

Science-related career descriptions

The career descriptions are listed under following categories:

- Chemistry
- Technology
- Biology
- Health
- Physics
- Education

You can use these career cards as a pairing game, memory game or in any other way you can imagine, to help promoting students career awareness.

Remember that some of these careers can be extended with the career stories or career-based scenarios found also in the MultiCO-website (multico-project.eu).



CHEMISTRY	
Food chemist	<p>They develop and improve the taste and texture of food. Based on their knowledge, they develop new methods to measure the quality of food and to detect potential contaminations arising from processing or from the environment. They assure optimal quality and in food monitoring, they identify misleading information and deceptions of the producers.</p>
Production designer (food industry)	<p>They work at the production facilities in food industry. He/she is responsible for planning production and human resources. Aims to enable cost efficient food production and that the right product is produced at the right station in right time. Job requires precision and responsibility.</p>
Laboratorian	<p>They are skilled worker who works with complex systems or performs highly technical mechanical or diagnostic tests in medical or scientific laboratories. Depending on the field, might work independently or under the direction of a professional.</p>

<p style="text-align: center;">Chemist</p>	<p>They search for and use new knowledge about chemicals to improve the way we live. He or she may develop products such as synthetic fibres, drugs and cosmetics. Specialize in areas such as analytical, organic, inorganic, physical and theoretical, macromolecular, medical and materials chemistry.</p>
<p style="text-align: center;">TECHNOLOGY</p>	
<p style="text-align: center;">Maintenance engineer</p>	<p>They enhance service quality and equipment reliability by improving workflows and optimizing maintenance processes. Links field maintenance organization and the engineering and manufacturing centres and provides input to improve equipment design, reliability, and maintainability.</p>
<p style="text-align: center;">Service engineer</p>	<p>Their work entails repairing, installing or designing equipment, tools and products in various fields of technology. They can work in either private or public sector. Professionals carry out installations and repairs on site, such as customer's business place or home.</p>

Forester	They study and manage forests, rangelands and other natural areas, working generally as conservation scientists. It is an ideal profession for those who have an interest in science but also enjoy spending time outdoors. Most work for state or federal agencies, but a few are employed by lumber companies and other private businesses to help manage natural resources.
Forestry engineer	They are the application of engineering principles and techniques to the management of forestlands. This includes working to ensure the health and sustainability of wildlands, timberlands and watersheds while allowing for such economic activities as timber harvesting and recreational use.
Power plant operator	They control, operate, and maintain machinery to generate electricity. They use control boards to distribute power among generators and regulate the output from several generators. They monitor instruments to maintain voltage and electricity flows from the plant to meet consumer demand for electricity, which fluctuates throughout the day.
Automation technician	He or she troubleshoots service and fix the computerized systems and robotic devices that are designed to reduce human interaction, such as robotic assembly devices and computer controlled building air-conditioning systems. These machines and systems are often found within industrial and manufacturing plants, such as food processing facilities.

Automation engineer	They design, program, simulate and test automated machinery and processes in order to complete exact tasks. They typically are employed in industries such as car manufacturing or food processing plants, where robots or machines are used to perform specific functions. They are responsible for design specifications and other detailed documentation of their creations.
Energy engineer	They design, develop, and evaluate projects and programs to reduce energy costs or improve efficiency. By analysing construction plans and performing visual inspections, they identify how much energy a structure is using and propose ways to reduce or optimize this usage. They use computer simulations to calculate and measure the impact of various construction features on energy consumption.
District heating technician	He or she works for energy industry. Tasks entail installing and repairing district heating facilities, network, energy meters and consumers' district heating devices.
Electrical engineer	Someone who designs and develops new electrical equipment, solves problems and tests equipment. They work with all kinds of electronic devices, from the smallest pocket devices to large supercomputers.

