Catalog 2010-2011

Welcome to the UAB School of Public Health

Message from Dr. Max Michael

In 1964 President Lyndon Johnson said, "We have the power to shape the civilization that we want. But we need your will, your labor, your hearts, if we are to build that kind of society." He was, of course, speaking about the "Great Society" initiative that sought to eliminate the oppression of poverty for millions who wanted to share in the American dream. We have learned much in the intervening forty years - that good intentions and money don't often solve complex social and cultural dilemmas; that the technology genie will not go back into the bottle; that we are milliseconds from every nation, every person on the globe.

More than any other discipline, public health has the power to help shape civilization in the 21st century. The UAB School of Public Health offers you the opportunity to join a vibrant community of professionals and scholars whose global-class research and scholarship is exploring complex problems like HIV/AIDS, obesity, and drugs in creative and unusual ways. A graduate degree in public health gives you the ability to tackle head-on the most complicated and thorny issues of our times, the tools to create solutions for those issues, and a uniquely global perspective.

The challenges for the future of public health find an ideal home at UAB. The interests of our faculty and staff extend from community organization in the Black Belt regions of rural Alabama to understanding the dynamics of the HIV epidemic in Sub-Saharan Africa. Few universities offer the almost limitless interdisciplinary collaborative atmosphere available to students at the UAB School of Public Health.

The potential for our students to develop practical and meaningful internship experiences grows daily through partnerships with state and local government agencies, local businesses and industry, and a global network of governmental and non-governmental organizations. The faculty and staff at the School are dedicated and deeply committed to educating and preparing the most well-educated and qualified public health graduates imaginable for the 21st century. We look
forward to welcoming you as a student in the School of Public Health. Our dynamic, robust, and exciting programs are a great beginning for launching a truly satisfying career.

Max Michael, MD
Dean, School of Public Health

Overview and Historical Perspective

History of the School

Until 1976, UAB’s graduate program in public health and epidemiology was located within the School of Medicine. The chairman of that department also served as chairman of the public health division in the School of Community and Allied Health Resources. In 1976, the joint Department of Public Health was formed between the Schools of Medicine and Community and Allied Health Resources. In 1977, the department notified the Council on Education for Public Health of its intention to qualify for status as an accredited School of Public Health. By 1978, the Department of Public Health had achieved full accreditation as the nation’s 20th School of Public Health.

The school remained a joint department of the Schools of Medicine and Community and Allied Health until 1981. In that year, the board of trustees approved the creation of the School of Public Health as the sixth and youngest health professional school at UAB.

Mission of the School

The mission of the School of Public Health is to lead in developing, disseminating and applying knowledge to prevent disease and promote health in the human population. Because of its inherent breadth, public health is comprised of many disciplines. Thus the school achieves its mission by bringing the various disciplines together to educate individuals who will be working to prevent disease and improve the health of the school's constituent populations. These individuals include experienced public health and other health professionals, undergraduates with education backgrounds in the sciences, and persons from developing countries with health-related backgrounds. An implicit part of this mission is a commitment to increase and validate, through research and practice, the body of knowledge upon which the school's educational programs are necessarily based.

Organization of the School

To carry out its mission and goals, the School of Public Health is organized by academic departments, centers, and functional units that report administratively to the dean. Six academic departments and five centers are based in the school. The basic academic unit in the school is the department, with each one responsible for its academic, research and service programs. The six departments offer training in more than 20 major specialty areas. In addition, the centers and departments engage in numerous interdisciplinary training programs with the Graduate School and various health-professional and other schools at UAB, as well as with other colleges and
universities. The school's Mid-South Program for Public Health Practice is involved in a number of initiatives to strengthen the relationship between academic public health and public health practice.

UAB is accredited by the Southern Association of Colleges and Schools (SACS) and the School of Public Health is accredited by the Council on Education for Public Health (CEPH), an independent agency recognized by the U.S. Department of Education to accredit schools of public health and certain graduate programs offered in educational settings other than schools of public health. The CEPH is located at 1015 Fifteenth Street, NW, Washington, D.C. 20005, (202) 789-1050.

**Governance of the School**

The faculty charter of the School of Public Health describes the faculty governance structure of the school. The Faculty Council, the Educational Policy Committee (EPC), and the Admissions and Graduation Committee (A&G) are standing committees of the faculty. In addition, three standing committees advise the dean on academic and administrative matters: the Executive Committee, the Faculty Affairs Committee, and the Financial Aid Committee.

**Resources and Facilities**

The Frank and Kathleen Ellis Ryals School of Public Health Building opened its doors in the Fall of 1996. The six floor, 120,000 square foot building located in the heart of the campus houses the administrative offices, classrooms, wet and dry laboratories, student support services, and faculty from all departments. The modern classrooms, computer labs, and student lounge in the Ryals Building are in close proximity to the Lister Hill Library of the Health Sciences.

**Centers**

**Deep South Center for Occupational Health and Safety**

**Deep South Center for Occupational Health and Safety**: This center was established in 1981. Its mission is to develop professionals who protect and promote the health and safety of workers through multidisciplinary education, research, and outreach. It consists of academic programs in industrial hygiene in the Department of Environmental Health Sciences of the UAB School of Public Health, occupational health nursing in the UAB School of Nursing, and occupational safety and ergonomics in the College of Engineering at Auburn University. The Center also includes a continuing education program in the UAB School of Public Health. The Deep South Center is one of 16 education and research centers throughout the nation partially supported by the National Institute of Occupational Safety and Health of the U.S. Department of Health and Human Services. For additional information, go to www.uab.edu/dsc.
John J. Sparkman Center for Global Health

John J. Sparkman Center for Global Health: The Sparkman Center was established in 1979 with a congressional appropriation through the United States Agency for International Development (USAID) to the University of Alabama at Birmingham (UAB). The primary mission of the Center is to contribute to solutions of health problems in developing countries by fostering global public health education, research, and service activities in collaborations with academic institutions, international agencies, and health ministries in the host countries. The vision behind the establishment of the Sparkman Center was the recognition of the global nature of health problems, the impact of health on human development and the need for international collaboration in resolving major health issues of the time.

Building on a successful history of international collaboration with partners in Asia, Africa, the Caribbean, Latin America, and Eastern Europe, Center programs today both targets the development of UAB student and faculty global health capacity as well as the implementation of international training, research and education efforts. Activities targeted towards UAB institutional audiences include: UAB Framework Program for Global Health; Sparkman Center Annual Public Health Symposium; Sparkman Center Seminar Series in Global Health; and Field Studies in Resource Limited Settings: Infectious Disease Surveillance and Control (Course in Jamaica).

The Center’s International Collaborative Projects are with partner academic institutions focused in four countries: Jamaica, Peru, Ukraine, and Zambia. These efforts are enhancing partner institutional infrastructure for teaching, research and service, as well as producing public health curricula and the enhancement of foreign partner public health knowledge and expertise. The program uses an approach wherein platforms for education and research in public health are developed with partners at foreign sites, thereby supporting ongoing UAB work with international collaborators to build solutions for public health problems.

In the past year, both areas of concern—development of institutional capacity at home and abroad—has been advanced by a new UAB initiative in partnership with the Sparkman Center: the UAB Global Health Framework Program (http://www.soph.uab.edu/sparkman/default.aspx?id=13). Supported by matching NIH funding, this initiative is increasing the number of faculty and student grants for exchanges at foreign sites, enhancing student mentorship opportunities, resulting in new global health courses across campus, among other activities.

The Sparkman Center is located in the School of Public Health but supports faculty and staff across the UAB campus in its mission of “fostering global public health education, research, and service.” More information on the Center is available at: www.sparkmancenter.org.

Lister Hill Center for Health Policy

Lister Hill Center for Health Policy: Federally endowed in 1987, the Lister Hill Center has a university-wide mission to facilitate the conduct of health policy research, to disseminate the findings of that research beyond the usual channels of academic publication, and to sponsor the
Lister Hill Health Policy Fellows program. The center draws on scholars from throughout the university to address issues of health care access, financing, organization, delivery, and outcomes, with particular emphasis on prevention strategies. The center publishes UAB Health Policy Research, a précis of policy research for regional and national policy makers. It sponsors an intramural grants program in health policy/health services research. Current areas of research include health care markets and managed care, maternal and child health, aging policy, application of management strategies to public health organizations, and health care outcomes.

**UAB Center for the Study of Community Health (CSCH)**

**UAB Center for the Study of Community Health (CSCH):** The mission of the UAB Center for the Study of Community Health (CSCH) is to conduct and facilitate research to guide programs and policies that promote the vitality of community health. Using community-based participatory public health research strategies, the Center partners with UAB investigators and Alabama communities to understand and improve the ecology for 21st century community health. The Center strives to bridge the gap between public health science and practice in risk reduction across the life span in underserved communities and to determine the benefits of sustained efforts to build community capacity and to reduce risk factors within under-served communities. **The CSCH is the result of a formal merger between the Center for Health Promotion, established in 1993 with the core funding from the Centers for Disease Control and Prevention (CDC) as a Prevention Research Center (PRC), and the Center for Community Health Resource Development, established in 1973.** Administratively housed in the School of Public Health, the Center currently has 124 appointed faculty representing 44 departments and 10 schools at UAB.

Five operational units serve to meet the goals and objectives of the Center. **The Survey Research Unit (SRU)** provides assistance in the design and execution of phone surveys using a 34-station computer assisted telephone interviewing (CATI) system, as well as face-to-face, fax, and mail surveys. The SRU conducts approximately 40,000 surveys annually with revenues in excess of $1 million. **The Health Communications Unit** combines expertise from faculty and staff in both health communications theory and the technical design and development of video, print, audio, and multimedia theory-based materials. This Unit is skilled in the design and development of computer-assisted assessment and intervention programs. **The Community Health Resource Development Core (CHRDC),** newly established as a result of the merger, brings a thirty year history of community resource development work with communities, agencies and institutions throughout the state. The CHRDC provides expertise to investigators and communities in infrastructure development, best practice interventions, strategic planning, curriculum development and training, capacity building for community based participatory research in under served populations/communities, and technical support in such areas as program management, needs assessment, focus groups, advocacy, coalition building, etc. **The Computer Data Unit (CDU)** was launched in 2005 to provide UAB investigators a heretofore unavailable profile of the communities contiguous to UAB. The CDU will house a community database of demographics, social perceptions, behavioral trends, and other relevant information critical to community-based participatory research. The database will be available to any UAB investigator developing community-based and translational research programs and strategies. A similar program in Mobile has garnered more than $10 million in NIH research funding. **The Community Resilience and Disaster Management Program (CRDMP)** is an innovative initiative to empower disadvantaged communities to better meet 21st century health challenges through
community-based research and education. This program will convene a major conference on the theme of community resilience and develop strategy for conducting a comprehensive research program on community resilience that will involve many UAB investigators.

The CSCH currently supports several major research projects:

- The core research project, **Flying Sparks**, builds on the Center’s ten-year history of community-based participatory research in rural, isolated, and predominantly African American communities in Alabama’s Black Belt region. With the assistance and guidance of the Community Participation Board more than 20 communities in six Black Belt counties are part of a trial of community-based health promotion interventions.

- The **Magic City Stroke Prevention Project**, one of three projects funded through the Office of Minority Health, combines community and University leadership to devise a community-wide intervention strategy to reduce stroke risk factors. These interventions include a variety of educational activities for health care providers and community leaders and residents, as well as community-wide health screenings.

- The **Anniston Health Survey** is part of a large CDC-funded effort to better understand the health consequences of PCB exposure in Anniston, Alabama over the past fifty years. The Survey is the first ever effort to dissect health perceptions from health status in an exposed population.

- The **Special Interest Projects (SIPs)** have been made available for competition through the PRCs since 1993. These awards are funded by many divisions throughout the CDC, as well as other agencies of the Department of Health and Human Services. Since inception of the PRC program, the Center has received 36 SIPs – the largest number funded by the program. These SIPs have totaled over $20 million in awards to UAB investigators.

Other projects in the Center include:

- **CARES (Congregations Reaching Out to Empower Survivors)**, a faith based training initiative for ministers in cancer survivorship issues, funded by the Lance Armstrong Foundation and the CHA Training and Support Institute, which provides certificate training to CHA model programs (cancer, tobacco, healthy homes, stroke prevention, health ministry programs) throughout the state.

- **Congregations for Public Health**, a faith based 501c3 organization, grew out of a partnership between the Center and the leadership of nine African American churches and supports community based participatory research and service programs focused on health, education, economics and social justice issues in underserved communities.

The Center also collaborates with the Alabama Department of Public Health on a number of research, service, and continuing education initiatives. One of the major initiatives, SE-RAC, focuses on environmental public health practice in Alabama as well as in 9 other states and 2 territories.

**South Central Center for Public Health Preparedness**
The South Central Center for Public Health Preparedness (SCCPHP) was launched in 2002 to serve the public health workforce in the four-state region of Alabama, Arkansas, Louisiana, and Mississippi. Academic partners include the schools of public health at Tulane University and the University of Alabama at Birmingham.

Using the bioterrorism and emergency readiness competencies established by the Centers for Disease Control and Prevention (CDC) and Columbia University, the center trains public health practitioners and first responders to prepare for public health threats and emergencies, including terrorist attacks. The SCCPHP also aims to attract students to the public health workforce, particularly the preparedness field, by offering a 12-week internship program. Public health graduate students from the partner universities are placed at the partner state health departments or urban health departments.

Funded by the CDC, the SCCPHP is part of a network of academic preparedness centers across the country. The Association of Schools of Public Health (ASPH) works closely with the CDC to support and manage the project nationwide. For more information on the SCCPHP go to http://www.soph.uab.edu/scphp.

Student and Alumni Organizations

Public Health Student Association

The Public Health Student Association (PHSA) serves as a liaison between the students and the faculty by sponsoring activities such as Movie Night which features a public health related film followed by a forum of faculty and public health professionals that allows students to ask questions about public health practices and research mentioned in the film. PHSA also offers students adjunct education and service opportunities by holding lunch seminars and donating time and funds to local charities. Of course as students, PHSA provides many outlets for social activity by hosting events such as Monthly Mixers and tailgating at UAB football games.

PHSA's largest event of the year is the activities surrounding the celebration of National Public Health Week (the first full week in April). The week long celebration includes seminars, a health fair, service involvement and a social for students, faculty, and staff of the SOPH.

Along with the responsibility of fostering an academic, professional, and social environment for students of the SOPH through interaction with faculty, staff, alumni and other professionals, PHSA strives to continue its efforts in "promoting student involvement in the school, university, and community through service, programming and special events."

For more information or to get involved contact Richard Bennett at RBennett@uab.edu or at (205) 934-4993.

School of Public Health Alumni Association

As a graduate of the UAB School of Public Health, you are a valued member of our School family. You join over 2700 caring professionals around the world who are proud to be alumni of the UAB
School of Public Health.

Whether you are close to UAB or far away, we encourage your involvement in the life of the School. You can be involved in student recruiting and retention. You can participate in career and internship activities, and whether you live here, or are just passing through town, you can share your expertise and experience by speaking to a group of our students. We also invite you to support our scholarships and projects by supporting the School of Public Health Annual Fund.

On our part, we will strive to keep you informed of School activities and news through our website and publications. You will also be able to maintain contact with old friends and network with fellow alums easily through the UAB On-line Alumni Directory. Let us know how you would like to be involved by contacting us at sphaalumni@uab.edu. You can also visit our website at: www.soph.uab.edu/alumni.

