Human Biology, Health & Society (HBHS): An Introduction

A MAJOR FOR YOUR GOALS?
Promoting health and reducing the risk of disease in the United States and other countries requires that practitioners, researchers, and policy makers consider not only the biological and physical aspects of health and illness but also the social, psychological, economic, cultural, and political dimensions.

Many health problems are complex in origin and require that experts with different talents and perspectives work together and with the affected individuals and communities to understand the problems, propose solutions, and take steps to reduce health risks. Advances in the understanding of health risks and the dramatic changes in the management of health problems in the U.S. have caused the roles and responsibilities of health professionals to change dramatically. Those wishing to pursue a health-related career must be prepared to work in this new and ever-changing environment.

The Human Biology, Health, and Society (HBHS) undergraduate program in the Division of Nutritional Sciences helps students view human health issues from a broad and multidisciplinary perspective. Students are required to develop a strong background in human biology so that they can understand the physiological and biochemical aspects of health issues. The program also requires students to use perspectives from both the biological sciences and the social sciences to examine health issues. Students can select the issues they wish to investigate through the wide array of courses related to human health and well-being in the different departments of the College of Human Ecology.

ISSUES TO EXPLORE: Some examples...
- What physiological and biochemical processes are involved in health and necessary for resistance to disease?
- What is normal growth of children and what biological, social, cultural and environmental factors are involved?
- How do biological processes explain normal and abnormal behavior?
- How do diet and other lifestyle factors influence the risk of chronic disease?
- What social, political, economic, and cultural factors explain the differential access to health care in the US and how can this situation be changed?
- How can communities, organizations, and practitioners work to promote health in the US and other countries?
- What can be done to reduce disease and promote quality of life for older Americans?

CAREER PATHS
The HBHS major is one step toward a career in the health field. Most students will need to pursue advanced study to attain the academic and experiential credentials to work in their chosen profession. The HBHS major is excellent preparation for graduate and professional schools leading to careers in:

1. **Medical practice**: physician, physician assistant, dentist, nurse, nurse practitioner
2. **Allied health professions**: physical therapist, genetic counselor, occupational therapist, gerontologist, pharmacist, athletic trainer, strength and conditioning specialist
3. **Health education and promotion**: health educator, health communicator, fitness and wellness educator; community action specialist
4. **Biomedical research**: epidemiologist, toxicologist, pharmacologist, biochemist, exercise physiologist, physiologist
5. **Health administration and policy**: hospital administrator, public health administrator, legislative assistant, program evaluator, policy analyst
6. **Dietetics**: including nutrition counseling, clinical nutrition, community nutrition, and management of food and nutrition services in business and the health industry
IT’S OK TO BE UNSURE ABOUT YOUR INTERESTS

The HBHS program gives students time to consider different career interests while they get started completing introductory courses in chemistry, biology, math, writing, and the social sciences. The first-year course, NS 1150, Nutrition, Health and Society, introduces students to some important health issues and helps students develop their critical thinking and writing skills.

Students are encouraged to explore different career interests through their courses and special seminars offered throughout the year. Faculty advisors and college counselors who specialize in career planning can help students think through their interests. In a one credit course, NS 1200, Nutrition and Health: Issues, Outlooks and Opportunities (spring term), students can meet experts working in different fields and learn about critical issues and trends in these fields as well as the requisite knowledge and skills to work in these areas.

PROGRAM REQUIREMENTS

Students in the HBHS program must complete the graduation requirements for the College of Human Ecology as well as the requirements for the major. The curriculum requires strong preparation in biology and chemistry. After a year of introductory chemistry and biology, students complete a sequence of courses in organic chemistry, physiology, and biochemistry. Students also choose advanced electives in biology selecting from courses in areas such as genetics, evolution, neurobiology, cell biology, microbiology and nutrition. A term of physics and a term of calculus also are required.

All students complete NS 1150, Nutrition, Health and Society and one introductory course in each of two areas of social science chosen from anthropology, economics, psychology and sociology. Students must also complete the Human Ecology distribution requirements including courses in writing, statistics, and humanities.