<p>Grid technician</p>	<p>Installs electrical installations as effectively and operable as possible for grid supply and end consumers' needs. The work requires observing standards and regulations, including environmental aspects. He or she is able to read maps, structural designs and make required calculations. The work place may be at electricity companies' or grid network maintaining companies.</p>
<p>Wind power engineer</p>	<p>Scientist who designs wind farms or their components. Alternatively, he or she may supervise the manufacture of rotor blades or other components.</p>
<p>Logistics engineer</p>	<p>They use complex computer software to track the movements of goods and products, from getting exports and products from point A to B to where to place a tin of soup on a supermarket shelf. It is even used by some government agencies to help clean up natural disasters.</p>
<p>Electronics mechanic</p>	<p>Someone who repairs electronic equipment, such as computers, industrial controls, audio and video systems, radar systems, telemetering and missile control systems, transmitters, antennas, and servomechanisms, following blueprints and manufacturers' specifications, and using hand tools and test instruments:</p>

<p>Vehicle technician</p>	<p>They repair and service cars, vans, motorbikes, lorries and coaches. They work on all vehicle mechanics and electrics, from engines and exhaust systems to air-conditioning and security.</p>
<p>Garage mechanic</p>	<p>When car brakes, no longer work correctly or automobile engines develop annoying knocks, owners take their vehicles to these workers performing maintenance, repairing and installations.</p>
<p>Vehicle painter</p>	<p>Their work begins with preparing the surface of the vehicle. Preparation includes carefully cleaning the surface, removing dust and dirt and washing metal parts with chemicals to protect them from corrosion. Next, they mask, or cover using tape and paper, areas that are not to be processed.</p>
<p>Inspector</p>	<p>Someone responsible for examining materials for quality and defects. Ensures that people, equipment, and materials are used properly to maximize productivity.</p>

<p>Air traffic controller</p>	<p>They coordinate the movement of air traffic, to ensure that aircraft stay safe distances apart and land safely</p>
<p>Pilot</p>	<p>They guides ships from the see to the harbour and vice versa.</p>
<p>Materials engineer</p>	<p>Individuals interested in the field of engineering and creating necessary materials for a variety of functions. They develop test and process materials for the manufacturing, communications and civil engineering industries.</p>
<p>Computer technician</p>	<p>As Information Technology is becoming more and more important in our daily lives, there is a growing demand for skilled professionals who can offer quality technical support. Their duties often include installing hardware and software systems, maintaining or repairing equipment, troubleshooting a variety of computer issues, setting up computer security measures, configuring computer networks and offering technical support onsite or via phone or email.</p>

<p>Communications technician</p>	<p>They work in many settings within the broadcast world. Hired by radio stations, recording studios, cell phone companies and television stations, communication technicians are responsible for the maintenance and proper usage of technical equipment.</p>
<p>Mechanical engineer</p>	<p>One of the broadest engineering disciplines. They design, develop, build, and test mechanical and thermal devices, including tools, engines, and machines.</p>
<p>Machinist</p>	<p>Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures.</p>
<p>Mechatronics technician</p>	<p>Mechatronics is a field of engineering that focuses on the design and production of automated equipment. This industry employs both engineers to design and develop the equipment and technicians to maintain it.</p>

<p>Iron structure worker</p>	<p>These employees install steel or iron beams, columns or girders in order to form bridges, buildings and other structures. The work is unsafe as structural iron and steel workers use dangerous tools and are required to work in all kinds of weather conditions.</p>
<p>Environmental engineer</p>	<p>They use the principles of engineering, soil science, biology, and chemistry to develop solutions to environmental problems. They are involved in efforts to improve recycling, waste disposal, public health, and water and air pollution control. They also address global issues, such as unsafe drinking water, climate change, and environmental sustainability.</p>
<p>Processing engineer</p>	<p>Someone responsible for evaluating existing processes and configuring manufacturing systems to reduce cost, improve sustainability and develop best practices within the production process.</p>
<p>Galvaniser</p>	<p>Produces metallic coatings on metals with different procedure and techniques. During the training, you would become an expert in handling, supervising and maintaining of the galvanic as well as powder coating equipment. You would get to learn about the fieldwork in the laboratory as well as wastewater plant and how the components are made ready for coating. The constant quality control is a part of your training as well.</p>