To learn more you may call Ms. Joan Ohm, Director of Alumni Relations and Career Services at (205) 934-7799 or Ohm@uab.edu.

Delta Omega National Honorary Society

Delta Omega

Honorary Society in Public Health

Upsilon Chapter

Founded in 1924, Delta Omega is the honorary society for graduate studies in public health. The society was established to celebrate excellent academic achievement, devotion to public health principles and outstanding service in public health.

The Upsilon Chapter, established at UAB in 1989, has inducted 301 members (students, alumni and faculty) who promote scholarly pursuits in public health at the UAB School of Public Health and in the community at large.

Members are inducted annually based upon outstanding performance in scholarship, teaching, and community service in the public health arena.

Candidates are selected from each of the following groups: (1) students who are candidates for a graduate degree in public health; (2) faculty members at the School of Public Health; and (3) alumni actively engaged in public health work.

For further information regarding Delta Omega go to www.deltaomega.org.

The Delta Omega national office is located at:

1101 15th Street NW, Suite 910
UAB National Alumni Society

Membership in the UAB National Alumni Society (NAS) School of Public Health Chapter will afford you the opportunities to be aware of and involved with activities at the university level. For more information on joining the UAB National Alumni Society, visit their website at: http://main.uab.edu/show.asp?durki=1861.

General Items of Interest

School of Public Health Campus Tours

We are proud of our School, our campus, and our city and want you to have a chance to experience all we have to offer.

If you would like to visit the School of Public Health, you should contact one of our six departmental coordinators, depending on your area of interest, to schedule your visit.

Departmental Program Coordinators:

| Della Daniel                  | (205) 934-4905 |
| Biostatistics                | daniel@uab.edu |
| Cherie Hunt                  | (205) 934-8488 |
| Environmental Health Sciences| cherie@uab.edu |
| Kim Hawkins                  | (205) 975-9749 |
| Epidemiology                 | hawkinsk@uab.edu |
| Julie Brown                  | (205) 975-8075 |
| Health Behavior              | jebrown@uab.edu |
| Brenda Campbell              | (205) 934-3939 |
| Health Care Organization and | bcampbell@uab.edu |
| Policy                       |               |

For information about tours of the University of Alabama at Birmingham go to http://student.uab.edu/to-do-list/show.asp?durki=52774

We look forward to meeting you!
Tuition and Fees

Graduate Tuition and Fee Schedule for 2010–2011

Graduate Students

<table>
<thead>
<tr>
<th></th>
<th>Resident Per Term</th>
<th>Nonresident Per Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time students, 9 credits per term (9 hours is considered full time)</td>
<td>$2,822.00</td>
<td>$6,404.00</td>
</tr>
</tbody>
</table>

BREAKDOWN OF TUITION (Based on 9 credit hours per term)

<table>
<thead>
<tr>
<th>Graduate Students</th>
<th>Resident 1st Credit Hour (1)</th>
<th>All Additional Credit Hours (8)</th>
<th>Per Term</th>
<th>Nonresident 1st Credit Hour (1)</th>
<th>All Additional Credit Hours (8)</th>
<th>Per Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition</td>
<td>$462</td>
<td>$295</td>
<td>$2,822.00</td>
<td>$860</td>
<td>$693</td>
<td>$6,404.00</td>
</tr>
</tbody>
</table>

Estimated Annual Expense

Living expenses in Birmingham vary. For more information on living expenses, and about Birmingham please visit The Greater Birmingham Convention & Visitors Bureau at http://www.birminghamal.org/

- UAB offers a variety of on-campus living options. Contact Student Housing and Residential Life for more information, (205) 934-2092.
- All students who have direct patient contact or contact with whole blood products must receive a Hepatitis B vaccination or show proof of having received this vaccine.
- Student Health Insurance may be paid on an annual basis beginning each fall semester, or payments may be distributed over two semesters for new students. Contact Student Health Services at (205) 975-7750.

If you are an out-of-state student and qualify in the Academic Common Market, your tuition will be the same as the in-state rate.

* Tuition and fees for any student may vary depending upon course selection or program of study.
**Cost may vary depending upon course selection.**

## Paying Tuition and Fees

In order to make sure you have the best possible access to the classes you need to complete your degree on a timely schedule, UAB is changing when student account payments are due. Students receiving need based financial aid, external funding (e.g. PACT, VA benefits, etc.), or scholarships will not be negatively impacted by these changes.

**Effective with the fall 2011 semester, these payment timelines will be in place at UAB:**

<table>
<thead>
<tr>
<th>Billing Timeline</th>
<th>Amount Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 days before start of term</td>
<td>50 percent of account balance due</td>
</tr>
<tr>
<td>30 days after drop/add deadline</td>
<td>Remainder of balance due</td>
</tr>
</tbody>
</table>

A student’s balance due will be 50 percent of charges plus any outstanding balance less financial aid, educational assistance, or third-party payments.

Students who do not make the initial payment of 50 percent of their account balance 10 days before the first class day of the fall term will be dropped from their courses for non-payment.

The payment schedule changes will impact graduate and undergraduate students. It will not impact students in first professional programs in the schools of Medicine, Optometry and Dentistry.

[http://www.uab.edu/whentopay/](http://www.uab.edu/whentopay/)

## Financial Assistance

Student support funds at the School of Public Health are provided to graduate students in the form of grants, fellowships, scholarships, traineeships, teaching assistantships and graduate student researcher appointments. Scholarships are awarded based on academic merit and financial need. Some have specific requirements or conditions that must be met. Further details about scholarships and their criteria are available here. You may also apply for extramural support by contacting national, international and private foundations directly.

**The University Financial Aid Office is responsible for administering financial support loans based on need and non-need options.**

To apply for financial aid, through the University Financial Aid Office, submit the Free Application for Federal Student Aid (FAFSA) or the FAFSA Renewal Application to the processor. Completion of the FAFSA or the FAFSA Renewal Application is required for all university financial aid programs. For more information on applying for loans at UAB, please refer to the web site maintained by the University Financial Aid Office at [Financing Your Education](http://www.uab.edu/whentopay/).
International Students

Since federal financial assistance programs are limited to U.S. citizens and permanent residents, most international students pay for college using personal or family funds. However, other sources of funding may be available. To learn more go to Financial Assistance for International Students or contact the International Scholar and Student Services Office at (205) 934-3328 or at ISSS@uab.edu.

Financial Assistance

Financial Assistance

Student support funds at the School of Public Health are provided to graduate students in the form of grants, fellowships, scholarships, traineeships, teaching assistantships and graduate student researcher appointments. Scholarships are awarded based on academic merit and financial need. Some have specific requirements or conditions that must be met. You are strongly urged to apply in all categories for which you may qualify. Further details about scholarships and their criteria are available at www.soph.uab.edu/default.aspx?id=23. You may also apply for extramural support by contacting national, international and private foundations directly.

UAB Office of Financial Aid

The university’s Financial Aid Office is responsible for administering financial support loans based on need and non-need options. To apply for financial aid, through the University Financial Aid Office, submit the Free Application for Federal Student Aid (FAFSA) or the FAFSA Renewal Application to the processor. Completion of the FAFSA or the FAFSA Renewal Application is required for all university financial aid programs. For more information on applying for loans at UAB, please refer to the web site maintained by the University Financial Aid Office at http://students.uab.edu/show.asp?durki=41182

International Students:

Since federal financial assistance programs are limited to U.S. citizens and permanent residents, most international students pay for college using personal or family funds.

However, other sources of funding may be available.

To learn more go to

http://students.uab.edu/show.asp?durki=4224

or contact the International Scholar and Student Services Office at (205) 934-3328 or at ISSS@uab.edu.
Veterans Affairs

Any veteran who plans to enter UAB and who wishes to apply for financial assistance through the Department of Veterans Affairs should file an application with the UAB Office of Veterans Affairs. From six to eight weeks are required to secure proper processing of an application by the Department of Veterans Affairs.

For information, contact the UAB Department of Veterans Affairs, Room 516H, Hill University Center, 1400 University Boulevard, Birmingham, Alabama 35294-1150, telephone (205) 934-8115.

In-State Residency Reclassification

In-State and Out-Of-State Residency Classification

All students registering at the University of Alabama at Birmingham, who do not establish that they are "resident students" shall pay non-resident student tuition.

For tuition purposes, U.S. citizens or permanent residents who are not residents of Alabama may be able to establish Alabama residency to be effective in one year. This process is not automatic.

Three Methods of Requesting Residency Reclassification

- Academic Common Market/Southern Regional Educational Board (SREB)

Residents of every SREB state may participate in the SREB Academic Common Market, an agreement that enables students to pursue unique majors offered at public institutions in the other SREB states while paying in-state tuition. If the public institutions in your home state do not offer degree programs in your field of study, it may be possible to arrange a waiver of out-of-state tuition to attend a cooperating public institution of higher education in another participating state. For detailed information and contact information about your states Academic Common Market representative go to the SREB web site at www.sreb.org.

- Reclassification of Residency for Tuition Purposes for Students Not Receiving Institutional Support

In determining residency classification for tuition purposes, the primary issue is one of intent. If a person is in Alabama primarily for the purpose of obtaining an education, that person shall be considered a non-resident student.

A student seeking residency reclassification has the burden of overcoming the presumption of non-resident student status. To overcome this presumption, the student must submit satisfactory evidence that the students residency status has changed by demonstrating a more substantial non-school related connections to the state than with any other state and the intent to remain here indefinitely.

You must begin to establish Alabama residency as soon as you arrive. Documents supporting a reclassification of residency application should be, but are not required to be, dated, issued, or filed twelve months prior to enrollment at UAB. Evidence of connections with the State of
Alabama which have been effect for more than one year prior to application are more supportive of residency than those which have been in effect for less than one year prior to application.

Students who wish to be considered for residency reclassification, have the required documentation of intent and can provide the necessary evidentiary support, should submit a completed "Application for Reclassification of Residency for Tuition Purposes" along with all supporting documentation to the Office of Student and Academic Services at the School of Public Health. Once residency has been established in this manner, students are considered a resident for the duration of their studies at UAB.

Such documentation includes (but is not limited to):
- Copy of Alabama Driver’s License
- Proof of Auto Registration in Alabama
- Proof of Bank Accounts in Alabama
- Copy of Voter Registration for Alabama
- Copy of residential/lease agreement

Reclassification of Residency for Tuition Purposes for Students Receiving Institution Support

In-state tuition will be considered for School of Public Health students who meet one of the following criteria:

- School-based tuition assistance that includes some funding for tuition, or
- Externally funded traineeship that includes some funding for tuition, or
- Externally funded traineeship of at least $1500 per year, even if that traineeship does not include explicit funding for tuition, or
- Working as a "graduate assistant", "teaching assistant", or "research assistant" (meaning students who work in School of Public Health departmentally funded positions assisting with teaching and/or research activities that must be directly related to their education in the School of Public Health. This will be verified each semester), or
- Advanced training (e.g., medical resident(s).)

Students who would like to be considered for Alabama Residency Reclassification based on the criteria outlined above should complete the Application for Reclassification of Alabama Residency for Students Receiving Institutional Support Form. Once Alabama residency has been established using this method of reclassification, it must be reviewed for renewal each year. If upon re-evaluation, reclassification is not renewed and residency cannot be met using either of the other two methods of residency reclassification, students will be considered to be a "non-resident student".

Registration

Registration
Students in the School of Public Health must be continuously enrolled until the completion of their degree unless approved for a leave of absence. Failure to remain continuously enrolled may result in dismissal from the program, requiring a re-admission application. If re-admitted, the student will be subjected to the catalog requirements existing at the time of re-admission.

All registration is conducted on-line through BlazerNet, the University’s official portal which provides centralized access to information and services that students, faculty and staff need on a daily basis. BlazerNet will provide you with up-to-date information about UAB news and events to access to class registration, financial aid, grading and much more. To register, go to www.blazernet.uab.edu. For details on how to use Banner Registration, please refer to the BlazerNet Registration Quick Guide located in the Student Resources tab in BlazerNet. If you experience technical problems, please contact the AskIT UAB Support Services at AskIT@uab.edu. If you experience registration holds, please contact your department program coordinator. The class schedules are available on-line only and can be viewed by logging into the UAB BlazerNet Portal at www.blazernet.uab.edu. The following course prefixes are assigned to courses offered by the School of Public Health:

BST - Biostatistics
ENH - Environmental Health Sciences
EPI - Epidemiology
HB - Health Behavior
HCO - Health Care Organization and Policy
PUH – General Public Health

Withdrawal from Courses

Graduate students are expected to complete courses for which they have registered, unless unusual circumstances require withdrawal. The procedures for withdrawal are specified in the UAB Class Schedule.

- **Mere cessation of class attendance does not constitute withdrawal**, either academically or for tuition charges. If a withdrawal form is received after the "Last Day to Withdraw without Paying Full Tuition and Fees", full tuition and fees will be due for the courses from which the student withdraws.
- **A grade of F** will be assigned to any student who has not officially withdrawn from a course.
- **Withdrawal from a graduate course will show as a grade of "W" on the transcript.** Withdrawal is not possible after the last day of classes. A processing fee is charged for schedule changes.

Request for Academic Appeal

There is a process by which a student can request an exception to the policy for Registration/Add Course(s), Deadline to Drop, Withdrawal, and Payment Deadline. These requests should have extreme extenuating circumstances and should be the exception rather than the rule. Completion of an Academic Appeal Form is necessary to begin this process. This process is a request not an absolute.
Academic Programs

Summary of Common Requirements

MPH Degree Programs

Master of Public Health

Students pursuing the MPH degree acquire competency in the fundamental public health disciplines; the basic public health sciences; data analysis and policy analysis; communications; program planning and administration; public health systems and the organization of health services in the United States and abroad; recognition and analysis of ethical or legal issues in public health and professional practice; cultural, behavioral, genetic, environmental, political, geographic, and socioeconomic factors in health; the global nature of health and the needs of special populations, such as mothers and children, ethnic minorities, and vulnerable populations; and in the integration of core public health disciplines in public health problem decision-making processes.

Degree requirements common to all MPH specialty areas include:

- competency in the Biological Basis of Public Health,
- completion of the 19 to 22 credit hour MPH core curriculum which includes an Integrative Experience
- an Internship Experience

**Biological Basis of Public Health Competency**

All students in the MPH degree programs are required to meet The Biological Basis of Public Health Competency Requirement.

There are several ways in which this requirement can be met:

1. A previously earned Medical, Dental, Nursing, or Dietetics degree (registered or registration eligible dieticians only)
2. Extensive and substantial education (earning grades of "B" or better in biological/biomedical courses)
3. Take the Biological Basis of Public Health Exam, earning a grade of 70 or better.

All MPH degree admits were reviewed during the admissions process to determine if the Biological Basis of Public Health Competency Requirement was met due to previous education. The letter of admission from the School of Public Health indicates whether or not you have met the competency requirement. If a waiver was not indicated, students must plan to take one of the Competency Exams offered during Orientation week.
The link to the Biological Basis Study Manual is - http://moodle.soph.uab.edu.

