

ARIZONA DEPARTMENT OF EDUCATION
VOCATIONAL TECHNOLOGICAL EDUCATION CURRICULUM SYSTEM

PROGRAM SCOPE AND DOMAIN

OCTOBER 1995

PROGRAM: Agricultural Business Management - Renewable Natural Resources	Page 1
CODE: 03.0200 (Formerly 03.0000)	

DESCRIPTION:

The Agricultural Business Management - Renewable Natural Resources program is designed to prepare students for employment in various occupations related to fisheries, wildlife, range management, forestry, ecology, and environmental science. Students completing this program will possess the technical knowledge and skills associated with natural resources careers. In addition to the required technical skills, students will possess leadership skills, advanced employability skills, communication skills, critical thinking skills, applied academics, and life management skills.

Renewable natural resources consists of things useful to humans that can be replaced. Examples include range grasses and trees. Living animals that can reproduce themselves are also renewable resources. Some examples are wildlife and fish.

CERTIFICATION:

Occupations in this area are generally not licensed, but may have age restrictions. Those occupations requiring certification generally require a baccalaureate degree from a college or university.

OCCUPATIONAL CLUSTER(S):

Labor market data is collected and organized in the Arizona Occupational Information System (OIS). The Agricultural Business Management - Renewable Natural Resources program is aligned with the following OIS cluster:

0210 Agricultural Mechanics & Machinery
 0220 Soil & Water Mechanical Practices
 0240 Fisheries & Aquaculture
 0250 Crop Production & Range Management
 0260 Wildlife & Game Farm Management
 0280 Agricultural Services & Animal Training
 0330 Resource Conservation & Management
 0340 Forest Production & Utilization
 1720 Firefighting

Occupations in the above OIS clusters include the following job clusters as reported through the Occupation Employment Statistics (OES) system:

OES CODE	TITLE
63008	Fire Fighters
63041	Fish and Game Wardens
67008	Pest Controllers and Assistants
72000	Supervisors, Farm, Forest, Agriculture
73002	Fallers and Buckers
73005	Choke Setters
73008	Log-Handling Equipment Operators
73011	Logging Tractor Operators
73099	All Other Timber Cutting and Logging
79002	Forest and Conservation Workers
79008	Log Graders and Scalers
79250	Farmers, Ranchers, Except Horticulture
79410	Farm & Ranch Workers
79411	Marine Life Cultivation Worker
79451	Supervisors, Agriculture-Related
79999	All Other Agricultural, Forestry, Fishing
85321	Farm Equipment Mechanics
92305	Head Sawyers

TYPICAL OCCUPATIONS (DOT):

Information on specific jobs is collected and organized using the Dictionary of Occupational Titles (DOT). Following is a listing of some of the jobs related to this instructional program.

DOT CODE	TITLE
373.363-010	Fire Chief's Aide
373.364-010	Fire Fighter
409.683-010	Farm-Machine Operator
409.684-010	Irrigator, Valve Pipe
409.685-014	Irrigator, Sprinkling System
409.687-014	Irrigator, Gravity Flow
412.674-010	Animal Keeper
412.684-010	Game-Farm Helper
441.684-014	Fisher, Pot
441.684-010	Fisher, Net
442.684-010	Fisher, Line
446.684-010	Fish Hatchery Worker
446.687-014	Laborer, Aquatic Life
451.687-010	Christmas-Tree Farm Worker
451.687-018	Seedling Puller
452.167-010	Fire Warden
452.364-010	Forester Aide
452.364-014	Smoke Jumper
452.367-010	Fire Lookout
452.367-014	Fire Ranger
452.687-010	Forest Worker
452.687-018	Tree Planter
452.687-014	Forest-Fire Fighter
453.687-014	Laborer, Tree Tapping
454.384-010	Faller 1
454.683-010	Tree-Shear Operator
454.684-014	Faller 2
454.684-010	Bucker
454.684-018	Logger, All-Round
454.684-026	Tree Cutter
454.687-010	Chainsaw Operator
454.687-018	Log Marker
454.687-014	Laborer, Tanbark
455.487-010	Log Scaler

