Science and Mathematics- Math Track

Career Goal (O*NET Code): Hydrologist (19-2043), Chemist (19-2031), Biologist (19-1011), Environmental Science and Protection Technician (19-4091), Materials Scientist (19-2032).

Cluster Overview: Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

SUGGESTED COURSEWORK

High School

9th

Core Courses:
English I
Algebra I
Biology
World Geography
Languages other than English I
Health/PE or Equivalent

Career-Related Electives:
Technology Systems (Modular Lab Based)**
Bio-related Technology

10th

Core Courses:
English II
Geometry
Chemistry
World History
Languages other than English II
Technology Applications

Career-Related Electives:
Engineering Principles or Astronomy or Engineering Graphics or Electricity/Electronics Technology

11th

Core Courses:
English III
Algebra II
Physics
United States History
PE or Equivalent
Communication Applications

Career-Related Electives:
Bio-related Technology Systems or Energy, Power, and Transportation Systems or Geology, Meteorology, and Oceanography or Health Science Technology

12th

Core Courses:
English IV
Calculus
AP Physics
Government/Economics
Fine Arts

Career-Related Electives:
Research Design and Development or Problems and Solutions in Technology or Communication Graphics or Computer Multimedia and Animation

Postsecondary

On-the-Job Training

Certificates
OSHA CareerSafe

NOTE: Students may earn all or part of these certificates as part of the High School experience.

Associate's Degree
15 hours Core Curriculum including Business and Professional Communications (SPCH 1X21)
Math Track
Calculus I (MATH 2X13) **AND** Calculus II (MATH 2X14) **AND** Calculus III (MATH 2X15)
University Physics I (PHYS 2X25) **AND** University Physics II (PHYS 2X26) **OR** General Chemistry I (CHEM 1X11) **AND** General Chemistry II (CHEM 1X12) **OR** Applied General Chemistry I (SCIT 1X14) **AND** Applied General Chemistry II (SCIT 1X15)
Programming Fundamentals I (COSC 1X36) **AND** one of the following Programming Fundamentals II (COSC 1X37) **OR** Assembly Programming I (COSC 1X20) **OR** Computer Programming (ITSE 1X02) **AND** one of the following Introduction to Visual Basic (ITSE 1X31) **OR** Introduction to COBOL (ITSE 1X22) **OR** Introduction to C++ (ITSE 1X07) **OR** JAVA Programming (ITSE 2X17) **OR** other relevant programming languages
Technical Writing (ENGL 2X11) **OR** (ETWR 2X01)

Bachelor's Degree
Chemistry
Physical Science
Information Science
Applied Mathematics
Mathematics
Geological and Related Science
Biology

Graduate Degree
Analytical Chemistry
Physical Science
Information Science
Applied Mathematics
Climatology
Mathematics
Geological and Related Science
Toxicology
Biology

EXTENDED LEARNING EXPERIENCES

Curricular Learning Experiences:
TSA

Career Learning Experiences:
Career Preparation (Paid/Unpaid)
Job Shadowing
Internship
Apprenticeship

Extracurricular Experiences:
Destination ImagiNation
FIRST High School Robotics Competition
International Bridge Building Contest
Junior Engineering Technical Society
National Engineering Design Competition
National Engineers Week

Service Learning Experiences:
Community Service Volunteer

Professional Associations:
American Chemical Society
American Institute of Aeronautics and Astronautics
American Institute of Chemical Engineering
American Society of Civil Engineers
American Society of Mechanical Engineers
Institute of Electrical and Electronic Engineers
Mathematical Association of America
National Society of Black Engineers
Society of Automotive Engineers
Society of Hispanic Professional Engineers
Society of Women Engineers

Career Options:

Career Options:
These degrees should meet the first two years of a four or five year engineering degree.

Licenses, Credentials & Certifications
American Chemical Society (ACS)
American Institute of Chemists (ACH)

Career Options:
Biologist
Cryptographer
Chemist
Geologist
Mathematician
Statistician

Career Options:
Zoologist
Climatologist
Nuclear Engineer
Toxicologist

*** May substitute for the required credit for Physical Education**
**** Satisfies the required credit for Technology Applications**
***** May substitute for the required credit for Health Education**

Students should take Advanced Placement (AP), International Baccalaureate (IB), dual credit, Advanced Technical Credit (ATC), or locally articulated courses, if possible.

This plan of study serves as a guide, along with other career planning materials, for pursuing a career path and is based on the most recent information as of 2007.
All plans should meet high school graduation requirements as well as college entrance requirements.
Students may select other elective courses for personal enrichment purposes.