications for building documentation to suit individual clients and tendering purposes
- represent or assist architects or building designers on building sites to ensure plans and specifications are followed liaise with relevant public sector organisations and specialist consultants (such as engineers, town planners and building surveyors)
- examine relevant Acts, regulations, codes, standards and by-laws in the course of undertaking project documentation.



## Civil Engineer

*Civil Engineers plan, design, construct, operate and maintain roads, bridges, dams, water supply schemes, sewerage systems, transportation systems, harbours, canals, dockyards, airports, railways, factories and large buildings.*

Civil Engineers may perform the following tasks:

- investigate sites to determine the most suitable foundation for a proposed construction
- research and advise on the best engineering solution to meet a client's needs and budget
- prepare engineering calculations required for the design of projects, and supervise the drafting of plans
- produce detailed designs and documentation for the construction and implementation of civil engineering projects
- organise the delivery of materials, plant machinery and equipment needed for the construction project and supervise labour
- develop detailed programmes for the coordination of site activities
- work with other engineers, architects, landscape architects and environmental scientists
- assist government bodies in preparing yearly works programmes (such as work on car parks, drainage, roads, aerodromes or sewerage systems) within set budgets
- operate computers to assist with the design of civil engineering projects
- coordinate and direct research, development and testing of materials, processes or systems related to civil engineering works
- research, advise on and plan the control and minimisation of air, water and solid waste pollution, and the management of water resources
- supervise the testing and commissioning of completed works
- analyse and interpret reports on loading, labour, productivity, quality, materials and performance
- analyse risks associated with natural disasters (including cyclones, earthquakes, fires and floods), and design structures and services to meet appropriate standards
- arrange for geological and geophysical investigations and carry out feasibility studies.



# Computing & IT Sector



## IT Support Technician

*IT Support Technicians provide technical advice and support to help people use computer software and hardware effectively.*

IT Support Technicians may perform the following tasks:

- identify the hardware and software needed to provide solutions to problems
- assist with the customisation and adaptation of existing programmes to meet users' requirements
- provide telephone, face-to-face and online support to customers
- download and install appropriate software
- connect users to networks and provide initial training in facilities and applications
- liaise with vendors and programmers
- provide information relating to customers' hardware and software purchasing decisions
- make sure users can use the equipment by providing personal tuition and self-help instructions
- undertake housekeeping and reporting functions for the area of responsibility.



# Education Sector



## Secondary School Teacher

*Secondary School Teachers teach one or more subjects within the school curriculum to secondary students. Subject areas include English, mathematics, science, history, geography, drama, dance, art, music, health and physical education, design, information technology, accounts and economics, religious studies, languages other than English (Italian, French, German etc.) and home economics).*

Secondary School Teachers may perform the following tasks:

- prepare daily lessons and long-term teaching programmes in accordance with state or territory curriculum and guidelines
- teach using a variety of methods, including formal lessons, discussions, practical activities, experiments, projects, assignments and excursions, taking into account the differences between individual students
- use information technology to assist with lesson preparation, teaching and reporting
- set tests, exams, projects, assignments and homework; mark and correct assessments
- evaluate and report on the progress of students, and discuss individual performance and problems with students and parents
- establish and maintain good working habits and discipline in classrooms and throughout the school
- supervise extra classes when other teachers are absent
- supervise students in the yard during lunchtime and other breaks
- carry out relevant administrative duties
- attend staff meetings, educational conferences and other professional development activities
- coordinate work experience and industry-based programmes
- participate in other activities in partnership with parents and the school community, including parent-teacher nights, school council and other committees
- assist with organising sporting events, camping trips and other excursions
- be involved in distance education (for example, teaching using radio and television transmission, correspondence, audiovisual and other multimedia resources)
- coordinate administrative support programmes and the work of non-teaching staff in schools
- network with other teachers
- work with other staff to revise the school's policies and curriculum implementation to reflect changing student needs and government initiatives