**The MPH Core Curriculum (19-22 credit hours) including the Integrative Experience**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST 600</td>
<td>Biostatistics for Public Health *</td>
</tr>
<tr>
<td>ENH 600</td>
<td>Fundamentals of Environmental Health Sciences</td>
</tr>
<tr>
<td>EPI 600</td>
<td>Introduction to Epidemiology **</td>
</tr>
<tr>
<td>HB 600</td>
<td>Social and Behavioral Science Core</td>
</tr>
<tr>
<td>HCO 600</td>
<td>Introduction to Public Health</td>
</tr>
<tr>
<td>PUH 695</td>
<td>Public Health Integrative Experience</td>
</tr>
</tbody>
</table>

* Some departments require BST 611 (Intermediate Statistical Analysis I - 3 credit hours) and BST 612 (Intermediate Statistical Analysis II - 3 credit hours) as the MPH Biostatistics requirement.

** Some departments may allow a choice of EPI 600 or EPI 610 (Principles of Epidemiologic Research - 4 credit hours) to meet this course requirement. The Department of Epidemiology requires EPI 610 to meet this course requirement.

*** PUH 695- Public Health Integrative Experience.** This course is designed to synthesize and integrate knowledge acquired in course work and other learning experiences and to apply theory and principles in a situation that approximates some aspect of professional practice. Through the analysis of actual cases from the annals of public health practice, participation in a strategic planning exercise, and the development of a new case from current and emerging areas of critical interest to public health, students working in multi-disciplinary groups will demonstrate their ability to apply the general and specific public health knowledge they have learned through their courses of study and effectively apply that knowledge across disciplines to the effective resolution of a public health problem.

**The Internship Experience (Minimum of 3 credit hours)**

All MPH students in the School of Public Health are required to complete a minimum of 3 credit hours in an internship experience, although individual departments may require more than the school minimum. The internship is a field experience which bridges professional academic preparation and public health practice. Knowledge and skills learned in the core and discipline-specific courses are applied in an agency setting under the supervision and guidance of an experienced preceptor. Faculty internship advisors, departmental program coordinators or the
Internship program coordinator may assist the student in locating a position. At the completion of the internship, the student will provide a final product to document the experience and will be graded based upon the agency preceptor’s evaluation and the student’s final product. All internships are graded on a Pass/No Pass basis.

**MSPH Degree Programs**

**Master of Science in Public Health**

The Master of Science in Public Health (MSPH) is an academic research degree designed for those students seeking specialization in one area of public health. The MSPH is offered in Clinical Research, Environmental Health Sciences, Epidemiology, and Outcomes Research. These programs combine didactic research instruction and applied research experience in the chosen discipline in order to prepare students for further study toward the PhD or for research or specialized technical positions in government, industry, academia or private institutions. All MSPH students complete a research project/thesis. All MSPH students take core courses in biostatistics and epidemiology and complete a minimum of 15 hours of methodologic and specialty area courses. Students are strongly encouraged to enroll in other core public health courses. Individual MSPH programs require additional courses specific to the area of study. Please refer to the individual program’s curriculum information for further details.

**MSPH Minimum Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST 611</td>
<td>Biostatistics I*</td>
<td>3</td>
</tr>
<tr>
<td>BST 612</td>
<td>Biostatistics II*</td>
<td>3</td>
</tr>
<tr>
<td>EPI 610</td>
<td>Principles of Epidemiologic Research</td>
<td>4</td>
</tr>
<tr>
<td>EPI 610L</td>
<td>Principles of Epidemiologic Research-Lab</td>
<td>0</td>
</tr>
</tbody>
</table>

* Some departments require BST 611 and BST 612 as the MSPH Biostatistics Core requirement.

Additional requirements:
A minimum of nine credit hours of research methodologic instruction.
A minimum of six credit hours in the area of specialization.
A minimum of nine credit hours of research project/thesis work.

Minimum Total Credit Hours Required - vary by department and degree program.

**DrPH Degree Programs**

**Doctor of Public Health**

The purpose of the DrPH program is to provide education and training at an advanced level that allows graduates to pursue careers as practicing public health professionals in public health agencies, the private sector, and other types of settings. As a result, such individuals have a
broader educational preparation than those in more research-oriented programs. DrPH programs are offered in the following specialty areas: International Health (Epidemiology Department), Health Care Organization, and Maternal and Child Health Policy. Degree requirements include successful completion of program-specific courses, a written qualifying examination, written and oral proposal of original research protocol, admission to candidacy and a final defense/presentation of the dissertation research.

Please refer to the appropriate departmental section of the catalog for details.

**PhD Degree Programs**

**Doctor of Philosophy**

The PhD degree is offered in four areas: Environmental Health Sciences, Epidemiology, Health Behavior and Biostatistics.

The PhD in **Environmental Health Sciences** is committed to the identification, evaluation, and control of hazards to human health; the degree is intended to prepare scientists for careers in environmental health research, including toxicology and industrial hygiene. Education and research in both areas are emphasized in this program.

The PhD in **Epidemiology** emphasizes methodology of epidemiologic study design and data analysis. Admissions are very competitive. Applicants should have earned a Master of Public Health degree or its equivalent with a strong background in epidemiology and statistics.

The PhD program in **Health Education/Promotion** provides students with coursework and practical experience to become leading practitioners and researchers in health education and health promotion. The program combines the resources of academic units from the University of Alabama (UA) and the University of Alabama at Birmingham (UAB), utilizing the research expertise common to schools of public health along with the didactic, professional emphasis found in colleges of education.

Common requirements can be found by accessing the Graduate School web site at [www.uab.edu/graduate](http://www.uab.edu/graduate)

**Coordinated Master of Public Health and Doctor of Medicine**

**Admission**

Students must be admitted the UAB School of Medicine (SOM) MD program before being considered for the Coordinated MD/MPH Program. Interested students will have the School of Medicine forward their application materials to the School of Public Health (SOPH), submit to the Graduate School a SOPH application, career goals statement and indicate a primary area of interest. Students may elect to apply to both programs at the same time, to the MPH program after they have matriculated to medical school or if accepted to the SOM after enrolling in the MPH the
student my transfer to the coordinated degree. It is anticipated that the majority of students will devote a year to the MPH degree, between the third and fourth years of medical school. Alternatives to this arrangement will be considered by the student and his or her advisor. It is expected that both programs will be completed within five years, at which time both degrees will be awarded. The Associate Dean will review the application and make an admission decision. The Associate Dean will serve as the advisor for all MD/MPH students.

**MPH Program**

The MPH is a minimum of 42 hours, with a minimum of 34 hours of SOPH coursework and 8 hours of scholarly work required by the SOM. This would be a General Track MPH, but students would be affiliated with a department and the department could count the student toward the benchmark enrollment goal.

<table>
<thead>
<tr>
<th>MPH Core Courses</th>
<th>19 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST611 &amp; 612</td>
<td>6 hours</td>
</tr>
<tr>
<td>EP610</td>
<td>4 hours</td>
</tr>
<tr>
<td>HB600</td>
<td>3 hours</td>
</tr>
<tr>
<td>ENH600</td>
<td>3 hours</td>
</tr>
<tr>
<td>HCOP600</td>
<td>3 hours</td>
</tr>
</tbody>
</table>

**Integrative Experience (PUH 695)**

3 hours

**Focus Courses**

12-15 hours

12-15 hours from one of the SOPH departments. These courses would be determined by the student in consultation with the SOPH advisor

**Total SOPH Coursework**

34 hours

**Credit from MD Curriculum**

8 or more hours

Each medical student will complete a scholarly project for a minimum of 8 hours. This project will have a public health focus and the student will be advised by a School of Public Health mentor.

**Total for MPH**

42 or more hours

There would be no specific timeframe or schedule set for students to complete the degree. Students could complete it on any schedule they desire, but would need to complete all requirements prior to or concurrent with meeting the requirements for the MD. Students would be
permitted to take SOPH courses at the same time they are taking SOM coursework with permission from their SOM advisor.

**Entry**

The student could enter the MPH at any time during enrollment in the MD, but there would need to be evidence that there is enough time to complete the MPH prior to completion of the MD. A student who is already enrolled in a UAB SOPH MPH who is subsequently accepted to the UAB SOM could apply to transfer into the MD/MPH.

**Dropping out of the Program prior to completion**

Students MUST complete both degrees to successfully complete the program. Students must meet with the MD/MPH committee to request a leave or to drop out of the program.

**Master of Public Health in International Health and Global Studies (MPH)**

The School of Public Health now offers the **Certificate in Global Health Studies** in place of the International Health and Global Studies concentration. The certificate program can be added to any of the degree tracks.

[Click here for more information.](#)

**UAB - Peace Corps Master's International Program**

[Click here to visit the Peace Corps website](#)
Overview

The University of Alabama at Birmingham (UAB) School of Public Health offers a Master of Public Health (M.P.H.) degree in cooperation with the Peace Corps Master’s International Program. UAB establishes and monitors academic requirements, and the Peace Corps places MI students overseas as Volunteers. Students apply to both the Peace Corps and UAB School of Public Health and must be accepted by both. MI students complete all coursework before starting a Peace Corps assignment overseas. Assignments are developed by Peace Corps in-country staff at the request of host countries. Upon completion, the in-country assignment will count as your internship. MI students graduate with a unique combination of an advanced degree and two years of substantive professional experience in an international setting.

Volunteer Assignments

Becoming a Master’s International (MI) student requires a combination of focus, flexibility, and dedication. As an MI Student, you will spend one to two academic years on campus completing your coursework. Upon receiving your overseas assignment and traveling to your host country, you will serve for twenty-seven months, three of which will be the language, cross-cultural, and technical training period. After completing training you will receive your Peace Corps assignment. Peace Corps assignments are strategically developed by in-country staff based upon the needs and requests of the country.

All Peace Corps volunteers receive approximately three months of in-country training (in language, technical, and cross-cultural skills) before starting their two-year assignments in a developing country. Health-related assignments may include health education (such as training local teachers about nutrition and hygiene), community mobilization (for example, organizing communities to construct latrines), or other activities such as needs assessment or program monitoring and evaluation.

During Peace Corps service, Volunteers participating in the MI program work toward a thesis, professional paper, or other culminating project, under the direction of their academic advisor and with the approval of Peace Corps overseas staff. Participating faculty recognize that while overseas, an MI student’s primary responsibility is his or her Volunteer duties. Rather than determining a research topic in advance, MI students allow their Volunteer assignment to shape their overseas academic requirement.

MI students understand that the Peace Corps provides a unique opportunity to apply what they learn on campus to benefit a host country community. Like all Volunteers, MI students seek ways to creatively apply their knowledge and skills to the assignment in which they are placed.

The Peace Corps works in countries from Asia to Central America, and from Europe to Africa. In each of these countries, Volunteers work with governments, schools, and entrepreneurs to address changing and complex needs in education, health and HIV/AIDS, business, information technology, agriculture, and the environment.

Volunteers work and live within communities both large and small, and rural and urban. They speak the local language, whether that is French, Spanish, Romanian or Hausa. Most importantly, Peace Corps Volunteers discover the richness of another culture the best way possible: by living
One of the most serious worldwide threats to public health and development is the spread of HIV/AIDS. Volunteers in HIV/AIDS education and prevention train youth as peer educators, collaborate with religious leaders to develop appropriate education strategies, provide support to children orphaned by HIV/AIDS, and develop programs that provide support to families and communities affected by the disease.

In addition to HIV/AIDS prevention, Volunteers also work on basic health care issues. By focusing on prevention, human capacity building, and education, Peace Corps Volunteers help improve basic health care at the grass-roots level, where their impact can be the most significant and where health needs are most pressing. In helping communities take more responsibility for their own health care, Volunteers work to ensure the sustainability of their projects.

As a Master's International Student, you have an unparalleled opportunity to live and work overseas while completing the MPH. You will earn more than your degree, returning with feelings of independence, confidence, and accomplishment. The benefits of the Master's International Program can be countless and comprehensive. The extent of benefits, both professional and personal, depend upon your experience and intent while completing your coursework and serving as a Volunteer.

You give and you get. The chance to make a real difference in other people's lives is the reason most Volunteers serve in the Peace Corps.

But that is not the only benefit of Peace Corps service. Volunteers also have the chance to learn a new language, live in another culture, and develop career and leadership skills. The Peace Corps experience can enhance long-term career prospects whether you want to work for a corporation, a nonprofit organization, or a government agency.

**Benefits of Peace Corps** service include:

- language, cross-cultural and technical training
- transportation costs to and from the country of service
- living and housing expenses while in overseas service
- medical and dental coverage
- vacation time and allowance
- cancellation or deferment of certain government education loans
- readjustment allowance upon completion of service (which students often use to defray tuition costs)
- career counseling and job search facilities as a returned Peace Corps Volunteer

The benefits of Peace Corps service don't end with one's overseas service. The experience will affect your life long after you return home. It's an experience to draw upon for the rest of your life. As is often said, the Peace Corps isn't simply something great. It's the beginning of something great, and the rewards last a lifetime.

The Peace Corps provides Volunteers with a living allowance that enables them to live in a manner similar to the local people in their community. It also provides complete medical and dental care and covers the cost of transportation to and from your country of service.
The Peace Corps recognizes that returning from overseas requires some adjustment, so when you complete your service, we provide just over $6,000 toward your transition to life back home. The money is yours to use as you wish: for travel, a vacation, making a move, or securing housing.

The safety and security of Peace Corps Volunteers is a top priority. The Peace Corps devotes significant resources to providing Volunteers with the training, support, and information they need to stay healthy and safe.

Yet because Volunteers serve worldwide, sometimes in very remote areas, health and safety risks are an inherent part of Volunteer service. Volunteers can reduce these risks by following recommendations for locally appropriate behavior, exercising sound judgment, and abiding by Peace Corps policies and procedures. In the effort to ensure a productive, healthy, and safe experience for Volunteers, the Peace Corps reviews work and housing sites in advance, collaborates on project development with local communities, and develops and tests plans for responding to emergencies.

In addition, the Peace Corps continually updates materials for Volunteers with specific information about safety and security risks in the areas where they serve. This enables Peace Corps Volunteers to make informed decisions and have a safe, healthy Volunteer experience.

Before establishing a program, the Peace Corps makes a thorough assessment of the health and safety conditions of the country. And in choosing sites at which to place Volunteers, we carefully consider factors such as access to medical, banking, postal, and other essential services; availability of communications and transportation, particularly in cases of emergency; existence of suitable housing arrangements; and proximity to other Peace Corps Volunteers.

In every country in which Volunteers serve, the Peace Corps maintains a medical unit staffed by one or more medical providers. They inform Volunteers about local health issues and provide them with the basic medical supplies and vaccinations they need to stay healthy. If a Volunteer becomes ill and cannot be treated properly in the country of service, the Peace Corps will transport the Volunteer to an appropriate facility in a nearby country or to the U.S.

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**Admission Requirements**

Interested individuals must apply separately for admission to the UAB School of Public Health and the Peace Corps, preferably at least six months prior to starting an academic program. Applicants to the UAB School of Public Health MI Program should apply first to the department of their choice and indicate an interest in the Peace Corps Master's International program on their application.

Applications are due on April 1st for fall admission. Transcripts, Graduate Record Examination (or equivalent) scores, and three letters of recommendation are also required.

To find out more about the Peace Corps MI program at UAB, please contact:

**Heather White, MPH**
Program Manager
UAB Sparkman Center for Global Health
RPHB Suite 437
1665 University Blvd.
Birmingham, AL 35294-0022
Ph: 205-975-7613
Fax: 205-975-7685
Email: hwhite@uab.edu

To be eligible for the Peace Corps, you must be a United States citizen, be in good general health, and be at least 18 years of age.

