

Careers in Metrology

The field of metrology, the science of measurement, offers many rewarding career opportunities for those with an interest in science and technology. Cutting edge, state of the art, technologies used in engineering, applied research, material analysis, telecommunications, avionics, biomedical, etc., have their foundations built upon metrological principles and practices. These technologies depend on the work of professional metrology practitioners to ensure accuracy of measurements. Persons working in the field of metrology support functions such as manufacturing and new product development, the mission of governmental agencies (U.S. Armed Services, NASA, U.S. Dept. of Energy, U.S. Dept. of Commerce, FCC etc.) as well as the service sector such as health care. If something can be measured, it's a good bet that metrology practitioners are measuring it right now, or they are creating the technology to measure it in the future.



Metrology practitioners routinely use mathematics, physics, science principles and engineering techniques in performing their jobs. Depending on personal interests and work requirements, metrology practitioners have taken courses in engineering, computer science, biology, chemistry, physics and mathematics. Topics of study may include sound, light and lasers, temperature, vibration, mass and force, acceleration and electronics, just to name a few. Education credentials for metrology positions range from technical trade and military school certificates to associates through doctoral degrees. Some common metrology job titles are: calibration technician, instrumentation specialist, measurement technologist, calibration engineer, metrology engineer and metrologist. Metrology practitioners obtain their skill sets by performing physical measurements as part of a technical curriculum, participating in hands-on instructional courses, and via on the job training sessions.

What kind of tasks do metrology practitioners perform? Many are involved in calibrating and maintaining inspection, measurement and test equipment (IM&TE) in calibration laboratories and at customer locations. Troubleshooting, repairing and inspection may also be part of their duties. Whether it is a device for measuring infrared radiation, sound pressure, relative humidity, or a thousandth of a millimeter, metrology practitioners use sophisticated calibration standards and diagnostic tools to ensure IM&TE is operating correctly. Other tasks for metrology practitioners may include software programming, technical writing, analyzing measurement data, developing measurement systems and calibration procedures, designing test fixtures and new instrumentation, measurement consulting and training, quality administration, process evaluations and maintaining calibration standards, just to name a few.



Metrology practitioners may choose to specialize in one particular support area such as environmental parameters or precision electrical, or they may want to become versed

in multiple areas. The opportunity to learn new technologies and master new skill sets is always present for those working in the metrology field.

Job openings for qualified metrology practitioners can be found all over the world. Chances are good that there are employment opportunities in a location near you, or a place where you would like to move to. Wages for metrology practitioners are very competitive when compared with technical positions for other vocations having similar job responsibilities. The metrology field offers individuals challenging career opportunities that are in demand by industry and government agencies. **If you like science and have a knack for technology, metrology may be just the vocation for you.**