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WASHU-EMPLOYEE SKILL MANUAL

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EMPLOYEE SKILL MANUAL

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GRAYS HARBOR COMMUNITY COLLEGE

Grays Harbor College
FISHERIES AND GAME MANAGEMENT TECHNOLOGY
Student Skill Handbook

A two-year program
for
Associate of Science Degree

Preparation of
this handbook was partially supported by
The National Science Foundation
under the Sea Grant Program

Introduction to
Fish and Game Technology

This handbook was prepared so that graduates of this program might effectively communicate their skills and background to prospective employers. In addition, the handbook might prove useful to potential students who are interested in entering Fisheries and Game Management Technology.

The completion of this curriculum provides the technician with the skills necessary to successfully carry on field and laboratory studies connected with fisheries, game management, water quality and pollution control.

The typical role of the fishery technician is to carry out such field studies as creel census, spawning redd counts, water quality parameters in lakes and streams, upstream and downstream fish migrant studies, bottom samples, commercial fish landing sampling, high seas investigations, and to collect data for statistical studies.

The typical role of the game management technician is to evaluate game population growth, food availability, hunter success, animal migration, crop damage, disease and predator effects, and to collect data for statistical studies.

The training in this curriculum provides a balance between theory and practical field work. The services of many commercial fishermen and field biologists in the community are utilized in teaching the various courses.

I. Occupation:

FISHERIES-GAME MANAGEMENT TECHNICIAN

The Fisheries-Game Management Technician program at Grays Harbor College in Aberdeen, Washington provides training for future employment as field workers and laboratory technicians in various governmental agencies and private corporations. Many of these agencies and corporations are expanding their operations in environmental and pollution control, in recreational opportunities associated with fishing and hunting, and in exploiting new sources of food fish. New jobs are developing which require a basic training in science, mathematics, and associated skills at a level less than a Bachelor of Science degree.

A. Duties and Working Conditions

As a fish and wildlife technician, the graduate of this program may perform a variety of semi-skilled or skilled activities in the field and laboratory. These might include conducting water quality tests (dissolved oxygen, pH, alkalinity), plankton and nekton sampling, use of standard laboratory equipment, recording and refining data, compiling charts, graphs, and illustrations.

They may explain research projects, procedures, and objectives to commercial, sports and Indian groups to enlist their cooperation in promoting wildlife management.

They may conduct fisherman and hunter interviews in the field to obtain angling and hunting success data; check creels for marked fish, staff inspection stations in game hunting areas; assist fish and game protectors in apprehending law violators.

Carry out routine sampling and population studies connected with management of important species of fish and game.

Work will be done out-of-doors and in-doors, sometimes under physically trying conditions.

B. Qualifications

1. General:

a. 18 - 45 years of age

b. Graduates of all accredited high schools

(1) Non-high school graduates over 18 years of age may enroll.

(2) As regular student if non-high school who pass the General Education Development Test with a 45 grade or better on all parts of the test.

2. Physical

- a. Must be physically able to stand, stoop and walk or move about for prolonged period of time.
- b. Must have good eyesight and have full use of hands and feet.

3. Aptitude/Skills

Must have aptitude to understand the theoretical aspects of wildlife work.

4. Other

- a. Must have an interest in working with animals in the outdoors, sometimes in poor weather.
- b. Applicants with good employment record with no adverse social history are preferred.

II. Training Facilities

Grays Harbor College, College Heights, Aberdeen, Washington 98520

A. Registration Dates

Fall quarter, September; winter quarter, January; spring quarter, March

B. Accreditation

- 1. Washington State Board of Community Colleges
- 2. Northwest Association of Secondary and Higher Schools

C. Length of Training

- 1. The program will cover two school years of three quarter terms each for a total of six quarters.
- 2. The work will cover twenty-five hours per week at five hours per day, five days per week, plus homework.

D. Training Costs

Tuition: In state, \$83.00 per quarter x 6 quarters = \$498.00
Out of state: \$227.00 per quarter x 6 quarters = \$1,362.00

Related Costs

Books, supplies, etc., \$40.00 per quarter x 6 quarters = \$240.00

E. Other

1. Grays Harbor College is located on a seaport where there is considerable commercial and sport fishing. The College has a four-acre lake on its campus and a 640 acre ecology study area 22 miles from the campus. These areas are used by students in this and other programs.
2. A list of courses in the two-year program is attached.
3. Grays Harbor College is involved in research projects funded by Sea Grant, a division of the United States National Science Foundation.

CURRICULUM

First Year

Credits	Course	Quarter Available
5	Intermediate Algebra	Math 103
10	Chemical Science	Chem 100, 1 or 2
2	Introduction to Fisheries	Biol 121
5	Physical Science	Physics 100
10	General Biology	Biol 101, 102
5	Marine Biology	Biol 114
3	Instrumentation for Life Science	Eltek 100
1	Seamanship	Fisheries 51
4	Electives	
45		
2	Physical Education	P E
47		

Second Year

Credits	Course	Quarter Available
6	English Composition	Engl 101, 103
5	Ecology	Biol 225
2	Introduction to Forestry	Biol 110
3	Fisheries Biology	Biol 115
2	Game Management	Biol 130
5	Geology	Geol 101
5	Oceanography	Ocean 101
3	Introduction to Data Processing	DP 100
3	First Aid and Safety	PE 177
3	Water Resources	Biol 120
8	Electives	
45		
1	Physical Education	PE
46		

COURSES OF INSTRUCTION

Biology 101. General Biology

5 credits. Introduction to the principles of biology as they apply to both plants and animals. For majors and non-majors.

4 hours of lecture; 2 hours of laboratory.

