

**THE HONORS PROGRAM in BIOLOGICAL SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES
EAST TENNESSEE STATE UNIVERSITY**

MISSION STATEMENT

The Honors Program in Biological Sciences at ETSU is intended to provide an enhanced program of study for talented and motivated students desiring an in-depth analysis of biological sciences. The program is designed to identify those students who are eligible for this study and advise them early in their coursework to allow them to get the maximum benefit of opportunities within the Department. Our specific goals include:

1. To provide a special curriculum available to students who have already committed to a professional career in biological or biomedical sciences. This curriculum consists of honors-only courses and honors-enriched courses that provide exploration of biological principles, approaches and techniques beyond the level of our typical biology major.
2. To provide students with a learning environment that encourages dialogue with their peers, faculty and mentors, inspires curiosity, engages controversy, and that emphasizes oral and written presentation of current topics. This will be accomplished by providing students with opportunities to interact directly with the Department Honors Coordinator and the teaching and research faculty.
3. To involve students early in their career in the discussion, investigation, and application of the scientific method. Students will gain an understanding of the approach, process, and communication skills required to implement a scientific research project. This will be the purpose of the Honors Research Orientation course which will usually be taught by the Honors Coordinator.
4. To enable students to develop a mentoring relationship with a member of the faculty who is actively engaged in research. These relationships will be established in the Honors Research Orientation course and will provide students with the opportunity to plan, execute, and complete their own research investigation. This investigation will then be developed into a Senior Research Project, culminating in an Honor's Thesis.

ADMISSION, ELIGIBILITY AND SCHOLARSHIPS

The program is designed so that students have the opportunity to enter the program as Freshmen or, in special cases, as Sophomores or Juniors. All students will be required to meet with the Departmental Honors Coordinator to establish their program of study. The following criteria will be used to identify and admit Honors students to the program:

All entering students: a written essay highlighting the importance of scientific research in the student's future university life and beyond.

Entering Freshmen: minimum high school GPA 3.4 overall **OR** minimum ACT composite score 28 or SAT equivalent.

Entering Post-Freshmen: ETSU overall GPA 3.4 **OR** ETSU Department of Biological Sciences BIOL GPA 3.8

Entering Transfer Students: overall college GPA 3.4

Students eligible for the Honors Program will be identified in coordination with the University Honors Program and eligible students will be contacted directly by the Honors Coordinator. In addition, announcements will be made in major courses and placed periodically on the department's bulletin board and web page. Students inquiring about the program will be directed to the Honors Coordinator.

Scholarships. Department faculty members will identify students most qualified for scholarship on the basis of a combination of grades and research commitment. Research commitment will be evaluated based on the student's essay, faculty recommendations and, possibly, an interview. Final decision on awarding scholarships resides with the Honors College. College-wide scholarship and out-of-state tuition waiver minimum requirement is **both** an ACT of 25 and a GPA of 3.5. A student receiving an Honors-in-Discipline scholarship must enroll in at least 15 credit hours per semester; a student receiving an out-of-state tuition waiver must enroll in at least 12 credit hours per semester. Both scholarship and waiver recipients must maintain a cumulative grade point average consistent with program standards (see below). Typically, students who fail to meet program standards are allowed one probationary semester before their scholarships are revoked. Questions regarding retention of Honors-in-Discipline scholarships or out-of-state tuition waivers should be directed to the Associate Director of the University Honors Program.

CURRICULUM

Majors Requirements (see Undergraduate Catalog, 2004-2005, pp. 79-81)

Students will be required to complete a B.S. degree in biology, following the curriculum described for the Standard Biology Program, the Biology Concentration, the Biochemistry Concentration, or the Secondary Biology Education Program. About thirty of the hours will be taken to satisfy the Biology Core and Biology Area distribution requirements.

Biological Sciences:

Core: BIOL 1110/1111 Biology for Science Majors I + Laboratory
BIOL 1120/1121 Biology for Science Majors II + Laboratory
BIOL 1130/1131 Biology for Science Majors III + Laboratory
BIOL 3100 General Genetics =15h

Advanced Biology “menu” areas (Molecular, Organismal, Population, Biodiversity):
Specific requirements depend on the program selected; “Standard” Biology Major, “Concentration” in Biology, Secondary Biology Education Program, or Biochemistry Concentration.

