Building Your Career in Electronics: Part II

Differentiating Among Engineer, Technologist, and Technician

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Special Notes: Part I of Building Your Career in Electronics should be completed before starting this section.

Time Required: Approximately 5 hours

Equipment and Tools
- Internet connection
- Standard browsing (web surfing) capabilities

Team or Individual Activity: This activity is designed as an individual activity.

Learning Objectives

1. Use the Internet to identify three similar types of electronics-related careers for engineers, technologists, and technicians.
2. Gather and document information on educational requirements and typical job functions for each career type.
3. Collect links (URLs) and keywords that provide the most useful information.

Performance and Task Procedures

The purpose of this Drill Down is to ensure that each individual is able to explain the differences in educational and job requirements for engineers, technologists, and technicians. Initially, individuals exploring the career paths in these areas find them somewhat confusing in regards to their educational requirements and job functions, especially the differences between the engineer and technologist.

Like Drill Down 1 (Part I), this exercise involves visiting various web sites. However, this activity is used to collect detailed information on educational requirements and the differences between jobs performed by engineers, technologists, and technicians. You can use the URLs collected in the first Drill Down exercise to help you complete this exercise.

You have three tasks:
1. Gather information on educational requirements and typical job functions for engineers, technologists, and technicians in three similar types of career fields.
2. Analyze and arrange your accumulated data to reflect the educational and job requirement differences in the career fields as specified in Task 1.
3. Write a report that explains the differences in educational requirements and typical job functions for engineers, technologists, and technicians among three career areas.

There are two tables provided for this task: Table 1: <u>Internet Research Sources</u> and Table 2: <u>Educational Requirements and Job Functions</u>. Table 1 provides a few links (URLs) to get you started on information gathering. You may already have links that were previously saved for Drill Down 1, Part I. As you conduct the research, continue to save links and keywords that are most useful, and record them in the table.
At the same time, document your findings in headings for Table 2.

Take time to become familiar with the way each search engine and job source site works by reading directions and using "help" features and "advanced search options" when they are available. Good job research experience and skills will boost your chances of finding a career that best suits your professional interests and financial needs.

Deliverables

Analyze the data that you accumulated in Table 2 and write a three page report that explains the differences in educational requirements and typical job functions for engineers, technologists, and technicians among the three career areas that you selected. Be sure to include your conclusions in a summary paragraph at the end of the report. Your summary paragraph should include the type(s) of career(s) (engineer, technologist, or technician) and the career area in which you would be most interested in pursuing. Remember all papers must be written in your own words. Words copied exactly as they are written must be placed in quotations and referenced. Failure to do so is deemed as academic plagiarism and is a serious offense.

Scoring or Grading Criteria

Instructors may use the following criteria to grade this exercise:

1. Completion of each table as specified under "Performance and Tasks Procedures"

2. Written report:

- Clarity in explaining acquired information in accordance with the activity's specifications, conclusions, and summary
- Degree that the information is well organized for future use
- Grammar and general quality of writing

Table 1: Internet Research Sources

Search Engines and Career Search Web Sites	Suggested Keywords for Searches
http://www.careerbuilder.com/ (job search site)	Technician, technical, technologist, electronics, engineering
http://www.monster.com/ (job search site)	Technician, technical, technologist, electronics, engineering
http://www.google.com/ (a general purpose search engine)	Job search, career planning, employment sites
http://www.eas.asu.edu/CEAS/ http://www.eas.asu.edu/~eee/ http://www.eas.asu.edu/~eee/WhatIsElectricalEngineering.pdf http://www.asu.edu/provost/smis/pdfs/ceas/bse/eebse.pdf	ASU School of Engineering
http://www.east.asu.edu/	
http://www.east.asu.edu/ctas/ecet/Admission/bsBrochure.pdf	
http://www.allengineeringschools.com/?src=goo_eng_univs	Electronics engineering technology universities
http://www.google.com/search?hl=en&lr=&ie=UTF-8&oe=UTF-8&q=electronics+engineering+technology+universities&btnG=Google+Search	Engineering and Technology Universities
	Electrical engineering programs

Table 2: Educational Requirements and Job Functions

One sample entry is provided for you with the type of information needed. Identify two more types of electronics careers besides manufacturing.

Career Type (Engineer, Technologist, Technician)	Required Degree	College or University	Math, Chemistry, & Physics Requirements in Years One and Two (Course Types & Credit Hrs)	Typical Work Areas Performed by Program Graduates	Acquired Skills by a Graduate	Comments
Career Area 1: Manufacturing						
Technologist	BSET - Engineering Technology	Arizona State University	Precalculus (3 credits) Technical Calculus (9 cr) General Physics (8 cr) General Chemistry (4 cr)	Design Product Development Manufacturing Production Operations Field Engineering Marketing/Sales	• Design electronic devices, systems, processes • Configure hardware • Specify, install, program, operate electronic systems • Plan, test, maintain production processes • Provide customer support	Although I may be interested in this area, I may be more interested in research activities that require an electrical engineering background.
Engineer						
Technician						

Career Type (Engineer, Technologist, Technician)	Required Degree	College or University	Math, Chemistry, & Physics Requirements in Years One and Two (Course Types & Credit Hrs)	Typical Work Areas Performed by Program Graduates	Acquired Skills by a Graduate
Career Area 2:					
Technologist					
Engineer					
Technician					

Career Type (Engineer, Technologist, Technician)	Required Degree	College or University	Math, Chemistry, & Physics Requirements in Years One and Two (Course Types & Credit Hrs)	Typical Work Areas Performed by Program Graduates	Acquired Skills by a Graduate
Career Area 3:					
Technologist					
Engineer					
Technician					