To explore issues related to human biology, health and society, students choose from a wide array of selected courses available in all departments in the College of Human Ecology. Students must complete a minimum of two courses that integrate biology and social sciences perspectives and nine credits of advanced electives related to human biology, health and society.

PREPARING FOR SPECIFIC CAREERS

1. Medicine and Dentistry: Resources at Cornell for students wishing to pursue admission to medical school or dental school are extensive. Students should consult the college’s pre-med advisors and the resources of the university’s Health Careers Program office in 103 Barnes Hall (255-5221) or on the web at http://www.career.cornell.edu/HealthCareers/humanMedicine/default.html for recommendations about course requirements and application processes. HBHS majors who wish to complete the pre-med requirements should complete the eight credit organic chemistry sequence, two terms of physics, and a year of college mathematics.

2. Exercise Science and Physical Therapy: Students should complete Human Anatomy and Physiology of both lecture (NS 3410) and lab (NS 3420) before taking any course at Ithaca College. Then students can complete the Applied Exercise Science Concentration at Ithaca College, which includes courses in exercise physiology, kinesiology, and biomechanics of human movement. Preparation for graduate school in physical therapy requires courses in physics, psychology and ethics. Detailed information sheets about the Applied Exercise Science concentration (BLUE pages) and Physical Therapy Career Options (PINK pages) are available.

3. Biomedical Research, Genomics and Toxicology: Recommended courses include calculus, two terms of physics, and genetics. Other courses in advanced biology and chemistry should be selected based on the student’s particular interest.

4. Policy and Administration: Recommended courses include introductory courses in economics, government, sociology, management as well as courses offered in the college’s department of Policy Analysis and Management.

5. Community Health: Recommended courses include introductory and advanced courses in human development, psychology, sociology, economics, anthropology, communications, and health policy.
6. **Dietetics, Nutrition Counseling, Clinical Nutrition, Community Nutrition, and Management:** Students who wish to pursue careers in managing food and nutrition services or providing nutrition advice to promote health and/or manage disease states should complete the academic requirements for The Academy of Nutrition and Dietetics (see page 29 for additional information). Faculty in the Division’s dietetics program provides career advice and also help students compile their applications to the post-baccalaureate supervised practice component (dietetic internship), which is the next step in pursuing a career as a registered dietitian (R.D.). Additional information about the requirements of The Academy can be obtained from 316 Savage Hall and from the advising handout, Who Should Consider the Dietetics Program (PINK pages).

7. **Global Health:** Students can complete the Global Health Minor Program by completing their requirements. Detailed information about the program is available (BLUE pages).

**SPECIAL OPPORTUNITIES**

Students can enhance their classroom learning by participating in a variety of special opportunities including experiential learning, undergraduate research, study abroad, and teaching. In order to take advantage of these opportunities, students must plan their course schedules carefully so that all the college and major academic requirements can be met and students have the appropriate preparation to participate in these programs.

1. **Experiential Learning:** Gaining experience through summer internships, employment, and field study is a vital part of the career exploration and preparation processes for students in HBHS. It helps students explore opportunities in various fields, relate classroom learning to real world settings, and examine their own interests and strengths.

   Students in search of summer internships and paid positions can use the resources offered by the college’s and university’s career offices including the web pages, counselors, and library resources. Assistance in resume preparation and networking with alumni also is available from these offices.

   Students who wish to participate in field-based learning for academic credit (NS 4020) should speak with their advisors or with a faculty member willing to supervise the placement. Faculty members can assist with some placements in community agencies, businesses, and health care programs, but students may need to search for their own placements. When the student and faculty member agree upon a project, they complete the Special Studies form (obtained from B21 Savage or the Registrar of the College of Human Ecology) which outlines the agreement. The form must be signed by the student, the faculty member, the student’s advisor, and the division’s Assistant Director for Undergraduate Studies before submitting the form to the Human Ecology Registrar. For more information about field study, read *Field Experiences in Food, Nutrition and Health for Undergraduates* in the GOLD pages.