To apply for the Peace Corps, contact your local recruiting office by calling toll-free 1-800-424-8580, option 1 or visit their web site http://www.peacecorps.gov/index.cfm?shell=learn.whyvol.eduben.schools.school_detail&coll_prog_id=3

5th Year MPH Program

Admission

Students will be eligible for provisional admission as sophomores and for full admission to the Graduate School as juniors (after completion of 60 semester hours). Students will be required to take the Graduate Record Exam (GRE) no later than the last term of their senior year for final admission into the master's component of the program and meet the admission requirements of the School of Public Health. Individual departments will review the application and interview the applicant. Admission decisions are determined by the departments. If you have questions regarding the 5th Year MPH Program, please contact Ms. Pamela Williams at 934-4993 or at pwilliam@uab.edu.

Please note: We do not offer the 5th Year MPH program in the Department of Biostatistics.

Admission into the program will require the following:

- 3.25 GPA and at least 26 on the ACT or 1180 on the SAT
- Completed admission application through the UAB Graduate School website.
- Official copy of current undergraduate transcript in a sealed envelope.
- Three letters of recommendation, one from the current academic advisor and the remaining two from current or previous college course instructors. Electronic submission is preferred. However, referees can mail a letter in a sealed envelope.
- An interview with the Departmental Program Director.
- Career statement describing your interests and goals and a one page academic resume of academic activities including awards and community service.

Please submit required documents to Mrs. Sue Chappell, Admissions Coordinator.

If you receive financial aid assistance or scholarships, please speak with the UAB Financial Aid
Office at 934-8223 prior to submitting an application to discuss financial coverage of graduate coursework.

**How To Apply:**

Fall 2011 applications are due by July 1, 2011.

Interested students can apply by going to the **UAB Graduate School** website and clicking on the **Apply to Graduate School Online** link. The Program that you are applying to is **Public Health Fast Track (MPH)**. Please include your department of interest in the application essay section.

If you have any questions please contact the Office of Student and Academic Services at (205) 934-4993 or email Mrs. Sue Chappell, Admissions Coordinator, at chap@uab.edu.

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**Department of Biostatistics**

Revised July 3, 2010

**Departmental Overview**

**Department of Biostatistics (PhD, MS, MSPH, MPH)**

The Department of Biostatistics at the University of Alabama at Birmingham (UAB) offers programs leading to the Doctor of Philosophy (PhD), Master of Science (MS), Master of Public Health (MPH), Master of Science in Public Health (MSPH), and a Certificate in Statistical Genetics (CSG).

The MS and PhD degrees are offered through the Graduate School. Students entering these programs are expected to have a strong foundation in mathematics. At the very minimum, they should have had a semester of Advanced Calculus, a semester of Advanced Matrix Algebra, and they should be proficient in computer programming skills.

The MPH and MSPH degrees are offered through the School of Public Health. These are school-wide degrees allowing a concentration in biostatistics rather than being degrees in biostatistics per se.

**George Howard, DrPH, Professor and Chair**

**Faculty: Professors:** Allison, Bartolucci, Cutter, Fineberg, Howard, Roth; **Associate Professors:** Aban, Beasley, Cofield, Lou, McClure, Redden, Tiwari, Yi, K. Zhang; **Assistant Professors:** Cui, Duarte, Judd, Liu, Szychowski, Vaughan, B. Zhang, X. Zhang, Zhi; **Emeritus**
Professor: Katholi

The department has over 24 faculty members and 40 staff. Research includes investigations in diverse areas such as latent variable models to adjust for unobserved confounders in statistical analysis, statistical methods for genetic admixture mapping, micro array data analysis, QTL analysis in experimental crosses, understanding the cause of the excess stroke mortality in the southeastern US, and advancing techniques to determine the number of patients needed in randomized clinical trials using data from nested pilot studies.

Degree Programs: Department of Biostatistics

PhD (in Biostatistics) (BYPSP)

Apply Here.

The Department of Biostatistics offers a PhD degree in biostatistics. This program provides a balance between theory and application, the perspective being the role of statistics and modeling in scientific research. The objective is to produce research-oriented scientists who can advance statistical and modeling theory and can interact effectively with scientists in other disciplines to advance knowledge in those fields. For admission to the program, a student's undergraduate curriculum must include a complete calculus sequence, linear matrix algebra, and proficiency in computing. It is preferred that students have additional advanced mathematics courses, e.g., differential equations, advanced calculus including special functions, and complex analysis. Advanced calculus and a prior MS in statistics or biostatistics are required for admission to the PhD program. Some background in the natural sciences would be helpful. Interested students should contact the department of Biostatistics.

Doctor of Philosophy (in Biostatistics)

All students entering the PhD program are required to complete the coursework required for the MS degree. In addition to this MS course work, PhD students are required to take the following courses:

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST 723: Theory of Linear Models</td>
<td>3</td>
</tr>
<tr>
<td>BST 765: Advanced Computational Methods</td>
<td>3</td>
</tr>
<tr>
<td>BST 735: Advanced Inference</td>
<td>3</td>
</tr>
<tr>
<td>BST 760: Generalized Linear and Mixed Models</td>
<td>3</td>
</tr>
<tr>
<td>BST</td>
<td>Minimum - 12</td>
</tr>
</tbody>
</table>

electives*

*Courses should be numbered 624 or higher, including at least 9 hours of 700 level courses.

The departmental handbook and/or the Graduate School Catalog should be consulted for information regarding research advisor, comprehensive examinations, thesis and dissertation proposal and defense.

**MS (in Biostatistics) (BYSM)**

Apply Here.

The Department of Biostatistics offers an MS degree in biostatistics. This program provides a balance between theory and application, the perspective being the role of statistics and modeling in scientific research. The objective is to produce research-oriented scientists who can advance statistical and modeling theory and can interact effectively with scientists in other disciplines to advance knowledge in those fields. For admission to the MS program, a student's undergraduate curriculum must include a complete calculus sequence, linear matrix algebra, and proficiency in computing. It is preferred that students have additional advanced mathematics courses, e.g., differential equations, advanced calculus including special functions, and complex analysis. Some background in the natural sciences would be helpful. Interested students should contact the department of Biostatistics.

**Master of Science (in Biostatistics)**

<table>
<thead>
<tr>
<th>Course work</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST 621 Statistical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>BST 622 Statistical Methods II</td>
<td>3</td>
</tr>
<tr>
<td>BST 623 General Linear Models</td>
<td>3</td>
</tr>
<tr>
<td>BST 626 Data Management/SAS</td>
<td>3</td>
</tr>
<tr>
<td>BST 626L Data Management/SAS Lab</td>
<td>0</td>
</tr>
<tr>
<td>BST 631 Statistical Theory I</td>
<td>3</td>
</tr>
<tr>
<td>BST 632 Statistical Theory II</td>
<td>3</td>
</tr>
<tr>
<td>BST 655 Categorical Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>BST 690 Biostatistical Consulting &amp; Applied Problems</td>
<td>0-3</td>
</tr>
<tr>
<td>BST 691 Biostatistics Predoctoral Seminar Series</td>
<td>4-6</td>
</tr>
<tr>
<td>BST electives*</td>
<td>Minimum - 6</td>
</tr>
<tr>
<td>Outside electives**</td>
<td>Minimum - 6</td>
</tr>
<tr>
<td>Minimum Total - 37</td>
<td></td>
</tr>
</tbody>
</table>

* A minimum of 6 credit hours of regular courses of 624 or higher-level. For those students planning to go on for the PhD, it is a good idea to take more advanced biostatistics courses as electives.
**Outside Requirement: EPI 610 Principles of Epidemiological Research**
Credit Hours
(or another comparable course in Epidemiology).

Outside Electives: A minimum of 6 graduate credit hours of electives must be taken from a non-quantitative field (i.e., Biology, Public Health or Medicine). The academic advisor must approve these courses.

The departmental handbook and/or the Graduate School Catalog should be consulted for information regarding research advisor, comprehensive examinations, thesis and dissertation proposal and defense.

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**Master of Science in Public Health in Clinical Research (CRBS)**

**Apply Here.**

There is a growing interest in medical and other health science schools in developing the clinical research skills of faculty members and fellows. This interest has been fueled by increased support from the NIH to prepare such individuals to meet the demand for clinical investigators in the field. Locally, the Schools of Medicine and Public Health have combined efforts to create a training program for young faculty members and fellows from a variety of disciplines.

This program is a post-medical or other health science degree training program, aimed primarily at fellows and faculty members interested in developing skills required for clinical research. It is anticipated that this academic training will supplement extensive training in the content area in which the student is trained, and senior mentoring in the politics and policies of project development and management. A graduate of this program will have the academic training to develop and lead independent research programs and projects. The program consists of a core set of courses common to all students, plus research elective and focus elective courses that reflect the academic interest of the student. At this time, the program can accommodate students with specific interest in Biostatistics (CRBS), Epidemiology (CREP), Environmental Health (CREH), and Health Behavior (CRHB). As a result, there will be some variation in the specific knowledge and skills acquired by each graduate. However, the primary learning objectives will apply to all students, irrespective of departmental affiliation. As such, graduates will be able to do the following upon completion of the program:

- design, conduct, and evaluate clinical research studies;
- understand issues of data collection and study management;
- follow appropriate policies and procedures relating to the utilization of human subjects in clinical research;
- demonstrate an understanding of the ethics of research on human subjects;
• prepare competitive applications for extramural research funding;
• prepare manuscripts for publication in the scientific literature; and
• critically evaluate published research

Admission: Applicants should possess a medical or other health science professional degree. They may be in their final years of training as residents or fellows or hold positions as junior faculty members. The Graduate Record Examination (GRE) is required for applications to all MSPH programs in the School of Public Health. Scores of 550 or better on each of the three sections of the general test (verbal, quantitative, and analytical writing) are preferred. The GRE may be waived at the discretion of the committee, for applicants who have been pre-screened by the clinical investigator training grant committee of the School of Medicine. The applicant must produce three letters of reference and a letter stating that he/she will be guaranteed sufficient release time from clinical duties to be able to attend classes regularly and fulfill course requirements in a timely manner. A medical/health sciences mentor should be identified and a setting where the student can gain experience in conducting clinical research. A faculty member within the School of Public Health will be assigned as an advisor based on the stated interests of the applicant.

Curriculum: The MSPH in Clinical Research consists of a minimum of 41 credit hours. Of these, 14 hours are required, including 9 hours of specific Biostatistics courses and 5 hours of specific Epidemiology courses. Students then select at least 9 credit hours from a list of approved Masters Research Electives, complete 9 hours of focus specific electives in Biostatistics, Epidemiology, Environmental Health, or Health Behavior, and take at least 9 hours of (698 level) Masters research to fulfill the MSPH requirement for conducting a research project.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required Core Courses</strong></td>
<td><strong>14</strong></td>
</tr>
<tr>
<td>BST 621 Statistical Methods I</td>
<td>3</td>
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<tr>
<td>BST 622 Statistical Methods II</td>
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<tr>
<td>BST 625 Design and Conduct of Clinical Trials</td>
<td>3</td>
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<tr>
<td>EPI 607 Epidemiology of Clinical Research</td>
<td>3</td>
</tr>
<tr>
<td>EPI 680 Topics in Clinical Research</td>
<td>2</td>
</tr>
<tr>
<td><strong>Masters Research Selectives:</strong> Nine credit hours should be selected by faculty advisor and student **</td>
<td><strong>9</strong></td>
</tr>
<tr>
<td>BST 619 Data Collection and Management</td>
<td>3</td>
</tr>
<tr>
<td>BST 626/626L Data Management/Reporting with SAS</td>
<td>3</td>
</tr>
<tr>
<td>ENH 650 Essentials of Environmental and Occupational Toxicology &amp; Diseases</td>
<td>5</td>
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<tr>
<td>EPI 625 Quantitative Methods in Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>EPI 703 Grant Writing</td>
<td>3</td>
</tr>
</tbody>
</table>
EPI 709  Theoretical Basis of Epidemiology  3
HB 624  Advanced Theory and Practice in Behavioral Science  3
HCO 677  Patient-Based Outcomes Measurement  3

Focus Specific Electives: Nine hours of BST courses of 623 or higher level. With approval of the student's advisor, courses included in the Research Electives that are not taken to meet that requirement may be taken as a part of the Focus Specific Electives

Masters Project Research: Nine hours of supervised research in a clinical setting (BST 698)

Total Hours  41

Note that care must be exercised when selecting some of these courses since some have prerequisites that must be taken earlier in the sequence of classes or taken concurrently.

**MPH (in Biostatistics) (BYS)**

*Apply Here.*

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPH Core (including the Integrative Experience)</td>
<td>18 or 19</td>
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<tr>
<td>ENH 600  Fundamentals of Environmental Health Sciences</td>
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<tr>
<td>EPI 600  Introduction to Epidemiology</td>
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<tr>
<td>OR</td>
<td></td>
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<tr>
<td>EPI 610/610L  Principles of Epidemiologic Research and Lab</td>
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<tr>
<td>HB 600  Social and Behavioral Science Core</td>
<td>3</td>
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<tr>
<td>HCO 600  Introduction to Public Health Systems and Population-Based Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>GRD 727  Writing and Reviewing Research</td>
<td>3</td>
</tr>
<tr>
<td>PUH 695  The Public Health Integrative Experience</td>
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<tr>
<td>Biostatistics Core</td>
<td>15</td>
</tr>
<tr>
<td>BST 619  Data Collection and Management</td>
<td>3</td>
</tr>
<tr>
<td>BST 621  Statistical Methods I</td>
<td>3</td>
</tr>
</tbody>
</table>
BST 622  Statistical Methods II
BST 626/626L  Data Management/Reporting with SAS
BST 697  Internship in Biostatistics

Electives *  12
Biostatistics Electives *  9
Outside Electives **  3

Total 45-46

**Biostatistics Electives:** Minimum 9 credit hours of regular courses of 623 or higher-level.

**Outside Electives:** A minimum of 3 graduate credit hours of electives must be taken from some field of biology, public health or medicine. The academic advisor must approve these courses.

The MPH degree in biostatistics is intended primarily for those persons who wish to acquire an MPH degree with an emphasis in statistical methodology. This can include individuals from decision-making positions in health care settings as well as those interested in data management, statistical analyses and interpretation, and presentation of analytical results. Note that the MPH does not require some of the theoretical courses required for the MS, and as such, it is not a direct route to prepare a student for a PhD. **Students anticipating that they will wish to continue for a PhD are advised to pursue the MS rather than the MPH.**

**Certificate in Statistical Genetics**

The purpose of the Certificate in Statistical Genetics (CSG) is to offer recognition that certain graduate students have completed specific requirements above and beyond those ordinarily completed by graduate students receiving degrees in biostatistics and to recognize that completion of those requirements offers them particular expertise in statistical genetics. By virtue of offering a CSG, we are able to offer students an incentive to complete additional demanding work in statistical genetics as well as to offer graduates from our program an additional benefit that will make them more competitive in the market place.