Electives: Courses needed to complete credit hour requirements, chosen from BIOL offerings.

Total: At least 36 h in Biological Sciences for the Standard Biology Program *
At least 50 h in Biological Sciences for the Biology Concentration
At least 36 h in Biological Sciences for the Biochemistry Concentration
At least 39 h in Biological Sciences for the Secondary Biology Education Program

* A minor is required with the Standard Biology Major

Other: Chemistry, Math, and Physics (specific requirements depend on the program.)

Honors Requirements

At least 18 hours of the total required hours for the major program will be taken from Departmental Honors Courses.

The following courses are required:

1. Honors discussion group (BIOL 1118, 1128, 1138 – 1 hour each, total 3 hours)
2. Research orientation class (BIOL 2992 or BIOL 3992) – 2 hours
3. Seminar (BIOL 4300) – 1 hour
4. Honors Thesis (BIOL 4018) – at least 3 hours, 6 hours recommended
5. Two upper level Biology courses taken as Honors sections (BIOL 3xxx or 4xxx-088) – at

least 6 hours. These classes may be honors sections of regular classes or Research in Biology credits.

An Honors Research Project, culminating in an Honors Thesis, is the capstone requirement of this program. A faculty mentor plus two additional faculty members (one from the Department of Biological Sciences; one from outside the department) will form a research committee that will advise and approve the research project. The thesis is to be defended publicly and bound copies and electronic versions will be provided to the Department and Honors Program. Electronic copy is sufficient for the Department; .doc or .pdf format on a CD; the student will be asked for a permission to make the Thesis available through the departmental web site. Honors Thesis should in most cases be taken in the student's last semester, to cover writing and presentation of the thesis, respectively.

Honors Courses are listed below. Any of these Honors Courses would be open to other students at the discretion of the instructor. It is felt that the courses would serve a valuable function to a few other students, but it is desirable to keep the class sizes small.

Honors Courses for the Introductory Level:

BIOL 1118 Honors Discussion I (1 h)

BIOL 1128 Honors Discussion II (1 h)

BIOL 1138 Honors Discussion III (1 h)

These courses are available as a weekly group meeting loosely connected to the concurrent Biology for Science Majors course. Class time will be spent discussing timely issues related to the material covered in the corresponding course. Students will participate in leading discussions and write opinion papers on the current issues. In addition, this is intended as an opportunity to introduce students into the Honors Program. It will also reward instructors by providing small-group contact with the most motivated biology students in their large lecture classes.

The student pool would be those qualifying for the Departmental Honors Program upon admission to ETSU. These students would need to satisfy the Honors Program retention requirements in order to stay associated with the Honors Program.

Honors Course at the Intermediate Level:

BIOL 2992 Research Orientation (2 h)

This course is intended to assist students in defining a research project, selecting a mentor, and completing a research prospectus. Another benefit is that the students will be able to identify and meet with their peers, be informed about basic research skills, and become aware of research ongoing in the department.

The student pool would be Departmental Honors students and other students who are interested in research. Students will be required to register for Research Orientation in their Sophomore year (see Requirements for Retention below).

Honors-Enriched Sections, Area Requirements:

Students will enroll in at least one honors-enriched experience among the menu of courses comprising the four major area requirements and General Genetics. Sections will be available by special admission for honors students; essentially, the honors experience section will provide an additional enrichment experience for the companion course and would convert it to an honors-enriched experience.

These honors-enriched sections will meet with the regular class, but will require additional assignments for the honors students. The following assignments will qualify as honor-enriched experiences:

- (1) Term paper on a special topic.
- (2) Written report on a special research project.
- (3) Oral presentation to the class on special topic or research effort.
- (4) Additional homework or exam assignments.

Advanced Honors Courses:

BIOL 4518 Honors Teaching Experience (2 h)

This course would provides opportunity for the student who has already completed an Honors Experience in one of the area courses to gain additional experience in the particular area of interest. The objective is to work with the instructor to prepare and assist in the lab exercises. In addition the student will be available throughout the semester for tutoring students in class topics. The student may also prepare and instruct a class in a prepared lecture(s). The student will benefit from the experience by learning and presenting laboratory and lecture material on a subject and from the opportunity to explore an area in-depth and the experience of teaching the material.

