

Science, Technology, Engineering & Math

Careers in science, technology, engineering, and math involve building the future - literally. People in these fields don't merely envision the future, they help create it - including what cars we'll drive, what electronic toys will entertain us, what means we'll use to explore outer space, what weapon systems we will use to defend our country, and even what tools surgeons will use to save lives. Simply put, they understand how things work and devise clever ways of making them work better. If being a pioneer exploring the frontier of knowledge sounds appealing, this career cluster might be right for you.

Scientific and technological advances are vital not only to knowledge in general and to our quality of life, but also to the U.S. economy. In fact, most economists assert that the money spent on research and development in our country yields the best longterm economic return of all our investments.

Job growth in this cluster is about three times greater than average, and the pay is among the highest of any field. Even entry-level positions here pay well. Part of the reason is that fewer students pick these careers, making demand high.

Ten Highest-Paying Jobs In Science, Technology, Engineering and Math

Occupation	Salary
1. Astronomer.....	\$93,580
2. Petroleum Engineer.....	\$91,820
3. Physicist.....	\$89,090
4. Nuclear Engineer.....	\$88,760
5. Computer and Information Research Scientist.....	\$88,020
6. Actuary.....	\$87,460
7. Computer Hardware Engineer.....	\$84,010
8. Physical Scientist.....	\$81,560
9. Mathematician.....	\$81,500
10. Aerospace Engineer.....	\$80,460

Pathway Requirements

For this specific cluster the requirements are 1 credits of required and 3 of the recommended courses.

To the right are tables which indicate the courses in each area. Included are other related courses which you may take for your own personal gain in the area of Engineering & Technology.

Required Courses

Course #	Course Name	Credits
TED303	Engineering Drawing/CAD	1

Recommended Courses

Course #	Course Name	Credits
VEE301	Digital Electronics I	.5
VEE401	Digital Electronics II	.5
TED601	Engineering Design & Development	1
TEZ301	Principales of Engineering	.5
TED302	Applied Architectural Design/CAD	1
PTE501/601	Engineering Design and Technology I&II	.5-1
TES301	Computer Aniamation	1
BCC305/306	Java I&II	.5-1
BCC307/308	Visual Basic Programing I&II	.5-1
BCC412(*)	AP Computer Science A	.5-1
BCC512(*)	AP Computer Science AB	.5-1
BCT504	Advanced Computer Studies	.5
BCT502/602	Cisco Networking I&II	.5-2
MAD501	Math Analysis	1
SCP501	Physics	1
VEW30*	Career Practicum	1

(* indicates that courses are Distance Learning)

Only required and recommended courses apply toward four Carnegie unit endorsements.

What is the purpose of the Professional Technical Studies Program?

The Professional Technical Studies Department offers courses in many career fields to students in DoDEA middle and high schools. The mission of this department is to prepare our students to be technologically literate and employable in a global workforce.

DODEA Career Clusters and Pathways

Career Clusters represent major groupings of similar occupations and industries within the U.S. job market (e.g., business, information technology, manufacturing, health, human services.) Each Cluster provides students with the "big picture" in terms of career options and an understanding of the broad industry. Within each of the career clusters are various Career Pathways which represent a variety of occupational fields or jobs associated with the career cluster.

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PROFESSIONAL
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STUDIES

SCIENCE, TECHNOLOGY,
ENGINEERING, AND
MATHEMATICS