

Foundation Knowledge and Skills

Academics • Communications
 Problem Solving • Information Technology Systems
 Safety, Health and Environment
 Teamwork • Ethics
 Employability and Career Development
 Technical Skills

Agriculture, Food, and Natural Resources Individual Graduation Plan

NATURAL RESOURCES SYSTEMS*

This career cluster plan of study is a source of information as you develop your own personal learning plan. This plan lists EXAMPLES of suggested coursework. Courses will vary according to the availability in each school district. Plans of study should meet high school graduation requirements as well as entrance requirements for a variety of postsecondary options within this career cluster.



Boise SD

Coursework

Subject	9 th Grade	10 th Grade	11 th Grade	12 th Grade	Advanced Coursework for Postsecondary Credit
Language Arts (9 credits)	English 9	English 10	English 11 Speech	English 12	Honors Courses
Mathematics (6 credits)	Algebra I	Geometry Algebra II	Algebra II Pre-Calculus	Pre-Calculus Calculus	Honors Courses Advanced Placement
Science (6 credits)	Earth Science	Biology	Chemistry Anatomy/Physiology		Honors Courses Tech Prep Advanced Placement
Social Studies (5 credits)			US History 11	American Government Economics	Honors Courses Tech Prep Advanced Placement
Idaho Professional-Technical Education Classes	Ag 110 Intro to Ag Education Ag 120 Intro to Ag Industry Ag 140 Intro to Livestock Ag 150 Intro to Plant Industry	Ag 150 Intro to Plant Industry Ag 320 Applied Crop Mgmt •Ag 510 Plant/Soil Science •Ag 512 Plant Growth/Develop Ag 410 Personal Skills Ag 470 Ag Sales Ag 660 Ag Business/Economics	•Ag 460 Ag Business Mgmt/Mktng Ag 525 Environmental Science Ag 526 Intro to Environmental Sci Ag 527 Environmental Sci Apps Ag 528 Adv Environmental Sci Ag 536 Fish/Wildlife Science	Ag 516 Forestry Science Ag 517 Adv Forestry Science Ag 518 Range Science Ag 520 Natural Resource Science Ag 525 Environmental Science Ag 536 Fish/Wildlife Science Ag 9800 Occ/Career Exploration Ag 9900 Cooperative Education	Tech Prep We had a dual credit option with CSI with their aquaculture program. They have discontinued this class so we are now looking at a dual credit option with their biology classes for students who take Fish and Wildlife Science and Ecology – Natural Resources as PTE classes and Environmental Science as a standard academic class. We hope to have this in place for the 2008-2009 school year. We are also looking at the option of an articulation with the college of natural Resources at the U of I. The coordinator is Mike Whiteman.
Additional Requirements or Electives	World History Physical Education Computer Technology Physical Education	US History 10 Physical Education Health Foreign Language Computer Technology	Physical Education Health Foreign Language Computer Technology	Physics Computer Technology	Advanced Placement

Extended Learning

<p>School-Based</p>	<p>FFA Career Research</p>	<p>Supervised Ag Experience Career Interviews</p>	<p>Career Days Job Shadowing</p>	<p>Service Learning Project Internships: Ecology – Natural Resources Internships for 2007-2008 year: MK Nature Center Zoo Boise Pet Doctor Veterinary Clinic Wildtouch Taxidermy Idaho Humane Society Barber Sewer Company United Water (Xeric Garden)</p> <p>Envirothon: Students participate in the Envirothon . This is the largest environmental science competition in North America. As 5 member teams with an elected captain, students work together on tests and environmental problems. This is a great way to get my students involved in the FFA organization. Last year, we won the Idaho Envirothon and competed at the national competition in New York.</p>	<p>Senior Project: Many advanced students interested in wildlife research as a career take on individual wildlife research projects. Although not yet required in our proram, I encourage all college bound students to look into a project.</p>
<p>Community-Based</p>	<p>4-H</p>	<p>Mentorships</p>	<p>Volunteer: Students volunteer for various projects with the Idaho Departm,ent of Fish and Game – examples include: Idaho Salmon and Steelhead Days, Creatures of the Night, and Bitterbrush Planting</p>	<p>Part-Time Employment</p>	

*540 course hours and/or six (6) course credits qualify as meeting a program sequence.