<p style="text-align: center;">Smelter</p>	<p>They maintain and otherwise utilize a variety of furnaces that are used in metal refineries. The profession calls on furnace and smelter operators to work with a variety of furnaces including those that operate on gas, oil, coal, oxygen, electric arc or electric induction to melt and refine metal ores either for casting or to produce types of steel that have been ordered by plant customers.</p>
<p style="text-align: center;">Mining engineer</p>	<p>They design and create systems that are used to locate, extract, and transport natural resources. They develop and design new mining equipment and make sure that the mining procedures used are safe and efficient. Increasingly, focusing their attention on creating mining equipment and techniques that are as friendly to the environment as possible.</p>
<p style="text-align: center;">Chemical engineer</p>	<p>They rely on their knowledge of mathematics and science— particularly chemistry— to overcome technical problems safely and economically. In addition, of course, they draw upon and apply their engineering knowledge to solve any technical challenges they encounter.</p>
<p style="text-align: center;">Biotechnology engineer</p>	<p>Their main task is to develop products from living microorganisms. They may become geneticists who focus their time and attention on studying the genes of living organisms to help in the development of medicines or improvement of agriculture. Some may opt to become biomedical engineers who combine biology, medicine and engineering to develop devices that provide solutions to medical and healthcare problems.</p>

<p>Plastics engineer</p>	<p>Their work involves the application of scientific and engineering principles to the development of a wide variety of polymer products. From airplane wings to golf clubs and a host of goods in between, they solve material-related problems with the goal of designing and developing products with improved performance and durability.</p>
<p>Wood processing engineer</p>	<p>Someone who works in wood product industry in management and expert position. Tasks entail planning and monitoring production. They need good skills in managing large unities, cooperation and ability for independent work.</p>
<p>Civil engineer</p>	<p>Design and construct public works, such as dams, bridges and other large infrastructure projects. It is one of the oldest branches of engineering, dating back to when people first started living in permanent settlements and began shaping their environments to suit their needs.</p>
<p>Information technology engineer</p>	<p>They apply their technical knowledge to solve a variety of technological challenges. They may also create new technologies, including the development of networking solutions and software programs.</p>

<p>Pulp manufacturing operator</p>	<p>Paper products are everywhere. Paper mills use an array of equipment to make this happen. These professionals run the equipment to create a final product. Job description ranges from machine set up and operation to quality control testing and general housekeeping.</p>
<p>Mapper and Surveyor</p>	<p>Someone assisting with gathering, processing and entering geographical data to create an image of a region. They work alongside cartographers, photogrammetrists and other specialists utilizing a unique set of measurements and tools to complete their work.</p>
<p>Software Systems Developer</p>	<p>They develop or modify software systems – that run computers or other technologies like phones, network routers and switches – for companies, industry and the public sector.</p>
<p>Technical Support</p>	<p>They provide services to support users and customers after a hardware or software package is on the market.</p>

<p>Software Tester</p>	<p>They set out to find software bugs, errors or other defects, before a package goes on the market.</p>
<p>Software Application Developers</p>	<p>They design and develop software, from games to word processing programs, for computers, tablets, mobile phones and Smart TVs. Applications are also used by governments, manufacturers and from small firms to multi-nationals.</p>
<p>BIOLOGY</p>	
<p>Agrologist</p>	<p>They are responsible for providing advice and services related to agricultural and environmental science. They also apply scientific principles to the cultivation, production and utilization of animals and plants.</p>

<p style="text-align: center;">Agronomist</p>	<p>They specialize in producing and improving food crops through conducting experiments and developing methods of production. They can have many career paths, but their careers are generally focused on increasing the quality and amount of food produced for the nation's food supply.</p>
<p style="text-align: center;">Horticulturalist</p>	<p>They are concerned with the efficient growth, design and distribution of flowers, trees, fruits and vegetables. They may work in fields, greenhouses, nurseries, laboratories, academic institutions or may be employed as consultants. They are also often concerned with the research, marketing and financial aspects of horticultural businesses.</p>
<p style="text-align: center;">Bioanalyst</p>	<p>They are responsible for breaking down, creating and investigating biological compounds. They are typically employed in research roles for chemical producers or universities.</p>
<p style="text-align: center;">Biochemist</p>	<p>They plan and conduct experiments to isolate, quantify and analyse hormones, enzymes, and toxins, and to determine the effects of substances like drugs, food and toxins on biological processes. They may also develop new analytical techniques, or to study biological processes. They may also use computer software to determine the three-dimensional structure of molecules, or use math to describe the chemical relationships between substances found in the environment and in the body.</p>

