



Materials Science Engineer



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Materials Science Engineer

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I test metals and alloys to make sure they work in the environment where they will be used. I make sure that the metal will not corrode in the environment where it will be used. I then choose the best materials that can be used to develop equipment used in space and for ground support.

Areas of expertise:

- Chemistry
- Metals

How I first became interested in this profession:

When I graduated from Spruce Creek High School (Daytona Beach, Florida) in 1987, I knew that I wanted to be a chemist. This decision was made after I participated in NASA SHARP (Summer High school Apprentice Research Program). After that great experience, I thought I would never see NASA again! I am happy to say I was wrong.

What helped prepare me for this job:

Before graduating from high school, Mrs. Buchanan, manager of the SHARP program, guided me in applying for the scholarship program NASA had recently implemented with Spelman College in Atlanta. The great thing about this program was that it included a summer internship with NASA. My college classes and my summer internships working in the laboratories really helped prepare me for my job.

My role models or inspirations:

I have been very fortunate to have had many role models in my life. First and foremost are my parents. They were always very supportive of my sisters and myself. We always knew that we could depend on them. They provided us with love and a strong Christian foundation. My sisters and I could also depend on our extended family: aunts, uncles, and cousins. Another important person who helped to shape my life was my high school chemistry teacher, Mrs. Aumiller. She was enthusiastic and made learning a lot of fun. She always made chemistry seem simple so that we could understand it and really learn to appreciate it. My church family was also a big influence in my life, in prayers and encouragement.

My education and training:

- B.S., Chemistry, Spelman College
- M.S., Industrial Engineering, University of Central Florida

My career path:

- One summer with NASA SHARP (Summer High school Apprentice Research Program) inspired me to be a chemist
- Summer internship with the Bionetics Corporation in the Environmental Monitoring Laboratory for two summers
- Chemist in the Microchemical Analysis Laboratory at NASA for ten years

What I like about my job:

I really enjoy the environment I work in. Every day is different.

What I don't like about my job:

I have to commute an hour. However, that is my choice because I want to remain close to my family.

My advice to anyone interested in this occupation:

Make sure science or engineering is what you want to do. Apply for internships to gain experience and to find out if you like the science or engineering career path.

Additional Resources:

- American Institute of Biological Sciences
<http://www.aibs.org>
- American Physiological Society
<http://www.faseb.org/aps>
- American Society for Biochemistry and Molecular Biology
<http://www.biophysics.org/biophys/society/biohome.htm>
- American Society for Microbiology
<http://www.asmsusa.org>
- Astrobiology Summer Academy
<http://academy.arc.nasa.gov/>
- Biotechnology Industry Organization
<http://www.bio.org/welcome.html>
- Education Pays Calculator
<http://www.educationpays.org/calc.asp>
- Earth to Orbit: Engineering Design Challenges
<http://eto.nasa.gov/>
- Graduate Student Researchers Program
<http://spacelink.nasa.gov/Instructional.Materials/NASA.Educational.Products/Graduate.Student.Researchers.Program.Brochure/.index.html>
- MATHCOUNTS Competition
<http://mathcounts.org/>
- Minority University Research and Education Programs
<http://mured.nasaprs.com/>
- NASA Cooperative Education Program for college students
<http://spacelink.nasa.gov/Educational.Services/NASA.Education.Programs/Student.Support/NASA.Cooperative.Education.Program/.index.html>
- NASA Jobs
<http://nasajobs.nasa.gov/>
- NASA Office of Life and Microgravity Sciences and Applications
<http://www.hq.nasa.gov/office/olmsa/>
- NASA SHARP Internship Program for high-schoolers
<http://www.mtsibase.com/sharp/>
- NASA Student Employment
http://nasajobs.nasa.gov/stud_opps/employment/index.htm
- NASA Student Involvement Program student contests
<http://www.nsip.net/index.cfm>
- Order NASA career videos such as "Engineers: Turning Ideas into Reality," "Careers: Aerospace Engineer" or "Reaching for the Stars" from NASA CORE.
<http://core.nasa.gov>
- Revolutionary Vehicle Concepts and Systems student competition
<http://avst.larc.nasa.gov/competitions.html>
- Student's Guide to Astrobiology
<http://www.astrobiology.com/student.html>
- Tech-Interns.com
<http://www.tech-interns.com/>

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Thank you.

