BIOLOGY

Degrees: Master of Science,
Master of Science in Teaching
Department: Biology
Building 58, Room 79
(850) 474-2748
biology@uwf.edu
College: Arts and Sciences

The Department of Biology offers the traditional M.S. degree program with two areas of specialization. The first is Biology which requires a research thesis. The second is the Coastal Zone Studies area, for which a thesis is optional. The department also offers a program leading to the M.S.T. degree. Additionally, the department offers two fast track degree programs for students who hold an Associate of Arts (AA) degree from a Florida public institution. Information about these programs is contained in the undergraduate biology and chemistry sections of the Catalog.

Course descriptions are listed alphabetically by prefix in the back of this Catalog.

ADMISSION REQUIREMENTS

In addition to the general University requirements, students seeking the M.S. degree in biology must submit the following materials and meet departmental requirements:

A. Three letters of recommendation from individuals who can evaluate the student's academic ability.

B. Successful completion of the five biology core courses (or the equivalents) required of UWF biology undergraduates.

C. Official scores from the GRE will be used, in part, for diagnostic purposes.

D. A letter describing the student's area of interest within biology and/or coastal zone studies, relevant past experience, and future objectives.

The completed application will be reviewed by the graduate program committee and by the faculty member(s) whose research interests most closely coincide with those of the applicant. Upon admission, the student will be assigned an advisor. Conditional admission may require the student to complete the appropriate foundation courses with grades of "B" or better.

BIOLOGY, M.S.

THESIS SPECIALIZATION

The thesis program is designed for students seeking advanced studies in areas of modern biology and biotechnology with training in the fields of aquaculture, ecology, environmental studies, fisheries biology, genetics, immunology, marine biology, microbiology, molecular biology, plant science, and physiology.

In addition to the general university academic requirements, students seeking the M.S. degree in biology must meet the following departmental requirements:

A. Select a thesis advisory committee composed of a chairperson and at least two additional faculty members.

B. Meet with the thesis advisory committee and complete a written plan of study that specifies courses and other work necessary for the program.

C. Submit a written research proposal acceptable to the thesis supervisory committee and demonstrate by oral examination that the proposed research is feasible.

D. Complete a minimum of 32 semester hours of credit approved by the thesis committee. Fifteen of these hours must be at the 6000 level and these may include 6 semester hours of thesis. 8 semester hours of credit in undergraduate courses outside of biology may be approved as part of the program.

E. Submit an acceptable thesis and successfully defend it in an oral public presentation.

COASTAL ZONE STUDIES SPECIALIZATION

A student will learn methods to identify and solve problems, management practices, and procedures for policy-making as they pertain to a coastal zone. Students with bachelor's degrees in the physical sciences, geography, and resource management are encouraged to apply. Departmental requirements are as follows:

A. Prior to registration and in consultation with the department chairperson, select a faculty advisor and help form a supervisory committee.

B. Meet with the committee and complete a plan of study that specifies courses and practical experience necessary for the program. The plan must be approved by the supervisory committee.

C. Complete 36 semester hours composed of the required selections from the course groups specified below and from graduate electives in biology.

BSC	6329	Coastal Studies Seminar	1
PCB	6446	Wetlands Ecology	4

Choose two courses:

GEO	4131	Photo Interpretation & Remote Sensing	4
GEO	4151	Geographic Information Systems	3
GEO	5225	Coastal Morphology & Processes	3

Choose one course:

EVR	4023	Coastal & Marine Environments	3
EVR	4035	Environmental Law	3

D. Complete a practical experience at the end of the program. The design and scope of the practicum must receive prior approval of the supervisory committee. The student must submit an acceptable written report summarizing the experience and must successfully defend it in an oral public presentation.

E. A biology CZS student has the option of pursuing original research and producing a traditional thesis in lieu of a practical experience. Under such a circumstance, the student is expected to submit a written thesis proposal which must be approved by the advisory committee, chaired by the major professor. The student must then submit an acceptable thesis and successfully defend it in an oral presentation.