<p>Physiologist</p>	<p>They need to understand the mechanisms of living how living things work; how our cells, muscles and organs work together, and how they interact and integrate in the entire body.</p>
<p>Microbiologist</p>	<p>They undertake laboratory analysis and monitoring of microbial cultures, samples and new drugs using specialist computer software and a range of identification methods and clinical trials.</p>
<p>Ecologist</p>	<p>They study the relationship between plants, animals and their environment. The aim of their work could range from balancing the needs of the environment to coming up with ideas for land management.</p>
<p>Environmental compliance inspector</p>	<p>They perform routine investigations of certain job sites and other areas to assure that all projects are compliant with important environmental laws. As a result, they are an essential component for protecting the health of both the land and the public. This job involves a familiarity with environmental regulations, as well as an ability to accurately record the compliance level of a particular site.</p>

<p style="text-align: center;">Zoologist</p>	<p>He or she is someone who studies the behaviour, origins, genetics, diseases and life progression of animals and wildlife. There are a variety of ways that they can specialize in and there are many diverse jobs in this field. They may devote their lifetime to the study of a single species, or work can be more generalized.</p>
<p style="text-align: center;">Zookeeper</p>	<p>They are responsible for the well being of the animals living in zoos. The job requires a keeper to routinely complete a number of tasks for the animals, such as bathing, feeding and exercising. They keep notes on their eating habits, watch for odd behaviour, and provide veterinarians with relevant information about their health.</p>
<p style="text-align: center;">Geneticist</p>	<p>They treat and counsel patients with hereditary conditions, develop pharmaceutical and agricultural products and research inherited diseases. They study the inherited characteristics of humans, animals and plants. Their experiments and analyses contribute to knowledge of human behaviour, genetic diseases and the development of crops, among other topics.</p>
<p style="text-align: center;">Fisheries biologist</p>	<p>Scientists who study fish and their habitats. Because mostly focusing on the behaviour of fish in their natural surroundings, scientists who work in this profession spend a lot of time outside.</p>

<p>Botanist</p>	<p>Plants are vital to all life on earth. They convert light from the sun into energy we can eat, and even use for fuel. They also release the oxygen we breathe. These professionals study plants to try to understand how these processes work. Their research is involved in enhancing crops, developing medicines, cleaning up contaminated sites, and even powering our cars.</p>
<p>Limnologist and hydro biologist</p>	<p>Experts in inland water nature economy. They examine organism world in water and its relationship with the living environment.</p>

HEALTH	
Vet	<p>They care for the health of animals and work to improve public health. They diagnose, treat, and research medical conditions and diseases of pets, livestock, and other animals.</p>
Pharmacist	<p>They dispense prescription medications to patients and offer expertise in the safe use of prescriptions. They also may provide advice on how to lead a healthy life-style, conduct health and wellness screenings, provide immunizations, and oversee the medications given to patients.</p>
Pharmacy technician	<p>Somone responsible for handling all aspects of the prescription fulfilment process and assisting the pharmacist with day-to-day operations.</p>

