



Educational Topic

Computer Engineer

Related Job Titles:

Computer Hardware Engineer, Electronics Engineer, Computer Scientist

Job Description:

Computer Engineers design and develop computers or robots. When designing a new product, engineers first figure out what it needs to do. They then design and test the parts, fit the parts together, and test to see how successful it is. They also write reports on the product. Most engineers work in office buildings or laboratories. Some must travel to different work sites.

Interests / Abilities:

- Are you good at math?
- Are you creative?
- Is your work detailed?
- Do you like to solve problems?
- Are you interested in how things work?
- Do you like working with computers?
- Are you good at working with a team?

Suggested School Subjects / Courses:

- Mathematics
- Science (physics)
- Engineering (computer electronics, electrical, mechanical, systems engineering)
- Computers programming
- Social studies (history)
- English (writing)

Education / Training Needed:

The minimum education required for this position is a bachelor's degree in Computer Engineering or a related subject from an accredited college or university. To do research, a Ph.D. is highly desired for this position.

Areas of expertise:

- *Computer hardware:* design and develop computer equipment
- *Robotics:* design and develop robots

Additional Resources:

- Accreditation Board for Engineering and Technology, Inc.
<http://www.abet.org>
- Astrobiology Summer Academy
<http://academy.arc.nasa.gov/>
- 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>
- IEEE Computer Society
<http://www.computer.org>
- Institute for Certification of Computing Professionals (ICCP)
<http://www.iccp.org>
- Junior Engineering Technical Society
<http://www.asee.org/jets>
- 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 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>

What can I do right now?

- Read magazines like *MacWorld*, *Byte*, *PC World*.
 - Join a computer club.
 - Take as many math, science and computer classes as you can.
 - Participate in National Engineers Week.
 - Participate in science fair projects.
 - Call the American Association of Science and Technology Centers for information on science museums in your area that you might visit (202) 783-7200.
 - Order activity books, poster sets and **engineering** kits by writing to the Society of Manufacturing Engineers, One SME Drive, P.O. Box 930, Dearborn, MI 48121-0930.
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- 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>
 - Robotics Education
<http://robotics.arc.nasa.gov>
 - Student's Guide to Astrobiology
<http://www.astrobiology.com/student.html>
 - Tech-Interns.com
<http://www.tech-interns.com/>

Please take a moment to evaluate this product at:
http://ehb2.gsfc.nasa.gov/edcats/educational_topic

Your evaluation and suggestions are vital to continually improving NASA educational materials.
Thank you.



<http://quest.nasa.gov/people/index.html>