Italicized courses represent repeat offering (Take once); ■ Either course satisfies economics requirement; ■ Either course satisfies speech requirement; ■ Satisfies Biological Science/Lab Credit if teacher is science certified; • Often qualify for dual credit/tech prep college credits; Underlined courses are highly recommended for this pathway

■ Coursework					
Major	Year 13	Year 14	Year 15	Year 16	Occupations Relating to This Pathway
Rangeland Ecology and Management Option	NR101 Exploring Natural Resources Rnge102 Opp in Range Ecology Biol115 Cells and Evolution Biol116 Organism & Environments Chem111 Principles of Chemistry I Comm101 Public Speaking Econ201 Principles of Econ Math143 Pre-Calculus Algebra	<i>(Elective Humanities-Social Sci)</i> Biol213 Principles of Bio Structures Chem275 Carbon Compounds For235 Society & Natural Resource Rnge221 Natural Resource Ecology Rnge251 Prin of Range Resources Soil205/206 Soil Ecosystems Stats251 Statistical Methods Rnge351 Wildland Plant ID Studies	<i>(Elective Humanities-Social Sci)</i> Biol341 Systemic Botany Fish430 Riparian Ecology Geog385 GIS Primer Rnge452 World Biomes Rnge459 Rangeland Ecology <i>(Career Track Course)</i> <i>(Career Track Course)</i> <i>(Career Track Course)</i>	Eng313 Business Writing Rnge440 Wildland Restoration Eco Rnge456 Integrated Rangeland Soil454 Soil Develop & Classification Rnge470 Natural Resource Planning <i>(Career Track Course)</i> <i>(Career Track Course)</i> <i>(Career Track Course)</i>	Occupations Requiring Less than Baccalaureate Degree <ul style="list-style-type: none"> ▪ Commercial Fisherman ▪ Fisheries Technician ▪ Forest Technician ▪ Geology Technician ▪ Log Grader ▪ Logger ▪ Park Manager ▪ Pulp and Paper Manager ▪ Range Technician ▪ Water Monitoring Technician ▪ Wildlife Manager
Ecology & Conservation Biology Option	CSS/Fish/For of 200 Seminar NR101 Exploring Natural Resources Chem111 Principles of Chemistry I Biol115 Cells and Evolution Comm101 Public Speaking Eng102 College Writing Math160 Survey of Calculus Soil205/206 General Soils <i>(Elective—Core)</i> <i>(Elective—Ecology)</i>	Biol116 Organism & Environment Biol213 Prin of Biological Structures Econ202 Principles of Economics For235 Society & Natural Resource Stats251 Principles of Statistics For221 Natural Resource Ecology Phys100 Fundamentals of Physics <i>(Elective—Social Sci/Political Sci)</i> <i>(Elective—Resource Mgmt)</i> <i>(Elective—Quantitative Resource)</i>	Eng317 Technical Writing <i>(Elective Quantitative Resource)</i> For330 Forestry Ecosystems CSS393 Resource Economics Fish316 Principles of Population Biol341 Systemic Biology For320 Dendryology <i>(Elective—Ecology)</i>	<i>(Core Cluster Course)</i> Rnge497 Senior Thesis Rnge485 Ecology and Cons Biology CSS483 Senior Project For429 Landscape Ecology CSS470 Interdisc Nat Resources <i>(Elective—Ecology)</i>	Occupations Requiring Baccalaureate Degree <ul style="list-style-type: none"> ▪ Agricultural Educator ▪ Ecologist ▪ Fish and Game Officer ▪ Geologist ▪ Hydrologist ▪ Mining Engineer