**Program Content and Relation to Other UAB Programs**

CSG enrollees must either: (a) Be enrolled as a matriculated student in the Department of Biostatistics PhD Program; or (b) Already have a doctoral degree in statistics or biostatistics; or (c) Have a doctoral degree in another discipline and be judged by a committee appointed by the Head of the Section on Statistical Genetics (SSG) and consisting of 3 faculty members in the SSG to be capable of performing as a statistician at the level of a doctoral level academic statistician. By this we mean a competent faculty-level research scientist with the ability to utilize and interpret cutting edge statistical methods.
Candidates for the CSG will be required to successfully complete (i.e., achieve a grade of "B" or better) the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST 675</td>
<td>Introduction to Statistical Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BST 676</td>
<td>Genomic Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>BST 775</td>
<td>Statistical Methods for Genetic Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>BST 776</td>
<td>Statistical Methods for Genetic Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>EPI 730</td>
<td>Introduction to Human Population Genetics Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

Regarding the sequence in which the courses are taken, the optimal sequence will be determined by the candidate’s academic or research advisor within the Department of Biostatistics from within the range of options that are allowable by University, School and Department policies. For any CSG candidates that do not have an advisor assigned within the Biostatistics Department, the Head of the SSG will take responsibility for assigning a CSG mentor to that person from among the SSG faculty.

In addition to the courses above, CSG recipients who are enrolled as a matriculated student in the Department of Biostatistics PhD program must also successfully complete all requirements for the PhD in Biostatistics at UAB. Those seeking the CSG who already have a doctoral degree but do not have the necessary pre-requisites for the required courses, must either take the prerequisites or must get permission from the course instructor. Up to 6 credit hours (2 courses) from among the 5 CSG-required courses may be waived if the CSG candidate has demonstrated expertise in those areas. The waiver of courses must be approved by the committee overseeing the CSG Program, appointed by the Head of the SSG. Note that none of the CSG-required courses are courses that are required for completion of a PhD in the Biostatistics Department.

Post-doctoral fellows in the SSG have the option (but not the mandate) to obtain the certificate by completing the above requirements.

**Biostatistics Courses (BST)**

**BST 600. Biostatistics for Public Health.** To provide non-biostatistics students with the ability to understand and utilize basic biostatistical concepts and tools and to facilitate their capacity to seek and utilize biostatistical expertise as may be required when conducting their own research or reviewing that done by others. This course is required for most MPH degree program students. 4 hours. Fall.

**BST 603. Introductory Biostatistics for Graduate Biomedical Sciences.** This course will provide non-biostatistics students seeking a Graduate Biomedical Sciences (GBS) degree with the ability to understand introductory biostatistics concepts. 3 hours. As needed.

**BST 611. Intermediate Statistical Analysis I.** Students will gain a thorough understanding of basic analysis methods, elementary concepts, statistical models and applications of probability, commonly used sampling distributions, parametric and non-parametric one and two sample tests, confidence intervals, applications of analysis of two-way contingency table data, simple linear regression, and simple analysis of variance. Students are taught to conduct the relevant analysis
using current software such as the Statistical Analysis System (SAS). 3 hours. Fall.

**BST 612. Intermediate Statistical Analysis II.** - This course will introduce students to the basic principle of tools of simple and multiple regression. A major goal is to establish a firm foundation in the discipline upon which the applications of statistical and epidemiologic inference will be built. Prerequisite: BST 611 or Permission of Instructor. 3 hours. Spring.

**BST 613. Intermediate Statistical Analysis III.** - Continuation of concepts in BST 611/612, intended to introduce students to additional general concepts in biostatistics beyond an introductory level. The course will include a broad overview of three areas: 1) categorical, ordinal, and count methods with proportional odds model and Poisson regression; 2) survival analysis and event outcome data with Kaplan-Meier, proportional hazards, and repeated events; 3) repeated measures, mixed models, hierarchical modeling for longitudinal and missing data. Study design, analysis, interpretation of results, power an sample size estimation, and non-parametric alternatives will be presented for all topic areas. Prerequisite: BST 612. 3 hours. Fall.

**BST 619. Data Collection and Management.** - Basic concepts of study design, forms design, quality control, data entry, data management and data analysis. Hands-on experience with data entry systems, e.g., DBASE, and data analysis software, e.g., PC-SAS. Exposure to other software packages as time permits. Prerequisites: BST 600; Previous computer experience or workshop on microcomputers highly recommended. 3 hours. Spring.

**BST 620. Applied Matrix Analysis.** - Vector and matrix definitions and fundamental concepts; matrix factorization and application. Eigenvalues and eigenvectors, functions of matrices, singular and ill-conditioned problems. Prerequisite: BST 622. 3 hours. As needed.

**BST 621 - Statistical Methods I.** - Mathematically rigorous coverage of applications of statistical techniques designed for biostatistics majors and others with sufficient mathematical background. Statistical models and applications of probability; commonly used sampling distributions; parametric and nonparametric one and two sample tests and confidence intervals; analysis of contingency tables; simple linear regression and analysis of variance. Prerequisites: A year of calculus and linear algebra. 3 hours. Fall.

**BST 622 - Statistical Methods II.** - Continuation of concepts in BST 621, extended to multiple linear regression; analysis of variance, analysis of covariance, multiple analysis of variance; use of contrasts and multiple comparisons procedures; simple and multiple logistic regression, and an introduction to survival analysis. Prerequisites: BST 621. 3 hours. Spring.

**BST 623. General Linear Models.** - Simple and multiple regression using matrix approach; weighted and nonlinear regression; variable selection methods; modeling techniques; regression diagnostics and model validation; systems of linear equations; factorial designs; blocking; an introduction to repeated measures designs; coding schemes. Prerequisite: BST 622. 3 hours. Fall.

**BST 624. Experimental Designs.** - Intermediate experimental design and analysis of variance models using matrix approach. Factorial and nested (hierarchical) designs; blocking; repeated measures designs; Latin squares; incomplete block designs; fractional factorials; confounding. Prerequisites: Matrix algebra and BST 623. 3 hours. As needed.

**BST 625. Design and Conduct of Clinical Trials.** - Concepts of clinical trials; purpose, design,
implementation and evaluation. Examples and controversies presented. Prerequisite: BST 611 and 612 or permission of instructor. 3 hours. Summer.

**BST 626/626L. Data Management/Reporting with SAS.** - A hands-on exposure to data management and report generation with one of the most popular statistical software packages. Concurrent registration in BST 626 and BST 626L is required. 3 hours. Fall.

**BST 631 -- Statistical Theory I.** - Fundamentals of probability; conditional probability and independence; distribution, density, and mass functions; random variables; moments and moment generating functions; discrete and continuous distributions; exponential families, joint, marginal, and conditional distributions; transformation and change of variables; convergence concepts; sampling distributions; order statistics; random number generation. Prerequisite: Advanced calculus. 3 hours. Fall.

**BST 632 - Statistical Theory II.** - Point interval estimation; sufficiency and completeness; ancillary statistics; maximum likelihood and moment estimators; best unbiased estimator; hypothesis and significance testing; likelihood ratio tests and uniformly most powerful tests; confidence interval estimation; asymptotic properties of estimators and tests; introduction to Bayesian inference. Prerequisite: BST 631. 3 hours. Spring.

**BST 640. Nonparametric Methods.** - Properties of statistical tests; order statistics and theory of extremes; median tests; goodness of fit; tests based on ranks; location and scale parameter estimation; confidence intervals; association analysis; power and efficiency. Prerequisite: BST 622, BST 632. 3 hours. As needed.

**BST 655. Categorical Data Analysis.** – Intermediate level course with emphasis on understanding the discrete probability distributions and the correct application of methods to analyze data generated by discrete probability distributions. The course covers contingency tables, Mantel-Haenszel tests, measures of association and of agreement, logistic regression models, regression diagnostics, proportional odds, ordinal and polytomous logistic regression, Poisson regression, log linear models, analysis of matched pairs and repeated categorical data. Prerequisite: BST 622 or equivalent recommended. 3 hours. Fall.

**BST 660. Applied Multivariate Analysis.** - Analysis and interpretation of multivariate general linear models including multivariate regression, multivariate analysis of variance/covariance, discriminant analysis, multivariate analysis of repeated measures, canonical correlation, and longitudinal data analysis for general and generalized linear models. Extensive use of SAS, SPSS, and other statistical software. Prerequisite: BST 623. 3 hours. As needed.

**BST 661. Structural Equation Modeling.** - Basic principles of measurements; factor analysis and latent variable models; multivariate predictive models including mediation mechanisms and moderator effects; path analysis; integrative multivariate covariance models, methods of longitudinal analysis. Prerequisite: BST 623. 3 hours. As needed.

**BST 665. Survival Analysis.** - Kaplan-Meier estimation; Parametric survival models; Cox proportional hazards regression models; sample size calculation for survival models; competing risks models; multiple events models. Prerequisite: BST 622. 3 hours. Spring (odd years).

**BST 670. Sampling Methods.** - Simple random, stratified, cluster, ratio regression and systematic sampling; sampling with equal or unequal probabilities of selection; optimization;
properties of estimators; non-sampling errors; sampling schemes used in population research; methods of implementation and analyses associated with various schemes. Prerequisite: BST 631. 3 hours. As needed.

**BST 671. Meta Analysis.** - Statistical methods and inference through meta analysis. Prerequisites: BST 623, BST 632. 3 hours. As needed.

**BST 675. Introduction to Statistical Genetics.** – This class will introduce students to population genetics, genetic epidemiology, microarray and proteomics analysis, Mendelian laws, inheritance, heritability, test cross linkage analysis, QTL analysis, human linkage and human association methods for discrete and quantitative traits. Prerequisite: BST 611 or BST 621. 3 hours. Spring.

**BST 676. Statistical Bioinformatics.** - The purpose of this class will be to teach graduate students statistics methods that underlie the analysis of data generated by high throughput genomic technologies, as well as issues in the experimental design and implementation of these technologies. High throughput technologies that will be covered include microarrays, proteomics, and second generation sequencing. Prerequisites: BST 611 or 621. BST 675 recommended. 3 hours. Spring (odd years).

**BST 690. Biostatistical Consulting and Applied Problems.** - Implementation of statistical theory and application in scientific research. Systematic formulation of problem; data collection procedures; design of study; analysis of data; interpretation and communication of results. Prerequisite: BST 622. 0-3 hours. Summer.

**BST 691. Biostatistics Pre-doctoral Seminar Series.** This course provides an opportunity for students to learn about ongoing research in the field of biostatistics, clinical trials, and statistical genetics. Pass/No Pass. 1 hour. Fall/Spring.

**BST 695. Special Topics.** - This course is designed to cover special topics in Biostatistics that are not covered in regular 600 level courses, but suited for Masters students in Biostatistics and doctoral students in other related disciplines. 1-3 hours.

**BST 697. Internship in Biostatistics.** - Pass/No Pass. 3,6,9 hours.

**BST 698. Non-Thesis Research.** - Pass/No Pass. 1-10 hours.

**BST 699. Master's Thesis Research.** - Prerequisite: Admission to candidacy for MS degree. Pass/No Pass. 1-12 hours.

**BST 723. Theory of Linear Models.** - Multivariate normal distributions and quadratic forms; least square estimation; nested models; weighted least squares, testing contrasts; multiple comparisons; polynomial regression; maximum likelihood theory of log linear models. Prerequisite: BST 632. 3 hours. Fall (add years).

**BST 725. Advanced Clinical Trials I.** - This course will provide students with a basic understanding of the fundamental statistical principles involved in the design and conduct of clinical trials. Important topics of discussion will include data management, quality assurance, endpoints, power analysis, interim analysis, adaptive designs, and genetic issues in clinical trials. Prerequisites: BST 611, 612, and 625. 3 hours. Spring (even years).
BST 726. Advanced Clinical Trials II. - This course builds on the knowledge gained in BST 725 in order to develop a more thorough understanding of the basic methodology behind power analysis, interim data monitoring, analysis of missing data, and adaptive designs. The class involves discussions of recent publications dealing with current topics of interest in clinical trials. Each student must conduct, summarize, and present a course project based on a more in-depth exploration of one of the topics introduced in the BST 725 course. Prerequisites: BST 621, 622, 625, 631, 632 and 725. 3 hours. Spring (odd years).

BST 735. Advanced Inference. - Stochastic convergence and fundamental inequalities; weak convergence and the central limit theorems; large sample behavior of the empirical distribution and other statistics; Asymptotic behavior of estimators and tests with particular attention to LR, score and Wald tests. Prerequisites: BST 631 and 632. 3 hours. Spring (odd years).

BST 740. Bayesian Analysis. - To introduce the student to the basic principles and tools of Bayesian Statistics and most importantly to Bayesian data analysis techniques. A major goal is to establish a firm foundation in the discipline upon which the applications of statistical and epidemiologic inference will be built. The practical part of the course will be based on Bugs (either WinBugs or OpenBugs), possibly accessed through R with the existing tools for the interface (R packages: R2WinBugs or RBugs, coda). This will enable participants to take the practical examples all the way to the reporting stage in terms of tabulations and graphics. Prerequisites: BST 632. 3 hours. Fall (even years).

BST 750. Stochastic Modeling. - Poisson processes; random walks; simple diffusion and branching processes; recurrent events; Markov chains in discrete and continuous time; birth and death process; queuing systems; applications to survival and other biomedical models. Prerequisite: BST 632. 3 hours. As needed.

BST 760. Generalized Linear and Mixed Models. - Generalized linear models; mixed models; and generalized estimating equations. Prerequisite: BST 723. 3 hours. Spring (even years).

BST 765. Advanced Computational Methods. - Numerical algorithms useful in biostatistics including likelihood maximization using the Newton-Raphson method, EM algorithm, numerical integration using quadratic and Monte-Carlo methods, interpolation using splines, random variate generation methods, data augmentation algorithm, and MCMC and Metropolis-Hastings algorithm; randomization tests; resampling plans including bootstrap and jackknife. Prerequisites: BST 632. 3 hours. Fall (even years).

BST 775. Statistical Methods for Genetic Analysis I. - This course will provide a statistical basis for describing variation in qualitative (disease) and quantitative traits. This will include decomposition of trait variation into components representing genes, environment and gene-environment interaction. Resemblance between relatives and heritability will be described. Important topics of discussion will include oligogenic and polygenic traits, complex segregations analysis, methods of mapping and characterizing simple and complex trait loci. Prerequisites: BST 623, BST 632, and BST 675. It is assumed that students are comfortable with regression theory, covariance, correlation, and likelihood theory. Interested students are urged to contact the instructors with concerns regarding assumed knowledge. Fall (even years).

BST 776. Statistical Methods for Genetic Analysis II. - This course builds on the knowledge gained in BST 775 with rigorous mathematical and statistical treatment of methods for localizing genes and environmental effects involved in the etiology of complex traits using case-control and
pedigree data. Prerequisites: BST 775; Knowledge of SAS and programming languages such as C++, and basic knowledge of multivariate methods and Markov chain theory is highly recommended. 3 hours. Fall (odd years).

**BST 793. Biostatistics Post-doctoral Seminar Series.** This course provides an opportunity for post-doctoral students to learn about ongoing research in the field of biostatistics, clinical trials, and statistical genetics. Pass/No Pass. 3 hours. Fall/Spring.

**BST 795. Advanced Special Topics.** This course is designed to cover advanced special topics in Biostatistics that are not covered in regular 700 level courses, but suited for doctoral students in Biostatistics. Prerequisites: BST 622 and 632. 1-3 hours.