DOT CODE	TITLE (cont.)
455.684-010	Log Sorter
459.387-010	Cruiser
459.687-010	Laborer, Brush Clearing
461.684-014	Trapper, Animal
624.361-014	Sprinkler-Irrigation-Equipment
638.281-010	Fire-Fighting Equipment Specialist
667.662-010	Head Sawyer
851.383-010	Irrigation System Installer
921.687-014	Choke Setter
921.687-030	Rigger, Third
922.687-074	Lumber Sorter
929.683-010	Logging-Tractor Operator
954.362-010	Ditch Rider

RECOMMENDED INSTRUCTIONAL SEQUENCE:

The following components of the Arizona Model for Vocational Technological Education will provide students with a coherent sequence of instruction for this program.

Level I Grades 7 - 8

Students should complete a minimum of one year of instruction in Technological Exploration and Foundations and/or attain the competencies identified for that experience.

Level II Grades 9

Students should complete a minimum of one year of instruction in Applied Biological Systems and/or attain the competencies identified for that experience.

Students may choose to complete one year of instruction in Business Management Technology. Business Management Technology is recommended for students who have a special interest in the management of agricultural business management systems.

Students may (at their option) complete experiences in any of the other Level II clusters.

Human Services Technology is recommended for students who have a special interest in agricultural service occupations.

Industrial Technology is recommended for students who have a special interest in technological applications in agriculture.

Information Technology is recommended for students who wish to emphasize computer systems in such areas as accounting, desktop publishing and database management occupations as they relate to agriculture.

Level III Grades 10 - 12

The Agricultural Business Management-Renewable Natural Resources program will be based on the competencies developed and validated by the Curriculum Design Team. In addition to knowledge of agricultural business management in the area of animal science, students should have the opportunity to place special emphasis on more specific livestock species, services, and occupations in which they have an interest. The instructional program will also include a Supervised Experience (SE) component to provide the student with occupational experience.

Level IV Post-Secondary and Advanced Instruction

A Tech-Prep articulated sequence of instruction between Level III (grades 10 through 12) and Level IV (post-secondary) provides the student with the skills associated with a variety of agricultural business management and animal science positions. The typical post-secondary programs include:

Associate Arts, Agriculture

Completion of these post-secondary programs, or a baccalaureate degree, and additional on-the-job experiences may lead to one of the following positions:

DOT CODE	TITLE
029.261-014	Pollution-Control Technician
040.061-046	Range Manager
040.061-034	Forester
040.061-054	Soil Conservationist
040.061-030	Forest Ecologist
040.261-010	Soil-Conservation Technician
049.127-010	Park Naturalist
180.167-038	Manager, Game Preserve
373.663.010	Fire Fighter, Crash, Fire and Rescue
379.167-010	Fish and Game Warden

CURRICULUM DESIGN TEAM (1994):

Mr. William L. Deimler, Arizona Department of Education
Mr. Roger Ellis, Arizona Department of Education
Ms. Karen Liersch, Arizona Department of Education
Dr. David E. Cox, The University of Arizona
Dr. James J. Connors, The University of Arizona
Mr. Nathan Moore, Westwood High School
Mr. Wendell Stevens, Payson High School
Mr. Joe Granio, Highland High School
Ms. Joyce Hassell, Tonto National Forest
Mr. Kevin Fitzsimmons, Univ. of Az. Environmental Research Laboratory
Mr. Dick Young, Arizona Aquaculture Association

CURRICULUM DESIGN TEAM (1995):

Mr. Dennis Fiscus, Arizona Department of Education
Ms. Mary Lewkowitz, Arizona Department of Education
Dr. David E. Cox, The University of Arizona
Dr. James J. Connors, The University of Arizona
Mr. Nathan Moore, Westwood High School
Mr. Joe Granio, Highland High School
Ms. Joyce Hassell, Tonto National Forest
Mr. Dick Young, Arizona Aquaculture Association

Academic Teachers

Ms. Ana Colston, English, Westwood High School
Mr. Al Jenkins, Science, Gilbert High School
Ms. Katie Muha, Math, Highland High School