2. **Urban Semester:** The Urban Semester is an opportunity for field-based learning in New York City. Students earn credit through placements in private, not-for-profit, or government funded programs and through special classes designed to take advantage of this urban environment. For more information about the Urban Semester see the advising sheet, *Study Abroad or an Urban Semester* in the GOLD pages.

3. **Study Abroad:** Students who wish to spend a semester abroad should discuss their interests with their faculty advisor as early as possible. A student’s academic interests and course requirements will determine how easily a semester can be arranged. For more information about Study Abroad, see the advising sheet *Study Abroad or an Urban Semester* in the GOLD pages.

4. **Undergraduate Research:** HBHS majors can become involved in research with faculty members in the division and the college. Students interested in participating in directed readings or empirical research with a faculty member should contact the faculty member. A list of research interests of faculty members in the division is included in the gold pages. When the student and faculty member agree upon a project, they complete the Special Studies form (obtained from B21 Savage or the College Registrar) which outlines the agreement. The form must be signed by the student, the faculty member, the student’s advisor, and the Assistant Director for Undergraduate Studies before submitting the form to the Human Ecology Registrar.
5. **Health and Nutrition Society:** You can become a member or leader in the Health and Nutrition Society (HealthNutS), the undergraduate student organization. With the goals of promoting healthy eating practices in the Cornell and Ithaca communities and encouraging interaction among DNS student and faculty members, HealthNutS has a busy agenda including faculty-students and faculty activities, the fall food drive, skits for nursery schools and day care programs, and programs for residents of adult care homes.

6. **Honors Program:** HBHS majors may participate in the division’s honors program which is designed to challenge academically talented students who have a substantial interest in research. A minimum GPA is required for participation in this program. Each selected student completes required seminars and conducts an independent research project under the direction of a faculty member. The experience culminates in the submission and presentation of a thesis, which must be accepted by the division’s honors committee. For more information about this program, see the information sheet *The Honors Research Program*, in the GOLD pages.

7. **Undergraduate Teaching Assistant:** Qualified juniors/seniors have the opportunity to apply to be undergraduate teaching assistants for some introductory level courses. Undergraduate teaching assistants work with faculty members and graduate teaching assistants and learn about college teaching and various instructional methods. Students receive academic credit for this learning experience through NS 4030. Interested students should contact the faculty member who teaches the course for which they would like to assist.

**FACULTY ADVISING**

Every student majoring in HBHS has a faculty advisor from the Division of Nutritional Sciences. New students meet with their advisors at a scheduled time during the orientation period. You will then meet with your advisor at least twice a year -- during conferences scheduled in October and April to plan your schedule for the next term. During the first meeting with your advisor, be sure to find out how to contact him/her when you need to consult with him/her in the future. Most faculty members prefer that students make an appointment through a sign-up sheet, e-mail, or phone call. Some faculty members also have scheduled office hours.

Your advisor will help you plan courses to meet your academic interests and suggest special opportunities for individual study or experiences outside the classroom. Advisors approve course enrollment schedules. Keeping in touch with your faculty advisor is very important. Contact them whenever you have questions about your academic program or if you are having academic difficulties of any kind. Academic problems are more easily managed when you contact your advisor early!

If you have questions about your faculty advisor or are unable to contact your advisor, you can come to or call the Academic Affairs Office. Also if you wish to change your advisor, come to this office: B21 Savage Hall.

**FACILITIES and A DIVISION IN TWO COLLEGES**

The Division of Nutritional Sciences’ 45 faculty members are involved in undergraduate teaching, graduate teaching, research, and nutrition outreach to the public through Cornell Cooperative Extension. Most of the DNS faculty members work in MVR Hall and nearby Savage Hall and Kinzelberg Hall. In addition to housing offices and classrooms, these buildings contain specialized research facilities.

The Division of Nutritional Sciences (DNS) at Cornell is a unit of both The College of Human Ecology and The College of Agriculture and Life Sciences. It is a “Division” instead of a department because it is part of two colleges.