**BST 798. Non-Dissertation Research.** Pass/No Pass. 1-10 hours.

**BST 799. Doctoral Dissertation Research.** Prerequisite: Admission to candidacy for PhD. Pass/No Pass. 1-12 hours.

# Department of Environmental Health Sciences

## Departmental Overview

The Department of Environmental Health Sciences focuses on understanding the causes, mechanisms and consequences of environmental and occupational hazards, as well as the prevention and management of these hazards. Principal research areas include environmental toxicology, free radical biology, cell signaling, exposure assessment, environmental management and environmental disasters.

**Edward Postlethwait, PhD, Professor and Chair**  
**Steven M. Becker, PhD, Associate Professor and Vice-Chair**

**Faculty:** **Professors:** Postlethwait  **Associate Professors:** Bailey, Becker, Fannuchi, Liu, Oestenstad, Squadrito; **Assistant Professors:** Ballinger, Dickinson, Garfinkel, Lungu, Maples

## Career Opportunities

Graduate degree programs in environmental health sciences prepare students for basic and applied scientific careers in academic, industry, government, and non-governmental organizations. In recent years, graduates from the department have been employed by federal agencies (e.g., the U.S. Environmental Protection Agency, the Centers for Disease Control and Prevention, NIOSH, the U.S. Public Health Service, ATSDR, department of Veterans Affairs), the armed forces, local and state health departments (e.g., Alabama Department of Public Health, Florida State Department of Health, Jefferson County Department of Health, Kentucky State Health Department), hospitals (e.g., Children's Hospital), major research laboratories (e.g., Oak Ridge National Lab, Southern Research Institute), business and industry (e.g., Alcoa, 3M, Eli Lilly, Roy F. Weston, Proctor and Gamble, Arco, Honda, Lockheed Martin, Mercedes Benz, GE, Bayer, Booz
Allen, Honeywell), and a variety of well-known academic institutions (e.g., Vanderbilt, University of California).

Degree Options

The Department offers training in three broad areas: (1) Basic Science of Environmental Toxicology, (2) Industrial Hygiene/Occupational Safety, and (3) Environmental Management and Policy. A combination of didactic, laboratory, and/or field-based training are provided to achieve the specific goals for each student.

At the doctoral level, three foci are offered:

- Environmental Health Sciences Research (ENH)
- Industrial Hygiene (IHY)
- Ph.D. in Environmental Management and Policy (EMP)

At the masters level, six programs of study are offered:

- MSPH in Environmental Health Toxicology (ETOX)
- MPH in Environmental Health/Toxicology (ETOX) or in Occupational Health and Safety (OHSM)
- MPH in Industrial Hygiene (IHY) or Industrial Hygiene/Hazardous Substance (IHHS)
- MPH - Accelerated Program in Industrial Hygiene (AIHY)

More detailed descriptions of these degree programs may be found in the sections that follow.

Degree Programs: Department of Environmental Health Sciences

MPH in Environmental Health

Environmental Health Curriculum: Students pursuing the Environmental Health degree track must complete a total of 45 credit hours including the MPH core courses listed below.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPH Core (including the Integrative Experience)</td>
<td>21</td>
</tr>
<tr>
<td>BST 600 Biostatistics for Public Health</td>
<td>4</td>
</tr>
<tr>
<td>ENH 600 Fundamentals of Environmental Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>EPI 600 Introduction to Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HB 600 Social and Behavioral Science Core</td>
<td>3</td>
</tr>
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</table>
HCO 600  Introduction to Public Health Systems and Population-Based Health Programs

PUH 695  The Public Health Integrative Experience 1

EPI 623  Intro to SAS Software 1

GRD 727  GRD Writing class or as determined by UAB Graduate School 3

Environmental Health Track 18

ENH 602  Environmental Management 3

ENH 650  Essentials of Environmental and Occupational Toxicology and Diseases 5

ENH 651  Risk Assessment of Environmental Hazards 3

ENH 660  Fundamentals of Air and Water Pollution 3

ENH 695  Environmental Health Seminar 1

ENH 697  Internship 3

Electives 6

Total 45

Occupational Health and Safety Curriculum: Students pursuing the Occupational Health and Safety degree track must complete a total of 45 credit hours including the MPH core courses listed below. The course of study can usually be completed in one academic year of full-time study.

Coursework  Credit Hours

MPH Core (including the Integrative Experience) 21

BST 600 *  Biostatistics for Public Health 4

ENH 600  Fundamentals of Environmental Health Sciences 3

EPI 600  Introduction to Epidemiology 3

HB 600  Social and Behavioral Science Core 3

HCO 600  Introduction to Public Health Systems and Population-Based Public Health Programs 3

PUH 695  The Public Health Integrative Experience 1

EPI 623  Intro to SAS Software 1

GRD 727  GRD writing (or as recommended by Graduate School) 3

Occupational Health and Safety Track 21

ENH 621  Fundamentals of Industrial Hygiene 3

ENH 650  Essentials of Environmental and Occupational Toxicology and Disease 5

ENH 651  Risk Assessment of Environmental Hazards 3
ENH 670 Fundamentals of Occupational Safety 3
ENH 680 Field Interdisciplinary Studies 1
ENH 681 Interdisciplinary Worksite Evaluations 2
ENH 691 Industrial Hygiene Seminar 1

ENH 697 Internship 3
Electives 3
Electives 3

Total 45

* Students may take BST 611 Intermediate Statistical Analysis I and BST 612 Intermediate Statistical Analysis II in lieu of BST 600. Taking BST 611 and 612 would increase the core to 23 credit hours.

MPH in Industrial Hygiene (IHY) or Industrial Hygiene

These tracks are designed to provide an intensive educational experience for students without previous experience but who have a strong commitment to occupational health and safety and hazardous substances. Calculus, although not required, is highly recommended. In addition to didactic coursework, these tracks require a three-month internship which is arranged by the program.

The MPH in industrial hygiene combines didactic research instruction and applied research experience for students with or without previous work experience. The industrial hygiene program is designed to develop the students' understanding of the interrelationships between the basic sciences and the causes and prevention of occupational related diseases. Graduates of the program will be capable of developing systematic approaches to identifying and controlling problems in industrial hygiene, designing and implementing research programs to measure the level of work exposure to hazardous agents, and instituting necessary control measures.

The industrial hygiene program is a component of the Deep South Center for Occupational Health and Safety, one of 16 Education and Research Centers partially supported by the National Institute for Occupational Safety and Health (NIOSH).

Admission: Students without previous experience, but who have a strong commitment to occupational health and safety, may be admitted. In addition to the general admissions requirements for the School of Public Health enrollees shall hold a baccalaureate degree based on a minimum of 120 semester hours or the equivalent that shall include 63 or more semester-hour credits in undergraduate or graduate-level courses in science, mathematics, engineering, and technology, with at least 15 of those at the upper (junior, senior, or graduate) level and a minimum
of 21 semester-hour credits, or the equivalent, in communications, humanities, and social sciences. Remedial courses, designed to remove deficiencies in the background of entering students, are inherently at a level lower than expected in college credit work. Such courses, particularly in the areas of mathematics, basic science, and communications, cannot be used to meet the minimums in curricular content requirements.

**Curriculum for Industrial Hygiene:** Students must complete the basic MPH core (18 credit hours) and an additional 43 credit hours of course work. Included in the curriculum is a three-month internship in which principles learned in the classroom are put into practice. These are generally paid positions in industry. More than 60 industries nationwide have participated in this program.

**Curriculum for Industrial Hygiene/Hazardous Substance:** Students must complete the basic MPH core (18 credit hours) and an additional 46 credit hours of coursework. The MPH consists of a 21 month 5 term program designed to offer students comprehensive training in the fields of occupational health and safety with emphasis in hazardous substances management. The three-hour internship, in which principles learned in the classroom are put into practice, is conducted during the summer following completion of the first year and is generally a paying job in industry and government. In addition, students are required to complete a 40 hour Hazardous Waste Site Worker Course OSHA 29 CFR 1919.102(3) or a 45 hour Hazardous Materials Emergency Response Technician Course.

### Coursework

#### MPH Core

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST 600</td>
<td>Biostatistics for Public Health</td>
<td>4</td>
</tr>
<tr>
<td>EPI 600</td>
<td>Introduction to Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HB 600</td>
<td>Social and Behavioral Science Core</td>
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<td>HCO 600</td>
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<tr>
<td>PUH 695</td>
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<td>1</td>
</tr>
<tr>
<td>EPI 623</td>
<td>Intro to SAS Software</td>
<td>1</td>
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<tr>
<td>GRD 727</td>
<td>Writing (or course determined by Graduate School)</td>
<td>3</td>
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#### Required Track courses common to both the Industrial Hygiene and Industrial Hygiene/Hazardous Substance Programs

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENH 621</td>
<td>Fundamentals of Industrial Hygiene</td>
<td>3</td>
</tr>
<tr>
<td>ENH 624</td>
<td>Control of Occupational Hygiene</td>
<td>3</td>
</tr>
<tr>
<td>ENH 625</td>
<td>Industrial Hygiene Case Studies</td>
<td>2</td>
</tr>
<tr>
<td>ENH 626</td>
<td>Physical Agents</td>
<td>2</td>
</tr>
<tr>
<td>ENH 650</td>
<td>Environmental and Occupational Toxicology and Diseases</td>
<td>5</td>
</tr>
<tr>
<td>ENH 661</td>
<td>Air Sampling and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ENH 662</td>
<td>Air Sampling and Analysis Lab</td>
<td>1</td>
</tr>
<tr>
<td>ENH 670</td>
<td>Fundamentals of Occupational Safety</td>
<td>3</td>
</tr>
<tr>
<td>ENH 680</td>
<td>Field Interdisciplinary Studies</td>
<td>2</td>
</tr>
<tr>
<td>ENH 681</td>
<td>Interdisciplinary Work Site Evaluations</td>
<td>4</td>
</tr>
<tr>
<td>ENH 691</td>
<td>Industrial Hygiene Program Seminar</td>
<td>2</td>
</tr>
<tr>
<td>ENH 697</td>
<td>Preceptorship in Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>ENH 699</td>
<td>Master's Level Project Research</td>
<td>5</td>
</tr>
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</table>

#### Industrial Hygiene Track Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>
Industrial Hygiene/Hazardous Substance Track Requirements

Electives *  At least two electives from the list below *  9

Total Hours Industrial Hygiene Track  60
Total Hours Industrial Hygiene/Hazardous Substance Track  63

* At least two electives from this list:

ENH 601 Environmental Chemistry
ENH 602 Environmental Management

ENH 622 Industrial Hygiene Applications for Hazardous Substances

MPH in Accelerated Program in Industrial Hygiene (AIHY)

This track is designed specifically for and limited to graduates of undergraduate Industrial Hygiene programs financially supported by the National Institute for Occupational Safety and Health (NIOSH). Graduates of these programs have received basic courses from NIOSH, peer-reviewed and approved Industrial Hygiene curricula, and are qualified to practice Industrial Hygiene. The Accelerated Program in Industrial Hygiene will broaden the student’s public health knowledge and skills while also preparing students to take leadership roles in Industrial Hygiene.

Admission:  Students who have graduated from a NIOSH funded and ABET accredited undergraduate Industrial Hygiene program and who meet the minimum requirements for admission to the School of Public Health. ABET is the Applied Science Accreditation Commission of the Accreditation Board of Engineering and Technology. Students without previous experience, but who have a strong commitment to occupational health and safety, may be admitted. In addition to the general admissions requirements for the School of Public Health enrollees shall hold a baccalaureate degree based on a minimum of 120 semester hours or the equivalent that shall include 63 or more semester-hour credits in undergraduate or graduate-level courses in science, mathematics, engineering, and technology, with at least 15 of those at the upper (junior, senior, or graduate) level and a minimum of 21 semester-hour credits, or the equivalent, in communications, humanities and social sciences. Remedial courses, designed to remove deficiencies in the background of entering students, are inherently at a level lower than expected in college credit work. Such courses, particularly in the areas of mathematics, basic science, and communications, cannot be used to meet the minimums in curricular content requirements.

Curriculum:  Students must complete the MPH Core (21 credit hours) and an additional 25 credit hours for a total of 44 credit hours. Included in the curriculum is a 3 credit hour (three-month, summer semester) internship and a 5 credit hour thesis/project requirement. The internships are generally paid positions in industry or government. Flexibility is offered in the research experience to allow highly motivated students to graduate after 12 months of study.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPH Core (including the Integrative Experience)</td>
<td>21</td>
</tr>
<tr>
<td>BST 600 Biostatistics for Public Health</td>
<td>4</td>
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</tbody>
</table>

ENH 600  Fundamentals of Environmental Health Sciences  3
EPI 600  Introduction to Epidemiology            3
HB 600  Social and Behavioral Science Core         3
     Introduction to Public Health Systems and     
HCO 600  Population-Based Health Programs         3
     Intro to SAS Software                        1
     GRD writing (or course determined by Grad 3
     School)                                      
**Accelerated Industrial Hygiene Track**        25
ENH 625  Industrial Hygiene Case Studies          2
     Environmental and Occupational Toxicology and 5
     Diseases                                     
ENH 680  Field Interdisciplinary Studies         1
ENH 681  Interdisciplinary Worksite Evaluations   2
ENH 691  Industrial Hygiene Program Seminar      1
ENH 697  Internship                              3
ENH 699  Project Research                        5
**Electives**                                   6
Electives                                       6
**Total**                                    46

**Recommended Electives:**

- ENH 603  Management of Occupational Health and Safety
- ENH 610  Environmental Health Disasters
- ENH 651  Risk Assessment of Environmental Hazards
- EPI 610  Principles of Epidemiologic Research
- EPI 610L Principles of Epidemiologic Research Lab
- EPI 616  Environmental Epidemiology
- EPI 617  Occupational Epidemiology
- EPI 625  Environmental Hygiene in Developing Countries
- HCO 607  Public Health Law

**MSPH in Environmental Health Toxicology (ETOX)**

The MSPH program in environmental health sciences/toxicology is designed to provide an intensive educational experience for those with or without previous experience. Environmental health professionals must be able to recognize, evaluate, and control environmental situations that may lead to disease. They may also require knowledge in designing and conducting studies of environmental chemicals to assess the probability that environmental toxic agents present a risk to humans and/or the environment and to define safe limits of human exposure to them.

**MSPH Degree Program Learning Objectives**

The objectives of the MSPH program are to assure that students will:
• describe the distribution of chemical, physical, and biological agents in the environmental and in the occupational environment;
• apply quantitative methods to measure the concentration or intensity of these agents;
• identify and describe the diseases or other adverse health effects that may result from exposure to these agents and the risk of those outcomes;
• explain and control interventions to reduce or eliminate exposures to these agents;
• recognize regulatory and management considerations relative to these agents;
• critically evaluate published scientific reports; and
• design a sound methodological study to test a new hypothesis, conduct the study, analyze the resulting data and prepare a report of the study.

Admission: Students without previous experience, but who have a strong commitment to environmental health science may be admitted.