Biology 102. General Biology

5 credits. A continuation of principles of biology studied in Biology 101. Emphasizes major plant and animal groups.

4 hours of lecture; 2 hours of laboratory.

Biology 110. Introduction to Forestry

2 credits. An overview of forestry, with emphasis on history, growing practices, and use of timber in North America. Guest speakers from various governmental agencies and industry will supplant the lectures.

2 hours of lecture.

Biology 114. Marine Biology

5 credits. Prerequisites: Two quarters of biology and the permission of the instructor.

An introduction to the plants and animals of marine waters in Southwest Washington. Special emphasis on the shore dwelling forms. Field trips to varied environments available in the area. Organisms are studied in their natural associations, and specimens are collected for laboratory study.

3 hours of lecture; 4 hours of laboratory.

Biology 115. Fisheries Biology

3 credits. Prerequisite: Biology 101. Lectures, laboratory work and field trips designed to acquaint students with the life histories of Pacific Northwest fish and shellfish. Related topics such as age and growth, fish embryology, pathology, water quality, population estimates, fish rearing and stream improvement are studied.

2 hours of lecture; 2 hours of laboratory.

Biology 120. Water Resources

3 credits. Designed to acquaint students with parameters of water quality, water pollution and waste treatment. Emphasis is on the water resources of the Northwest, including water law in the State of Washington. Municipal, recreational, agricultural and industrial water uses are discussed. The last three weeks of the course involves role-playing and water resource planning simulation.

3 hours of lecture.

Biology 121. Introduction to Fisheries

2 credits. Designed to acquaint students with the vocational aspects of fisheries. Guest speakers are utilized on alternate meetings of the class to bring their firsthand experiences to the students. Scientific, hatchery and administration personnel as well as commercial fishermen are invited to discuss their careers.

2 lectures.

Biology 130. Game Management

2 credits. Prerequisite: Biology 101. Lectures and field work designed to acquaint students with life histories of Pacific Northwest game species and their management. Related topics, such as food plants for game animals, population estimates, diseases of game animals, law enforcement, radio telemetry and game management literature are covered.

1 hour of lecture; 4 hours of laboratory.

Biology 225. Ecology

5 credits. Prerequisite: Five hours of Biology. A study of the interactions between organisms in biological communities, animal and plant populations, the environmental factors in communities. Part of the course will be devoted to the ecology of man.

4 hours of lecture; 2 hours of laboratory.

Chemistry 100. Chemical Science

5 credits. Prerequisite: One year high school algebra or Mathematics 10. An introduction to fundamental principles of chemistry for students without high school chemistry. The course will serve as a laboratory science requirement for non-science majors and will fulfill chemistry prerequisites for Chemistry 111 and Chemistry 115. No credit to those who have had high school chemistry.

4 hours of lecture; 3 hours of laboratory.

Chemistry 101. General Chemistry

5 credits. Prerequisite: High school chemistry or Chemistry 100. A course designed primarily for students majoring in home economics, nursing, health sciences, business administration or education. A survey of general chemistry principles and application.

3 hours of lecture; 5 hours of laboratory.

Chemistry 102. General and Organic Chemistry

5 credits. Prerequisite: Chemistry 101 or 111. A survey of organic and biochemistry. This course completes a two-quarter chemistry sequence but does not prepare a student for second year chemistry.

3 hours of lecture; 5 hours of laboratory.

Data Processing 100. Introduction to Data Processing

3 credits. A survey of the field of data processing. Topics considered include the role of data processing in business organizations, elemental data processing systems, and functions of automated data processing devices.

Eltek 100. Instrumentation for Life Sciences

3 credits. This course is designed to familiarize students of Fisheries and Game Management Technology with electricity and electronics as a basis for properly using and interpreting the results of instruments commonly used in the performance of duties assigned in their chosen technology.

English 101.

3 credits. Prerequisite: Placement is made by the English Test score. The course aims to develop the ability to comprehend and to write expository composition with emphasis upon organization and accuracy in the use of mechanics of writing.

English 103.

3 credits. Prerequisite: English 101. Practice in writing expository reports as required in most college writing with emphasis on collection of facts, organization, and documentation.

Fisheries 51. Seamanship

1 credit. Basic concepts of seamanship and navigation for sport fishing and commercial fishing vessels.

Geology 101. Physical Geology

5 credits. A study of the earth, its materials, the development of land forms and the geologic processes involved. Common rocks and minerals, topographic and geologic maps are studied in the laboratory.

4 hours of lecture; 3 hours of laboratory.

Mathematics 103. Intermediate Algebra

5 credits. Prerequisite: One year of high school algebra or Mathematics 10.

A thorough review of fundamentals, exponents and radicals, factoring, linear and quadratic equations, graphing, ratio and proportion, simultaneous linear equations, and logarithms.

Oceanography 101. Introduction to Oceanography

5 credits. A study of the origin and extent of the oceans, the geology of the sea bottom, the characteristics of the water and its movement in waves, tides, and currents. Biological aspects are discussed to a lesser degree.

4 hours of lecture; 3 hours of laboratory.

Physical Education 177. First Aid and Safety

3 credits. This course may satisfy both the standard and advanced American Red Cross First Aid certification requirements. Includes safety education in schools.

Physics 100. An integrated course in the Physical Sciences

5 credits. The course traces the development of the physical sciences from their inception to the present. Classical theories in astronomy, physics and chemistry are stressed. A series of laboratory experiments are included to illustrate various principles of these sciences.

4 hours of lecture; 2 hours of laboratory.

ADDITIONAL EMPLOYEE SKILLS

Special Courses:

Trades:

Previous Employment Record:

Comments: