

Target Moon Career Bingo—Career Descriptions



TEACHER RESOURCE

AEROSPACE ENGINEER

Description

Perform engineering work in designing, constructing, and testing aircraft, missiles, and spacecraft. Conduct research on aircraft design. Recommend improvements in testing equipment and techniques.

Tasks

Design aeronautical or aerospace products to meet customer requirements.

Plan and conduct experimental and stress tests on models and prototypes of aircraft and aerospace systems and equipment.

AEROSPACE ENGINEERING TECHNICIAN

Description

Operate computer systems in order to launch and track air and space vehicles. Use simulators, instruments, and other devices in order to track vehicles. May record and interpret test data.

Tasks

Operate computer systems to run and analyze vehicle tests.

Construct and maintain test facilities for aircraft parts and systems, according to specifications.

AIRLINE PILOT, COPILOT, and FLIGHT ENGINEER

Description

Pilot and navigate the flight of multiengine aircraft for the transport of passengers and cargo. Obtain certification for the type of aircraft being flown.

Tasks

Instruct other pilots and student pilots in aircraft operations and the principles of flight.

Work as part of a flight team with other crew members, especially during takeoffs and landings.

ASTRONOMER

Description

Observe, research, and interpret celestial and astronomical events. Increase basic knowledge about these events and apply it to practical problems.

Tasks

Study history, structure, and evolution of stars, stellar systems, and universe.

Develop mathematical tables giving positions of sun, moon, planets, and stars at given times for use by air and sea navigators.

Design optical, mechanical and electronic instruments for astronomical research.

Compute positions of sun, moon, planets, stars, nebulae, and galaxies.

ATMOSPHERIC AND SPACE SCIENTIST

Description

Investigate atmospheric phenomena. Interpret data gathered by stations, satellites, and radar. Prepare reports and forecasts for public and other uses.

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Tasks

Broadcast weather conditions, forecasts, and severe weather warnings to the public, using television, radio, and the Internet.

Prepare forecasts and briefings to meet the needs of industry, business, government, and other groups.

CALIBRATION AND INSTRUMENTATION TECHNICIAN

Description

Develop, test, calibrate, operate, and repair many types of instruments. Instruments include mechanical, electromechanical, and electrohydraulic measuring and recording instruments.

Tasks

Use test equipment to change the performance and operation of instruments.

Disassemble and reassemble instruments and equipment, using hand tools.

Inspect instruments and equipment for defects.

CARTOGRAPHER and PHOTOGRAMMETRIST

Description

Collect, analyze, and interpret geographic information provided by surveys, aerial photographs, and satellite data. Research, study, and prepare maps for legal, educational, and other purposes. May work with geographic information systems (GIS).

Tasks

Prepare and alter trace maps, charts, tables, detailed drawings, and three-dimensional optical models of terrain.

Revise existing maps and charts, making all necessary corrections and adjustments.

CHEMIST

Description

Conduct chemical analyses or experiments in laboratories for quality control or to develop new products or knowledge.

Tasks

Analyze organic and inorganic compounds to determine chemical and physical properties.

Prepare test solutions, compounds, and reagents for laboratory personnel to conduct test.

EMERGENCY MANAGEMENT SPECIALIST

Description

Coordinate disaster response or crisis management activities. Provide training on preparing for disasters. Prepare emergency plans and procedures for natural and other disasters.

Tasks

Study emergency plans used elsewhere in order to gather information for plan development.

Prepare plans that outline operating procedures to be used in response to disasters/emergencies, such as hurricanes, nuclear accidents, and terrorist attacks, and in recovery from these events.

GEOLOGICAL SAMPLE TECHNICIAN

Description

Look for petroleum, gas, or mineral gas by testing geological samples. Analyze the physical and chemical properties of petroleum

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products to determine the quality of the material.

Tasks

Supervise well exploration and drilling activities.

Participate in geological, oceanographic, and other surveys.

GEOLOGIST

Description

Study composition, structure, and history of the Earth's crust. Examine rocks, minerals, and fossil remains to study the development of the earth. Apply knowledge of chemistry, physics, biology, and mathematics to explain geological processes. Locate mineral and petroleum deposits and underground water resources

Tasks

Locate natural gas, oil, and mineral ore deposits and underground water resources, using aerial photographs, charts, and research and survey results.

Conduct geological studies to provide information for community development issues.

MATHEMATICIAN

Description

Conduct research in fundamental mathematics or in application of mathematical techniques to science, management, and other fields. Solve problems in various fields by mathematical methods.

Tasks

Apply mathematical theories and techniques to the solution of practical problems in business, engineering, or the sciences.

Perform computations and apply methods of numerical analysis to data.

MINING AND GEOLOGICAL ENGINEER, INCLUDING MINING SAFETY ENGINEER

Description

Determine the location and plan the extraction of coal, metallic ores, nonmetallic minerals, and building materials, such as stone and gravel. Conduct surveys of deposits or undeveloped mines and plan their development. Examine deposits or mines to determine whether they can be worked at a profit. Make geological and topographical surveys.

Tasks

Test air in ventilation shafts to detect toxic gases and recommend measures to remove them.

Select or develop mineral location, extraction, and production methods, based on factors such as safety, cost, and deposit characteristics.

Prepare schedules, reports, and estimates of the costs involved in developing and operating mines.

PHYSICIST

Description

Conduct research into the phases of physical phenomena. Develop theories and laws based on observation and experiments. Apply laws and theories to industry and other fields.

Tasks

Test radioactive equipment for contamination and record data.

Develop theories and laws on the basis of observation and experiments. Apply these

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theories to problems in areas such as nuclear energy, optics, and aerospace technology.

STATISTICIAN

Description

Collect and interpret numerical data to provide useful information. Contribute to development of mathematical theory. Specialize in fields such as biostatistics, agricultural statistics, business statistics, or other fields.

Tasks

Analyze and interpret statistical data in order to identify significant differences in relationships among sources of information.

Adapt statistical methods in order to solve specific problems in many fields, such as economics, biology, and engineering.

SURVEYING TECHNICIAN

Description

Adjust and operate surveying instruments. Compile notes, make sketches, and enter data into computers.

Tasks

Record survey measurements and descriptive data, using notes, drawings, sketches, and inked tracings.

Position and hold the vertical rods, or targets, that survey technicians use for sighting in order to measure angles, distances, and elevations.

SURVEYOR

Description

Make exact measurements and determine property boundaries. Determine the shape, elevation, or dimension of land. Use land

information for engineering, mapmaking, mining, and other purposes.

Tasks

Prepare or supervise preparation of all data, charts, plots, maps, records, and documents related to surveys.

Plan and conduct ground surveys designed to establish baselines, elevations, and other measurements.