Curriculum: Students must complete a total of 40 credit hours. Electives are chosen in consultation with the student's advisor and should be selected to fit the student's interests, career goals, and academic needs. The degree can be obtained in 21 months of full-time study.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td><strong>MSPH Core</strong></td>
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<tr>
<td>BST 611 Intermediate Statistical Analysis I</td>
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</tr>
<tr>
<td>BST 612 Intermediate Statistical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>EPI 610 Principles of Epidemiologic Research</td>
<td>4</td>
</tr>
<tr>
<td>EPI 610L Principles of Epidemiologic Research - Lab</td>
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Environmental Health/Toxicology Track 26

<table>
<thead>
<tr>
<th>Electives</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENH 600 Fundamentals of Environmental Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>ENH 650 Essentials of Environmental and Occupational Toxicology &amp; Diseases</td>
<td>5</td>
</tr>
<tr>
<td>ENH 695 Environmental Health Sciences Seminar or Free Radical Biology Seminar</td>
<td>3</td>
</tr>
<tr>
<td>ENH 790 Current Topics in Environmental Health Sciences Research</td>
<td>2</td>
</tr>
<tr>
<td>ENH 699 Project Research</td>
<td>14</td>
</tr>
<tr>
<td>Electives</td>
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<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
</tr>
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</table>

**PhD in Environmental Health Sciences (ENH)**

The PhD program in environmental health sciences prepares scientists for careers in research,
environmental program management, and policy analysis. Education and research in the identification, evaluation, and control of hazards to human health are emphasized in this program. Students may concentrate on a wide variety of areas including exposure assessment, environmental chemistry, non-point source water pollution, risk assessment and management, environmental toxicology, and industrial hygiene. Graduates are qualified to assume upper-level positions in the public or private sector in management, teaching, research, or consulting. Graduates are particularly qualified for teaching or research positions in academic institutions that require sound research training.

**PhD Learning Objectives**

The PhD in the Department of Environmental health is an academic research degree. In addition to understanding the advanced concepts of environmental health sciences, as they are related to environmental health, industrial hygiene, or environmental toxicology, graduates of this program are expected to develop skills that will enable them to identify and define questions of environmental health importance, design research studies to address these questions, and to complete a program of research that demonstrates abilities as an independent investigator.

The general learning objectives of the PhD will allow students to:

- critically analyze the environmental health literature, identify environmental health problems, and formulate research hypotheses to address these problems;
- design original research for the evaluation of hypotheses;
- conduct all aspects of the proposed research in a manner that will provide accurate data and prepare a comprehensive report of the research;
- successfully defend the methods, results, and conclusions drawn from the research in a public forum; and
- communicate new knowledge through the published literature.

In addition to the general learning objectives, students must demonstrate an understanding of the advanced concepts of environmental health sciences as they are related to environmental health, industrial hygiene, and environmental toxicology as evidenced by:

- knowledge of the essentials of pathophysiology and toxicology and ability to apply these principles to the occurrence of diseases among human populations;
- understanding of the dispersion of contaminants in the air, water, and land phases of the environment and how these contaminants affect human health;
- understanding of the appropriate techniques necessary to collect and analyze environmental, medical and biological samples;
- the ability to use chemical, biological, physical and biostatistical tools for evaluating exposure to environmental or occupational toxins;
- the ability to quantitatively assess the probability that environmental agents or processes present a significant risk to human health or the environment; and
- the ability to implement or use environmental policies, processes, and technology, to minimize the impact of human activities on the environment and on human health.

The PhD degree in the Department of Environmental Health Sciences has three foci:

- **Environmental Health Sciences Research**
- **Industrial Hygiene**
- Environmental Management and Policy

Admission: Particular emphasis is placed upon students' interest and their commitment to research. The PhD degree requires an original and carefully thought out research dissertation. Students with previous experience and therefore specific ideas for research are particularly encouraged to apply. The general departmental admission requirements apply to the PhD applicants; however, a previous master's degree is also required. Those students who do not have a master's degree in an appropriate area of environmental health must meet the department's course requirements for the MSPH in environmental health and toxicology or industrial hygiene, depending upon the focus of the PhD dissertation research.

Curriculum: PhD students are expected to complete the department core course requirements, as well as those courses required for their foci and are necessary to prepare them to conduct their dissertation research. Other courses preparatory to dissertation research will be determined by the student in consultation with his/her academic advisor.

Note that although GRD 717 is required, this course will not be considered in the total credit hours required for the degree.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PhD Departmental Core</strong></td>
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</tr>
<tr>
<td>BST 611 Intermediate Statistical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>ENH 710 Biomedical Sciences Grant Writing</td>
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</tr>
<tr>
<td>ENH 790 Current Topics in Environmental Health Sciences Research</td>
<td>4</td>
</tr>
<tr>
<td>ENH 791 Advanced Environmental Health and Toxicology Seminar</td>
<td>7</td>
</tr>
<tr>
<td>ENH 796 Environmental Toxicology Lab</td>
<td>15</td>
</tr>
<tr>
<td>GRD 717 Principles of Scientific Integrity</td>
<td>1</td>
</tr>
<tr>
<td><strong>Environmental Health Sciences Research Focus</strong></td>
<td></td>
</tr>
<tr>
<td>ENH 720/IBS 700 Integrated Biomedical Science for Environmental Health I</td>
<td>2</td>
</tr>
<tr>
<td>ENH 721/IBS 701 Integrated Biomedical Science for Environmental Health II</td>
<td>8</td>
</tr>
<tr>
<td>ENH 722/IBS 702 Integrated Biomedical Sciences for Environmental Health III: Genetics and Genomics</td>
<td>3</td>
</tr>
<tr>
<td>TOX 711 Principles of Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>TOX 712 Actions and Assessments of Toxicants</td>
<td>3</td>
</tr>
<tr>
<td>TOX 713 Advanced Topics in Toxicology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Elective</strong></td>
<td></td>
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<tr>
<td>At least one elective at discretion of the student and the research advisor</td>
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</tr>
<tr>
<td><strong>Research Hours</strong></td>
<td>Variable</td>
</tr>
<tr>
<td>ENH 798 ** Doctoral Directed Research</td>
<td>Variable</td>
</tr>
<tr>
<td>ENH 799 *** Dissertation Research</td>
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</table>
# Environmental Management and Policy Focus

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>BST 612</td>
<td>Intermediate Statistical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>ENH 650</td>
<td>Essentials of Environmental and Occupational Toxicology</td>
<td>5</td>
</tr>
<tr>
<td>ENH 700</td>
<td>Scientific Basis of Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>ENH 770</td>
<td>Advanced Topics in Environmental Disasters</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives * at the discretion of the student and the research advisor**

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>21</td>
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**Research Hours Variable**

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENH 798 **</td>
<td>Doctoral Directed Research</td>
<td>Variable</td>
</tr>
<tr>
<td>ENH 799 ***</td>
<td>Dissertation Research</td>
<td>Variable</td>
</tr>
</tbody>
</table>

# Industrial Hygiene Focus

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST 612</td>
<td>Intermediate Statistical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ENH 700</td>
<td>Scientific Basis of Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>ENH 701</td>
<td>Environmental Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>ENH 770</td>
<td>Advanced Topics in Environmental Disasters</td>
<td>3</td>
</tr>
<tr>
<td>TOX 711</td>
<td>Principles of Toxicology</td>
<td>3</td>
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**Electives * at the discretion of the student and the research advisor**

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<tr>
<th>Credits</th>
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<tbody>
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<td>18</td>
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**Research Hours Variable**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENH 798 **</td>
<td>Doctoral Directed Research</td>
<td>Variable</td>
</tr>
<tr>
<td>ENH 799</td>
<td>Dissertation Research</td>
<td>Variable</td>
</tr>
</tbody>
</table>

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Suggested electives:
- EPI 616 Environmental Epidemiology
- BST 626/627 Data Management/Reporting with SAS and the associated lab or another upper-level computer based BST course
- ENH 752 Genetic Toxicology of Environmental Agents

** Students must register for this course until the comprehensive/qualifying exam and the dissertation proposal is approved leading to admission to candidacy

*** Students may enroll for this course after admission to candidacy and must enroll for a minimum of two semesters but must continue to enroll in this course each term until graduation.

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## Environmental Health Courses (ENH)

**ENH 600. Fundamentals of Environmental Health Sciences.**-This introductory course is designed to teach public health graduate students the fundamental concepts of environmental health science, the scientific research methods used to study the interaction between human health and the environment, and basic issues in the management of occupational and environmental health problems. Prerequisites: Admission into the MPH program or permission of instructor. College level biology and/or chemistry strongly recommended. 3 hours (Garfinkel)

**ENH 601. Environmental Chemistry.**-Chemical concepts applied to pollutant behavior in biosphere; absorption, leaching, evaporation. Mechanisms of chemical modification in
environmental, photochemical processes, redox systems, hydrolysis; metabolic transformation of selected pesticides, air contaminants, and hazardous chemical wastes are also discussed. Prerequisite: General Chemistry and Calculus recommended. 3 hours (Squadrito)

ENH 602. Environmental Management.- Comprehensive introduction to environmental management, with emphasis on environmental health issues. Cases from both U.S. and international settings. Key topics include air and water contamination, hazardous materials, ozone depletion, climate change, risk perception, risk management, environmental communication, environmental regulation, and recent strategies for environmental management. 3 hours (Garfinkel)

ENH 603. Management of Occupational Health and Safety Programs.- Provides an overview of management principles as they relate to occupational safety and industrial hygiene, emphasizing the development of the "soft" skills. It provides management training as well as communication techniques for illustrating and justifying changes that are technically sound. The course will review theoretical and practical principles of managing safety and industrial hygiene programs. Real world examples are used to support management theories. 3 hours (Oestenstad)

ENH 605. Remote Sensing and Public Health (Also ANTH 462) - Observing global patterns via satellites can help with research endeavors, this course will focus on the applications of remote sensing to both health and the social sciences. Hands on experience using satellite remote sensing will enrich the experience. 3 hours (Parcak)

ENH 608 Real World Remote Sensing-Public Health Topics (also ANTH 437) - The course will give students the chance to learn about a wide range of advanced remote sensing applications in both classroom and lab settings. The course will start out with an overview of article publication preparation and the importance of combining GIS and remote sensing data. The course will progress to students learning GIS applications and analytical techniques, and how to input their remote sensing data into their own GIS for additional analysis. 3 hours (Parcack)

ENH 610. Environmental Disasters.- Examines the worldwide problem of toxic disasters, particularly those involving invisible agents (chemicals, infectious disease agents, radiation). Theory, case studies, field experience, and current scientific research are reviewed, and the public health, environmental, human services and public policy implications of toxic disasters are discussed. 3 hours (Becker)

ENH 621. Fundamentals of Industrial Hygiene.- Chemical, physical and other hazards and stresses found in the work environment. Recognizing potential hazards by understanding industrial processes, toxicity of environmental contaminants, and occupational disease processes. Study design and preparation for field evaluation, conduct of industrial hygiene surveys, and interpretation of survey results. 3 hours (Maples)

ENH 622. Industrial Hygiene Application for Hazardous Substances.- This course covers industrial hygiene aspects of hazardous waste operations, and the regulatory aspects of those operations. Students will gain knowledge of the OSHA and EPA regulations related to health and safety issues and will learn about personal safety equipment and techniques, administrative controls, and hazardous waste sampling. Prerequisite: ENH 621 or equivalent. 3 hours (Oestenstad)

ENH 624. Control of Occupational Hazards.- Importance of engineering controls in reducing occupational health hazards. Substitution of less toxic substances, modification of work
processes, and design of local exhaust ventilation systems; proper selections and use of personal protective equipment, especially respirators, also considered. 2 hours (Oestenstad)

**ENH 625. Industrial Hygiene Case Studies.** Integrates students' basic knowledge through consideration of real work-place situations. Step-by-Step analysis of case reports covering occupational health problems in representative industrial situations. Sequential presentation of overview of working conditions, survey strategies, interpretation of results, and recommendations. Prerequisite: ENH 624. 3 hours (Oestenstad)

**ENH 626. Physical Agents.** Sources, effects, and control of occupational and environmental noise, ionizing and non-ionizing radiation, and temperature extremes. Review of exposure standards and introduction of measurement equipment and techniques. 2 hours (Maples)

**ENH 636. Evolutionary Medicine (also BY 426 and 626).** This course explores the relatively recent and rapidly expanding field of evolutionary or Darwinian medicine, which takes an evolutionary approach to issues related to human health and disease, (i.e., a synthesis of evolution and health sciences). The course is designed as a broad overview of a number of topics, including infectious diseases and the arms race between pathogen and host, genetic diseases, aging, nutrition, cancer, reproductions and development, and behavioral and mental disorders. Prerequisite: Permission of Instructor. 3 hours.

**ENH 650. Essentials of Environmental and Occupational Toxicology and Diseases.** Serves as introductory graduate level course that focuses on multiple aspects of toxicology and disease processes associated with environmental and occupational exposures. Students learn basic terminology and concepts of environmental and occupational toxicology as well as occupational and environmental disease recognition, management and prevention. Emphasis is on scientific foundations rather than on addressing topical issues. The general course orientation is towards basic principles, organ system physiology, diseases and prevention. 5 hours.

**ENH 651. Risk Assessment of Environmental Hazards.** Examination of the methods used in regulatory decision-making based on risks, benefits and costs of a particular action or chemical. Students will learn the risk assessment process from identifying hazards, assessing exposure, and characterizing the risks, as well as identifying factors that contribute to variability in response in human populations and identifying means to control risk. Prerequisite: ENH 650. 3 hours (Gohlke)

**ENH 660. Fundamentals of Air and Water Pollution.** An integrated introduction to air and water pollution, including its sources, transport, and effects. Focus will be on measurement and characterization of air pollution and the bio-assessment of water quality. Regulatory control of pollutants and the technical aspects of engineering controls will also be given emphasis. 3 hours (Lungu/Liu)

**ENH 661. Air Sampling and Analysis.** This course and its associated laboratory are designed to provide the master's student with a thorough understanding of the principles and practices of air sampling for contaminant gases, vapors, and suspended particulate material. Prerequisite: A basic understanding of chemistry and physics. It is also suggested that ENH 621 be taken prior to or concurrent with this course. 3 hours (Lungu)

**ENH 670. Fundamentals of Occupational Safety.** Basic principles of safety and loss control; emphasis on prevention of losses of people, property, and products in work place. Developing competence in human-factors engineering, fire prevention, physical and behavioral science,
product safety, and science of accident prevention. 3 hours (Oestenstad)

ENH 680. Field Interdisciplinary Studies.- Field trips to industries throughout Alabama to observe processes and interact with other occupational health personnel. Seminars held with occupational health nursing, industrial hygiene, and safety and ergonomics students to exchange information on latest developments in each field. Prerequisite: ENH 621 or Permission of Instructor. 1 hour (Maples)

ENH 681. Interdisciplinary Worksite Evaluations.- To assist students in developing critical thinking and analytical skills, provide them with experience in applying discipline-specific knowledge in a broad occupational health and safety context, and provide experience in working in interdisciplinary teams. The course consists of an overview of survey methodology and information sources, with emphasis on job safety analysis, a review of the occupational site or process to be evaluated and a report of the identified hazards and recommended controls. 2 hours (Maples)

ENH 691. Industrial Hygiene Seminar.- Development of communication skills through objectively reviewing scientific literature; presentations and summaries of research or professional activities. 1 hour (Maples)

ENH 695. Environmental Health Sciences Seminar.- Weekly seminar series of Environmental Health Sciences faculty, postdoctoral fellows, and invited guest lecturers. All PhD candidates in Environmental Health Sciences are required to attend all of the seminars. 1 hour.