BIOLOGICAL CHEMISTRY FAST TRACK BACHELORS/MASTERS SPECIALIZATION

ADMISSION REQUIREMENTS

This specialization is available as a stand-alone masters degree or as part of a fast track degree program that includes both the bachelor's and master's degrees. Students who already hold a bachelor's degree in biology or chemistry and those in the third year of the fast-track program must submit the following materials and meet the following departmental requirements:

A. Three letters of recommendation from individuals who can evaluate the student's academic ability.

B. Successful completion of the following five biology courses: Biochemistry I (BCH 3033/L), Biochemistry II (BCH 3034/L), Microbiology (MCB 3020/L), Genetics (PCB 3063/L), and Developmental Biology (PCB 3253).

C. Official scores from the academic section of the GRE in the student's discipline. These scores will be used, in part, for diagnostic purposes.

D. A letter describing the student's area of interest within the Biological Chemistry Track.

The completed application will be reviewed by the graduate program committee and by the faculty member(s) whose research interests most closely coincides with those of the applicant. Upon admission, the student will be assigned an advisor.

Following acceptance into the program, students seeking the MS degree in biology must meet the following departmental requirements:

A. Select a thesis advisory committee composed of a chairperson and at least two additional faculty members, at least one of whom is on the faculty of the Department of Chemistry. Chemistry faculty may serve as chairperson of the thesis advisory committee if their research is the primary site for the conduct of the thesis research.

B. Meet with the thesis advisory committee and complete a written plan of study that specifies courses and other work necessary for the program. Fifteen hours must be at the 6000 level and may include 6 hours of thesis.

C. Submit a written research proposal acceptable to the thesis committee and demonstrate by oral examination that the proposed research is feasible.

D. Complete a minimum of 32 semester hours of credit approved by the thesis committee, including the 17 hours listed below under program core.

Program Core (17 sh)

CHS	4100/L	Radiochemical Techniques/Lab	4
PCB	5xx2/L	Immunology/Lab	4
PCB	5xx5	Molecular Biology	3
PCB	5xx7	Introduction to Bioinformatics	3
PCB	5525	Genetic Engineering	3

In addition to the above core, complete 15 hours (courses in Biology approved by the thesis committee) at the 6000 level including 6 semester hours of thesis in Biology.

E. Submit an acceptable thesis and successfully defend it in an oral public presentation.

Total semester hours for completion of the entire program is 139 (compared to 152 by normal route). The Chairs of Biology and Chemistry are liaison officers for the program - jointly in charge of changes in the program and in course requirements.

Students with a four-year degree in chemistry who wish to enter the Biological Chemistry Masters Program may enter the program as a non-degree student and must have had or must take all of the following courses prior to full acceptance into the Masters Program in Biological Chemistry:

Botany
Zoology
Biochemistry I and II
Microbiology
Genetics
Developmental Biology

BIOLOGY, M.S.T.

This non-thesis M.S.T. program allows competent teachers to carry out advanced studies in the many exciting areas of the biological sciences. Applicants should hold Florida teacher certification and have received a bachelor's degree in some subdiscipline of biological science from an accredited institution. Applicants holding the bachelor's degree in some other discipline will be considered using criteria appropriate to their backgrounds. Admission to the program may be granted to individuals who lack Florida teacher certification. However, completion of the teacher certification is an exit requirement for the M.S.T. program.

Departmental requirements are as follows:

A. Form and meet with a supervisory committee within one semester after matriculation in the M.S.T. program. The committee must consist of a major advisor, a biology education coordinator, and a College of Education representative.

B. Complete a minimum of 36 semester hours of credit approved by the supervisory committee. Fifteen of these hours must be at the 6000 level. The student must complete at least 19 semester hours of biology graduate credit in formal courses, including at least 8 semester hours in each of two broad areas. Completion of a formal college-level course in evolution is required. Up to 8 semester hours of credit in undergraduate courses outside of biology may be approved as part of the program.

A committee-approved 2 semester hours directed study must be taken, involving exposure to experimental or sampling design, data collection and analysis, and presentation of results.

C. Complete the Professional Education Common Core (must be taken in sequence):

EDF	6602	Trends and Issues in Education: Social, Multicultural, Historical, & Philosophical Analysis	3
EDF	6218	Current Issues in Student Development & Learning	3
EDF	6481	Educational Research	3