



STEM Career Cluster

PLAN OF STUDY

<http://www.nd.gov/cte/services/career-clusters/>

<http://www.careerclusters.org>

(7/10/2010 CTE revision)

Name _____

School _____

Date _____



SAMPLE OCCUPATIONS RELATING TO THIS CAREER CLUSTER	
Pathway	Occupations (also include Architecture & Construction, Technology Education, and Information Technology Teachers)
SCIENCE & MATHEMATICS	Anthropologist • Biomedical Engineer • Chemical Technician • Chemical Engineer • Ecologist • Environmental Scientist • Geologist • Lab Technician • Marine Scientist • Math Teacher • Meteorologist • Nanobiologist • Nutritionist • Science Teacher • Toxicologist • Zoologist
TECHNOLOGY & ENGINEERING	Aerospace Engineer • Architectural Engineer • Automotive Engineer • CAD Technician • Civil Engineer • Computer Programmer • Construction Management Technician • Environmental Engineer • Electrical Engineer • Mapping Technician • Mining Engineer • Network Technician • Petroleum Engineer • Radio/TV Broadcast Technician • Surveyor • Technology Education Teacher

SUGGESTED COURSE OF HIGH SCHOOL STUDY						
It is suggested that students consider appropriate units of dual credit, articulation, or advanced placement opportunities for postsecondary credit.						
English (*four units required to graduate; including literature, composition, and speech) Choices may include:	Math (*three units required to graduate) Choices may include:	Science (three units required to graduate) *Required units Choices may include:	Social Studies (three units required to graduate) *Required units Choices may include:	Physical Education (one unit required to graduate) *Required units	Career & Technical Education and Other Electives (three units of foreign or Native American language, fine arts, or career and technical education are required to graduate)	Additional Suggested Learning Opportunities
<input type="checkbox"/> English 9 <input type="checkbox"/> English 10 <input type="checkbox"/> English 11 <input type="checkbox"/> English 12 <input type="checkbox"/> Speech or Debate <input type="checkbox"/> Business English <input type="checkbox"/> Grammar <input type="checkbox"/> Speech or Debate <input type="checkbox"/> Creative Writing <input type="checkbox"/> College Composition <input type="checkbox"/> AP English <input type="checkbox"/> Dual Credit Classes	College Prep: <input type="checkbox"/> Algebra <input type="checkbox"/> Geometry <input type="checkbox"/> Advanced Algebra <input type="checkbox"/> Advanced Math <input type="checkbox"/> Probability & Stat <input type="checkbox"/> Trigonometry <input type="checkbox"/> AP Calculus <input type="checkbox"/> College Algebra <input type="checkbox"/> Dual Credit Classes	<input type="checkbox"/> *Physical Science <input type="checkbox"/> * Biology <input type="checkbox"/> *1 additional unit <input type="checkbox"/> Advanced Biology <input type="checkbox"/> Physics <input type="checkbox"/> Advanced Physics <input type="checkbox"/> Chemistry <input type="checkbox"/> Anatomy & Physiology <input type="checkbox"/> AP Chemistry <input type="checkbox"/> Dual Credit Classes	<input type="checkbox"/> *U.S. History <input type="checkbox"/> *American Gov 1/2 and <input type="checkbox"/> *Economics ½, or <input type="checkbox"/> *Problems of Democracy <input type="checkbox"/> *1 additional unit <input type="checkbox"/> Psychology <input type="checkbox"/> ND History <input type="checkbox"/> Geography <input type="checkbox"/> World History <input type="checkbox"/> Dual Credit Classes	<input type="checkbox"/> *Physical Education 1 unit or <input type="checkbox"/> *Physical Ed ½ unit and <input type="checkbox"/> *Health ½ unit	<input type="checkbox"/> Foundations of Technology <input type="checkbox"/> Information Technology Essentials <input type="checkbox"/> Programming Essentials <input type="checkbox"/> Electronics Technology <input type="checkbox"/> Drafting Technology <input type="checkbox"/> Engineering Technology <input type="checkbox"/> Communication Technology <input type="checkbox"/> Energy & Transportation <input type="checkbox"/> Invention and Innovation <input type="checkbox"/> Project Lead the Way <input type="checkbox"/> Production & Manufacturing Technology <input type="checkbox"/> Introduction to Networking <input type="checkbox"/> Computer Hardware and Operating Systems <input type="checkbox"/> Foreign Language	School-Based: <input type="checkbox"/> Skills USA <input type="checkbox"/> TSA <input type="checkbox"/> FFA <input type="checkbox"/> Career Research <input type="checkbox"/> Cooperative Education <input type="checkbox"/> Internship <input type="checkbox"/> Job Shadowing <input type="checkbox"/> Service Learning Project Community-Based: <input type="checkbox"/> Mentorship <input type="checkbox"/> Volunteer <input type="checkbox"/> Part-time Employment

EXAMPLES OF NORTH DAKOTA POSTSECONDARY PROGRAMS RELATED TO THIS CAREER CLUSTER			
Pathway	Associate Degree or Less	Bachelors Degree	Masters Degree or More
SCIENCE & MATHEMATICS	<input type="checkbox"/> Biotechnology (NDSCS) <input type="checkbox"/> General Engineering (LRSC, NDSCS, WSC) <input type="checkbox"/> +Electrical Technology (BSC,NDSCS) <input type="checkbox"/> +Nanoscience Technology (NDSCS)	<input type="checkbox"/> Atmospheric Sciences (UND) <input type="checkbox"/> Biotechnology (NDSU) <input type="checkbox"/> +Earth/Environmental Science (MiSU) <input type="checkbox"/> Forensic Science (UND) <input type="checkbox"/> +Geology (MiSU, NDSU, UND) <input type="checkbox"/> Math & Science Education (DSU, JC, MaSU, MiSU, NDSU, UM, UND, VCSU)	<input type="checkbox"/> Biochemistry (NDSU, UND) <input type="checkbox"/> Biology (NDSU, UND) <input type="checkbox"/> Chemistry (NDSU, UND) <input type="checkbox"/> Mathematics (NDSU, UND) <input type="checkbox"/> Coatings & Polymeric Sciences (NDSU) <input type="checkbox"/> Industrial Technology (UND) <input type="checkbox"/> +Geographic Information Science (UND) <input type="checkbox"/> +Zoology (NDSU)
TECHNOLOGY & ENGINEERING	<input type="checkbox"/> +Architectural Drafting & Estimating Technology (NDSCS) <input type="checkbox"/> +Geographic Information Science (LRSC, NDSCS, WSC) <input type="checkbox"/> +Simulator Maintenance Technician (LRSC) <input type="checkbox"/> +Civil Engineering & Surveying Technology (NDSCS) <input type="checkbox"/> +Petroleum Production Technology (WSC) <input type="checkbox"/> +Nuclear Power Technology (BSC) <input type="checkbox"/> +Building Construction Tech. (BJCC, NDSCS, UTTC) <input type="checkbox"/> +Environmental Technologies (DCB)	<input type="checkbox"/> +Architecture (NDSU) <input type="checkbox"/> +Engineering (UND, NDSU) <input type="checkbox"/> +Industrial Engineering & Management (NDSU) <input type="checkbox"/> Technology Education (VCSU) <input type="checkbox"/> +Veterinary Technology (NDSU) <input type="checkbox"/> +Wildlife & Fisheries Technology (VCSU)	<input type="checkbox"/> +Engineering (NDSU, UND) <input type="checkbox"/> Scientific Computing (UND) <input type="checkbox"/> +Construction Engineering Management (NDSU) <input type="checkbox"/> +Materials & Nanotechnology (NDSU) <input type="checkbox"/> +Technology Education (VCSU)

+These major fields may also be found in related clusters including: Ag, Food & Natural Resources; Architecture & Construction; & Manufacturing.

BJCC – Burdick Job Corps Center, BSC – Bismarck State College, DCB – Dakota College at Bottineau, DSU – Dickinson State University, JC – Jamestown College, LRSC – Lake Region State College, MaSU – Mayville State University, MiSU – Minot State University, NDSCS – North Dakota State College of Science, NDSU – North Dakota State University, UM – University of Mary, UTTC – United Tribes Technical College, UND – University of North Dakota, VCSU – Valley City State University, WSC – Williston State College.

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