<p>Medical doctor</p>	<p>These professionals diagnose patient conditions using examinations and tests. Based on their findings, they prescribe treatment and medications to attempt to heal any illnesses or injuries. Most of them routinely work in teams, with nurses and aides assisting them in well-lit work locations.</p>
<p>Dentist</p>	<p>Someone responsible for diagnosing and treating problems with the teeth, gums, and tissue in the mouth. These doctors instruct individuals on brushing, flossing, and all other aspects of dental care.</p>
<p>Dental technician</p>	<p>They work with dentists to create full and partial dentures, orthodontic appliances, bridges, crowns and veneers. Dentists send model of their patient's mouth along with a prescription for the type of denture, crown or bridge needed. The model can be a 3-dimensional putty mould or a digital impression.</p>
<p>Dental hygienist</p>	<p>These healthcare workers typically work in dentists' offices. They must be trained in techniques, skills and concepts related to dental care and need to gain state licensure. Their job duties centre around cleaning patients' teeth and giving instruction in proper dental hygiene. This may be a good career for those who enjoy working directly with people and have an interest in healthcare jobs.</p>

<p>Practical nurse</p>	<p>They provide basic care under supervision of a registered nurse (RN) or doctor to disabled, convalescent, injured or sick individuals.</p>
<p>Paramedic</p>	<p>A health care professional responsible for providing medical assistance to patients while they are en route to the hospitals. They are always the first one at the scene of the accident and are responsible for the initial assessment of a patient's condition.</p>
<p>Physiotherapist</p>	<p>They develop progressive exercise regimens that are safe for patients with varied, sometimes serious conditions, in addition to monitoring small groups of patients who are exercising and documenting their progress. The exercise equipment used in hospital programs is similar to that found in gyms, but some may be specially developed for patients' needs. They need to have the ability to inspire confidence and motivate patients.</p>
<p>Midwife</p>	<p>They are traditional care providers for mothers and infants. Trained professionals with expertise and skills in supporting women to maintain healthy pregnancies and have optimal births and recoveries during the postpartum period. They provide women with individualized care uniquely suited to their physical, mental, emotional, spiritual and cultural needs.</p>

<p>Pathologist</p>	<p>Specialized physicians that use bodily fluids and tissues to help diagnose diseases.</p>
<p>Radiographer</p>	<p>They take images of the insides of patients' bodies to diagnose injury or disease. They also care for and treat people with cancer. They use their wide range of skills and training to deliver a sensitive, patient-focused healthcare service in imaging and radiotherapy. They use high-tech, expensive equipment and are an important part of a large medical team.</p>
<p>Nurse</p>	<p>They plan and provide medical care to patients in hospital, at home or in other settings who are suffering from both chronic and acute physical or mental ill health.</p>
<p>Public health nurse</p>	<p>They work within the community to improve the overall health of the area. Their most common places of employment include county or state departments of health or public health departments, correctional facilities, occupational health facilities, businesses, and schools. They put together plans that alleviate or eliminate health or safety issues in a community, issues like immunizations, STDs, and obesity.</p>

Epidemiologist

They uncover the cause and effects of various diseases, ailments and illnesses, like the dreaded avian flu.

PHYSICS	
Physicist	<p>They research physical phenomena, devise hypotheses, conduct experiments and draw conclusions from experimental data to explain the world around us. They can work in either applied or theoretical fields, based on their skill set and available career opportunities.</p>
Geologist	<p>They study earth processes such as earthquakes, landslides, floods, and volcanic eruptions to survey land and draw up safe building plans. When investigating earth materials, not only do they investigate metals and minerals, but they also look into oil, natural gas, water and methods to extract these.</p>
Meteorologist	<p>They study the earth's atmosphere, climate and weather. They will collect and interpret data to make weather forecasts, for the general public, and also for use in agriculture, aviation and the armed forces.</p>

Astrophysicist	They explore physical properties of celestial objects, including stars, planets and galaxies; thus, they need a substantial amount of scientific knowledge. Becoming one requires training and skill in a combination of astronomy and physics.
EDUCATION	
Vocational school teacher	They work with adolescent students of many different scientific and technological fields. And, helps them to prepare for tests, practical training and finally work life.
Teacher, mathematics and science	They work in classrooms in elementary schools, middle schools and high schools. They impart required mathematics curricula to their students, which might include helping them prepare for standardized tests and college entrance exams. They need knowledge, for example, about chemistry, physics, biology, marine science, astronomy and other courses on the physical sciences depending on their