BIOL 4018 Honors Thesis in the Biological Sciences (minimum of one semester for 3 h)

A research project is the capstone experience of the Honors Program in Biological Sciences. A research project is initiated by the student and a faculty mentor, ideally during the student's junior year. A committee of the mentor and two additional faculty members will approve the research project, monitor the progress of the project and approve the thesis. Credit for the research will be given as an Independent Research Study. Honors Thesis should be taken in the student's last semester to cover writing of the thesis.

BIOL 4300 Honors Seminar in the Biological Sciences (1 h)

This course provides an opportunity for students to learn and practice oral presentation skills, culminating with the presentation of a formal seminar or participation in the ETSU Student Research Forum. The course will be designed to satisfy the ETSU oral communication intensive course requirement. Students will attend and critique our current seminar series and have a separate meeting time to cover the skills topics.

EQUIREMENTS FOR RETENTION IN THE HONORS PROGRAM

1. Students must enroll for at least 12 h per semester.
2. Students must achieve at least the following minimum overall GPA:

Quality Hours	Minimum GPA
up to 30	2.75
31-45	3.00
46-60	3.15
After 60	3.25
3. By their 60th credit or by the end of their Sophomore year, whichever comes last, students must have completed Research Orientation (BIOL 2992) class.
4. Establishment of a curriculum by the Honors Coordinator and regular contact with the Coordinator and the professors in Honors Courses should keep students on track throughout their program.
5. Participation in some regular activities (e.g., Tri-Beta, seminars, and journal clubs) are encouraged in order to give the student a sense of departmental involvement.

Students who fail to meet the minimum retention standards as outlined above may continue as Honors students for one semester on probation. Probationary students who do not achieve the retention standards during their probationary semester will be removed from the Honors program. Students who have been removed from the Honors program may reapply when they achieve the standards for Post-Freshman admission.

Special circumstances in a student's education program will be handled on an individual basis by the Honors Coordinator in consultation with the Director of the University Honors Program.

Graduation Requirements. To graduate with Honors-in-Discipline designation at ETSU, students must have a minimum 3.25 GPA, complete all required courses (Honors, General Education, Academic Proficiencies) and complete and orally present the senior Honors thesis. In addition, all thesis grades must be B or higher.

DEPARTMENTAL COORDINATION

A Departmental Honors Coordinator will be designated by Biological Sciences to coordinate the Honors Program. The Coordinator will also act as the Honors Advisor and establish recruitment procedures for students with involvement of the University Honors Program. The Coordinator will meet with students and establish their program curriculum. Each student will have regular meetings throughout their study to monitor their progress and to identify specific problems. A student may discuss any decision made by the Honors Coordinator with the departmental chair

or the Director of the University Honors Program.

HONORS BIOLOGY MAJOR: SUGGESTED PROGRAM OF STUDY

A program to meet the minimum requirements for Honors distinction in Biology
(Course schedule to be approved by Departmental Honors Coordinator)

Freshman Year

(R) BIOL 1118 Honors Discussion for Biology for Science Majors I (1)

(R) BIOL 1128 Honors Discussion for Biology for Science Majors II (1)

Sophomore Year

(R) BIOL 1138 Honors Discussion for Biology for Science Majors III (1) (R) BIOL 2992
Research Orientation (2)

BIOL 3100 General Genetics (3)

BIOL 3141 Genetics Laboratory (2) W (recommended)

Junior Year

BIOL 4XXX-088 Honors experience in Biology section from one of the
four Advanced Biology Areas

BIOL 4XXX-088 Honors experience in Biology section from the second of the
four Advanced Biology Areas

Senior Year

BIOL 4XXX-088 Honors experience in Biology section from the third of the
four Advanced Biology Areas (Concurrent with regular course)

BIOL 4XXX-088 Honors experience in Biology section from fourth of the
four Advanced Biology Areas (Concurrent with regular course)

BIOL 4900 Independent Research Study leading to Honors Thesis

(R) BIOL 4018 Honors Thesis in the Biological Sciences (3 - 6)

(R) BIOL 4508 Honors Seminar in the Biological Sciences (2)

(R) Courses Required for Honors Program