# Engineering Sector



## Mechatronic Engineer

*Mechatronic Engineers design and maintain machinery with electronic and computer control systems, such as aircrafts, robots, motor vehicles, cameras, power generators and mining and chemical plant machinery. Workplaces range from laboratories and processing plants to engineering design offices.*

Mechatronic Engineers may perform the following tasks:

- design, develop, maintain and manage high-technology engineering systems for the automation of industrial tasks
- apply mechatronic or automated solutions for the transfer of materials, components or finished goods
- apply advanced electronic control systems, which are usually computer-driven
- design and assist with the manufacture of consumer products such as cameras and video recorders
- apply electronic and mechanical processes and computers to tasks where the use of human labour may be dangerous (underwater exploration, mining or forestry, for example)
- carry out studies into the feasibility, cost implications and performance benefits of new mechatronic equipment



# Finance & Accounting Sector



## Accountant

*Accountants analyze, report and give advice about the financial dealings of organisations and individuals, and advise on associated record-keeping and compliance requirements.*

Accountants may perform the following tasks:

- assist with the formulation of budgetary and accounting policies
- prepare financial statements for presentation to boards of directors, management, shareholders and statutory bodies
- conduct financial investigations, undertake audits, prepare reports and advise on such matters as the purchase and sale of businesses, mergers, financing, suspected fraud, insolvency and taxation
- examine the income and expenditure of institutions
- provide assurance about the accuracy of information contained in financial reports and their compliance with statutory requirements
- provide financial and taxation advice about business structures, plans and operations
- liaise with bankers and brokers to establish funds management arrangements
- advise on the selection and application of computerbased accounting systems
- appraise cash flow and financial risk of investment projects



## Financial Accountant

*Financial Accountants analyse, report and give advice about the financial dealings of organisations and individuals, and advice on associated record-keeping and compliance requirements.*

Financial Accountants may perform the following tasks:

- assists in drawing up budgets
- assist with the formulation of budgetary and accounting policies
- prepare financial statements for presentation to boards of directors, management, shareholders and statutory bodies
- assists with reconciliations
- examine the income and expenditure of institutions
- provide assurance about the accuracy of information contained in financial reports and their compliance with statutory requirements
- provide financial and taxation advice about business structures, plans and operations
- liaise with bankers and brokers to establish funds management arrangements
- advise on the selection and application of computerbased accounting systems
- report to management regarding the finances of establishment
- establish tables of accounts, and assign entries to proper accounts
- appraise cash flow and financial risk of investment projects
- advise management about tax strategies
- prepare tax returns

# Human Resources Sector



## Human Resources Assistant

*Human resources assistants provide administration services for the recruitment and employment of staff on associated record-keeping and compliance requirements.*

Human Resources Assistants may perform the following tasks:

- analyse the skills and qualities required for each particular job and develop job descriptions and duty statements
- advertise staff vacancies, assess applications, interview applicants, administer selection tests, prepare reports and make recommendations to management about staff appointments
- maintain the personal records of employees on matters such as wages, superannuation, leave and training, and prepare associated management reports
- arrange and conduct staff training
- use a number of management information systems to record, maintain, plan and manage the organisation's human resources
- provide advice and information to management and employees on human resource policies and procedures, including equal opportunity, anti-discrimination and occupational health and safety programmes
- assist employees with work matters, career development, personal problems and industrial matters
- organise employee welfare services such as health and wellbeing programmes, first aid and fire warden training, superannuation and social activities
- help implement organisational changes (such as those following from industrial relations legislation, revised job classification structures or technological changes)





# Marketing Sector



## Market Researcher

*Market Researchers collect and analyse information to assist with marketing and to determine whether a demand exists for a particular product or service.*

Market Researchers may perform the following tasks:

- design questionnaires and select sample groups to survey
- collect facts from sources (such as company records) showing the total volume of sales, or from government statistics and information (such as population census data)
- arrange and analyse collected information
- interpret and predict current and future consumer trends, such as changes in tastes and lifestyles
- write reports about the results of research activities
- discuss information needs with clients
- identify specific consumer markets for clients



# Multimedia Sector



## Illustrator

*Illustrators create drawings and designs for books and magazines, advertisements, film, television and multimedia while assisting editors, clients and authors.*

Illustrators may perform the following tasks:

- edit copy, write headlines and plan the layout of news items
- study the project brief (instructions) and select an appropriate style, technique and medium to use
- helps negotiating prices and deadlines
- create and model creatures, characters, environments and interiors for 2D and 3D computer animations
- create illustrations using charcoal, pen, ink, paint, photography and computer graphics software
- discuss the project with clients and the production team, making changes as requested
- research a topic by looking at photographs, artworks, advertisements and books, and by observing people, animals and plants
- prepare sketches, layouts and storyboards to try out different ideas



## Editor

*Editors edit already finished documents to improve readability and make it easier for others to understand it while also deciding on the content of publications.*

Editors may perform the following tasks:

- edit copy, write headlines and plan the layout of news items
- supervise journalists
- manage the day-to-day running of a newspaper or magazine
- assign staff and photographers to stories
- verify facts, dates, and statistics, using standard reference sources
- review and approve proofs submitted by the composing room prior to publication production
- develop story or content ideas, considering reader or audience appeal
- assign topics, events and stories to individual writers or reporters for coverage
- supervise and coordinate work of reporters and other editors
- make manuscript acceptance or revision recommendations to the publisher
- direct the policies and departments of newspapers, magazines and other publishing establishments
- arrange for copyright permissions
- use a wide range of reference materials
- read material to determine index items and arrange them alphabetically or topically, indicating page or chapter location
- meet frequently with artists, typesetters, layout personnel, marketing directors, and production managers to discuss projects and resolve problems





# Tourism Sector



## Tour Guide

*Tour Guides accompany visitors on local tours and guide tourists within a specific country area or site. They provide special information on history, archaeology, monuments and works of art, the environment, culture, natural and built attractions, places of interest, and any general matters of interest to the visitor.*

Tour Guides may perform the following tasks:

- meet members of a tour on arrival and make introductions
- coordinate pre-arranged accommodation and transport and make sure that tour members are comfortable
- lead tour groups, advise tour members of local interest points, and prepare and present tour commentaries
- coordinate pre-arranged tour activities such as visits to local attractions, restaurants or shops, train rides, cruises,
- extended tours, white water rafting, bushwalking and mountaineering
- provide first aid if needed
- keep in touch with transportation companies
- maintain written reports of daily activities and carry out other administrative work



## Museum Attendant

*Museum Attendants work in the public spaces of museums, greeting visitors and attending to enquiries, and ensuring the protection of exhibits..*

Museum Attendants may perform the following tasks:

- conduct tours of museums or galleries
- answer enquiries
- direct visitors to specific exhibits
- give visitors information about exhibits
- control visitors' access to exhibits
- check that all visitors have departed at closing time
- prevent unauthorised entry
- inspect membership cards, admission passes and tickets
- patrol the museum or gallery to ensure security



## Hotel Manager

*Hotel Managers plan, supervise and control the operations of a hotel.*

Hotel Managers may perform the following tasks:

- plan, direct and coordinate accounting, food and beverage services, guest services, maintenance, staff development, and sales and marketing
- allocate tasks and priorities, coordinate resources, and develop business plans and marketing strategies
- manage building costs, rents, maintenance, lighting, power, heating, air conditioning, floorings and furniture
- control capital and operational expenditure
- prepare reports for senior management
- make sure government health, occupational safety and licensing regulations are followed
- carry out marketing and sales activities for rooms, conventions, banquets and conferences
- supervise arrangement and re-arrangement of furnishings
- manage the security of the hotel and its staff
- publicise the hotel through public relations activities in the local business community

# Contact Info

Contact us by sending a message to the following e-mail, or visit our website for more information:



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