ENH 697. Internship.- Field experience under joint direction of a public health faculty member and qualified specialist working in selected aspects of public health. Pass/No Pass. 3, 6, 9 hours

ENH 698. Master's Directed Research, Environmental Health.- Independent study with guidance of appropriate faculty. Letter grade. 1 - 9 hours

ENH 699. Project Research, Environmental Health - Research for project under direction of research project committee. Letter grade. 1 - 9 hours

ENH 700. Scientific Basis of Environmental Health.- This is an overview course that is intended to provide doctoral students with a broad understanding of the scientific principles on which environmental health is based within the context of the interaction of human activities and ecosystems, and the reciprocal impact of those interactions on human health and global ecology. Course will be graded by letter. 3 hours.

ENH 701. Environmental Chemistry.- This advanced course covers physical and chemical processes that determine the dynamic nature of the atmosphere and interrelations with water and soil. It also covers measurement methods and data analysis regarding observed concentrations of many key compounds. The course also covers chemical aspects of current environmental change issues, as well as reviews risk assessment as applied to tropospheric air quality. Course will be graded by letter. Prerequisites: ENH 601 is preferred. Other courses emphasizing thermodynamics, kinetics and transport phenomena can be used with permission of instructor. 3 hours.

ENH 702. Advanced Topics in Environmental Management.- Building on ENH 602, this advanced course examines emerging issues and challenges in environmental management and
policy. Topics include global environmental threats, ecosystem management, ecological risk assessments, and frameworks for integrating science and public policy. Course will be graded by letter. Prerequisite: ENH 602 or permission of instructor. 3 hours.

ENH 705. Special Topics (Readings) in Environmental and Occupational Health.-Following topics taught on request on individual basis. 1 - 3 hours each
   Radiological Health (Richard)
   Air Pollution
   Systems Safety
   Advanced Toxicology
   Environmental Monitoring
   Noise Control
   Techniques of Biochemical and Molecular Toxicology (Liu)

ENH 710. Grant Proposal Writing in Biomedical Sciences.- This course will train second-year graduate students in the intricacies of writing research proposals in the biomedical sciences. Pass/No Pass. 1 hour (Postlethwait)

ENH 763. Aerosol Technology.- Defines properties and behavior of aerosols from industrial hygiene and environmental perspectives. Reviews fundamental particle descriptions and critical fluid properties affecting particle behavior. Methods of defining particle size and particle behavior. Methods of defining particle size and size distribution and theories of particle kinetics and their application to particle disposition and collection. Prerequisite: ENH 661, ENH 662. 2 hours (Oestenstad)

ENH 770. Advanced Topics in Environmental Disasters and Public Health.- Examines emerging public health challenges posed by incidents involving chemicals, radiation and biological agents. Students are provided with the opportunity to undertake guided research on current topics in the field and discuss their findings with graduate students and faculty members. Course will be graded by letter. Prerequisites: ENH 610 3 hours.

ENH 780. Seminars in Free Radical Biology and Medicine.- This course will consist of research seminars presented primarily by leading national and international scientists working in free radical biology and medicine. These seminars are interactive with questions being asked throughout the presentation. Prerequisite: Permission of instructor. 1 hour.

ENH 781. Journal Club: Mechanisms of Redox Cell Signaling and Disease.- This course will consist primarily of student presentations of peer-reviewed journal articles, and of their research projects. The overall objective of this course is for the student to develop critical thinking skills in the analysis of published research in an area related to their own dissertation research. Course will be graded as Pass/Fail. Prerequisite: Permission of Instructor. 1 hour.

ENH 782. Free Radical Chemistry and Biochemistry.- This course is for students to gain expertise in the chemical and biochemical reactions of free radicals as they occur in biological systems. Students should be able to critically evaluate the literature with respect to free radical chemistry in biology and medicine, and will be able to correctly employ these basic chemical principles in the experimental design for their own dissertation research. Course will be graded by letter. Prerequisite: Completion of first year GBS or Permission of instructor. 2 hours. (Lancaster)

ENH 783. Free Radicals in Health and Disease.- This course is for students to understand the
roles that free radicals play in biological systems, both in the maintenance of normal physiology via regulated cell signaling and in contributing to pathology through loss of this regulation. Students should be able to critically evaluate the literature with respect to the roles of free radicals in health and understanding into their own dissertation research. Course will be graded by letter.
Prerequisite: Completion of first year GBSor Permission of instructor. Co-registration in ENH 782 required. 2 hours. (Dickinson)

ENH 790. Seminar: Current Topics in Environmental Health Sciences Research.-Interactive forum in which graduate students and faculty discuss dissertation research projects and topics related to the field of Environmental Health Sciences Research through presentation of journal articles. Course is designed to develop oral communication skills for presenting scientific material to peer groups. Presentations by graduate students are followed by discussion and questions. Prerequisite: Permission of Instructor. Pass/No Pass. 1 hour (Fanucchi)

ENH 791. Advanced Environmental Health and Toxicology Seminar.-Facilitates critical review of recent referred publications in toxicology and presentations of research data. Students exposed to advanced knowledge and diversified subjects. Prerequisite: ENH 650, ENH 651 or Permission of Instructor. 1 hour. (Fanucchi)

ENH 796. Environmental Health Sciences Research.-Lab Rotations. Prerequisites: Required for First and Second Year PhD students in the Industrial Hygiene and Environmental Management and Policy foci. Course will be graded by letter. Permission of instructor required to register. 3 hours

ENH 798. Doctoral Directed Research, Environmental Health.-Independent study with guidance of appropriate faculty. Pass/No Pass. 1 - 9 hours

Department of Epidemiology

Departmental Overview

This department encompasses research and educational foci in epidemiology, the distribution and determinants of disease in humans, with particular emphasis on cancer, occupational and environmental epidemiology, infectious diseases, population genetics, injury and chronic diseases; and in international health, a multidisciplinary approach to tropical infectious diseases, public health nutrition, environmental hygiene, reproductive health and program management in developing countries and under-resourced areas of the United States.

Donna Arnett, MSPH, PhD, Professor and Chair
Faculty: Professors: Arnett, Delzell, Garrison, Go, Jolly, Kaslow; Associate Professors: McGwin, Sathiakumar, Waterbor; Assistant Professors: Brown, Chamot, V. Howard, Kabagambe, Kristensen, Shrestha, Thomas; Research Assistant Professors: Aissani, Baier, Kempf, Perry, Voeks; Emeritus Professors: Cole, Maetz, Mason, Roseman.
The principal mission of the programs in epidemiology is to provide all students in the School of Public Health with epidemiology training that is suited to their career objectives. A second major instructional goal is to carry out research that contributes to the understanding of the causes of major diseases and the methods for their control.

**Career Opportunities**

The continued importance of diseases such as HIV/AIDS, other infectious and chronic diseases, injuries, and the threat of bioterrorism have highlighted the nationwide shortage of qualified epidemiologists. Graduates find employment in public health agencies, research organizations and foundations, industry, public and private health services delivery organizations, academe, and international agencies.

**Master's Programs' Learning Objectives**

Graduates with a Master's degree in epidemiology are expected to:

- describe the epidemiology of important diseases, injuries, and causes of death in a population;
- understand and apply the principles of epidemiologic study design and analysis;
- recognize the circumstances in which specific designs are appropriate for an investigation and to identify strategies to minimize and prevent bias in studies;
- design data collection, entry, and management procedures for epidemiological studies;
- compute and interpret the most common epidemiological measures of disease occurrence and association and to perform hypothesis testing and interval estimation on those measures;
- understand and analyze published reports of epidemiologic studies and critically evaluate the data and conclusions presented.

In addition, graduates of the MSPH degree program are also expected to:

- propose a methodologically sound study design for the evaluation of a new hypothesis; and
- manage one or more components of a research project, including instrument design, database design and management, statistical analysis and report writing.

**Degree Programs: Department of Epidemiology**

**MPH in Epidemiology - (EPID)**

This program is intended for persons who anticipate careers in public health practice. In addition, students who wish to enter doctoral-level training should consider majoring in epidemiology at the master's level. Graduates of the MPH in Epidemiology may assume faculty or research positions in academia or management positions in government or industry if they have other professional degrees (e.g., MD, DDS) as well. Graduates of the program without professional credentials generally assume mid-level positions in academia, industry or government. The MPH in Epidemiology typically takes 12 to 24 months to complete.
Admission: Applicants must meet the requirements for admission to the UAB School of Public Health and must demonstrate their aptitude for biological sciences and mathematics by virtue of their college transcripts and GRE scores. The Department of Epidemiology admits MPH students for the Fall term each year. Interested applicants should apply at: www.sophas.org. International students should also submit a World Education Services (WES/ECE, or similar) transcript evaluation along with your application materials. The deadline to apply through SOPHAS for the MPH program is April 1st each year.

Curriculum: The number of credit hours needed to earn the MPH degree in Epidemiology depends upon the background and experience of the student upon entering the program. Students having advanced (usually doctoral) training in a health-related area, or considerable (usually 5 or more years) public health experience will be required to complete a lesser number of credit hours than will the new student who does not have such degrees and experience.

MPH Core Sequence Requirement: All MPH core courses MUST be taken in the first two semesters of enrollment except for PUH 695: Integrative Experience, which MUST be taken in the last semester of enrollment or graduation term. BST 611, EPI 610, and HCO 600 are required to be taken in the first Fall term of enrollment. BST 612, EPI 611, ENH 600, and HB 600 are required to be taken in the first Spring term of enrollment. EPI 625 MUST be taken in the first May-Mini Term of enrollment and BST 613 MUST be taken in the second Fall term of enrollment. MPH students can take the Internship course (EPI 697) as early as their first Summer term of enrollment.

SOPH Course Requirement: EPI 623 is required to be taken in the first Fall term of enrollment. EPI 623 is a one credit hour course that is offered from August to September each Fall term. The GRD Writing course is offered every semester and MUST be taken within the first year of enrollment (first Fall, Spring, or Summer term).

MPH – Epidemiology (EPI)

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPH Core Requirement (including the Integrative Experience)</td>
<td>20</td>
</tr>
<tr>
<td>BST 611 Intermediate Statistical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>BST 612 Intermediate Statistical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>ENH 600 Fundamentals of Environmental Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>EPI 610 and 610L Principles of Epidemiologic Research and Lab</td>
<td>4</td>
</tr>
<tr>
<td>HB 600 Social and Behavioral Science Core</td>
<td>3</td>
</tr>
<tr>
<td>HCO 600 Introduction to Public Health Systems and Population-Based Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>PUH 695 Public Health Integrative Experience</td>
<td>1</td>
</tr>
<tr>
<td>SOPH Requirements</td>
<td>4 or 7</td>
</tr>
<tr>
<td>EPI 623: Introduction to SAS Software</td>
<td>1</td>
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<tr>
<td>GRD 727: Writing Reviewing Research (other GRD courses may be required based on Writing Assessment Exam)</td>
<td>3-6</td>
</tr>
<tr>
<td>Epidemiology Methods Track Requirements</td>
<td>10</td>
</tr>
<tr>
<td>EPI 611 and 611L Issues in Epidemiologic Design and Analysis and Lab</td>
<td>4</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------</td>
</tr>
<tr>
<td>EPI 625</td>
<td>Quantitative Methods in Epidemiology</td>
</tr>
<tr>
<td>BST 613</td>
<td>Intermediate Statistical Analysis III</td>
</tr>
</tbody>
</table>

At least (two)* four of the following. Other courses may be substituted with the advisor's approval. 6-12

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPI 601</td>
<td>Vaccinology</td>
<td>3</td>
</tr>
<tr>
<td>EPI 602</td>
<td>Epidemiology of Chronic Disease</td>
<td>3</td>
</tr>
<tr>
<td>EPI 603</td>
<td>Injury Epidemiologic Principles</td>
<td>3</td>
</tr>
<tr>
<td>EPI 604</td>
<td>Infectious Disease Surveillance &amp; Control-Jamaica</td>
<td>3</td>
</tr>
<tr>
<td>EPI 605</td>
<td>Epidemiology of Infectious Disease</td>
<td>3</td>
</tr>
<tr>
<td>EPI 606</td>
<td>Epidemiology of Cardiovascular Diseases</td>
<td>2</td>
</tr>
<tr>
<td>EPI 607</td>
<td>Fundamentals of Clinical Research</td>
<td>3</td>
</tr>
<tr>
<td>EPI 608</td>
<td>Tropical Infectious Diseases</td>
<td>3</td>
</tr>
<tr>
<td>EPI 609</td>
<td>Pharmacoepidemiology &amp; Comparative Effectiveness Research</td>
<td>3</td>
</tr>
<tr>
<td>EPI 612</td>
<td>Nutritional Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>EPI 613</td>
<td>Cancer Epidemiology &amp; Control</td>
<td>3</td>
</tr>
<tr>
<td>EPI 615</td>
<td>Ecology &amp; EPI of Arthropod-Borne Diseases</td>
<td>3</td>
</tr>
<tr>
<td>EPI 616</td>
<td>Environmental Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>EPI 617</td>
<td>Occupational Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>EPI 618</td>
<td>Fieldwork in Public Health</td>
<td>2</td>
</tr>
<tr>
<td>EPI 621</td>
<td>AIDS/HIV and STDs</td>
<td>3</td>
</tr>
<tr>
<td>EPI 624</td>
<td>Grant Applications in an International Setting</td>
<td>3</td>
</tr>
<tr>
<td>EPI 630</td>
<td>Data Analysis Using EPI Info</td>
<td>3</td>
</tr>
<tr>
<td>EPI 635</td>
<td>Genetics in Public Health</td>
<td>2</td>
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<tr>
<td>BST 619</td>
<td>Data Collection and Management</td>
<td>3</td>
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<td>BST 626</td>
<td>Data Management with SAS</td>
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</table>

**Internship Requirement**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EPI 697</td>
<td>Internship</td>
<td>3</td>
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</table>

**Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPI 695</td>
<td>Epidemiology Seminar Series</td>
<td>1</td>
</tr>
<tr>
<td>EPI 698</td>
<td>Masters Level Directed Research</td>
<td>1-9</td>
</tr>
</tbody>
</table>

**Total Credit Hours** 43-49

* Students having a doctoral degree in a medical field, or at least 5 years of public health experience, may be required to take only two courses in this category with permission of the advisor, and therefore need to earn only 43 credits for graduation.

**MSPH in Epidemiology (EPID)**

The MSPH program in Epidemiology is an academic research degree designed for students who wish to receive education and training in epidemiologic research methods. Completion of didactic course work and a thesis research project are required. This degree can be completed in 1 1/2 to 2 years.

**Admission:** This program is primarily designed for persons who hold the MD, DDS, DVM, OD or
PhD degree in biological science and who wish to acquire training in epidemiologic research for application within their discipline. However, others who desire intensive training in Epidemiology and Biostatistics, as compared to the broader master's level training available in the MPH program, will also be considered for admission. The online application to the MSPH-EPI program can be submitted at www.sophas.org. International students should also submit a World Education Services (WES/ECE, or similar) transcript evaluation along with your application materials. The deadline date to apply for admission is April 1st each year. The Department of Epidemiology admits students in the Fall term each year.

**Curriculum:** A total of 47 credit hours must be earned to receive the MSPH in Epidemiology degree. Of these 47 total hours, 10 hours are taken to complete the Core requirement. 1 hour is taken to complete the SOPH requirement. Students then complete 13 hours of Methods Track courses, at least 8 hours of approved Epidemiology selectives, and at least 6 hours of Biostatistics selectives. A minimum of 9 semester hours of masters level project research (EPI699) is also required. During the last term of enrollment or final term of graduation, the student is required to complete his/her final thesis project and presentation.

**SOPH Course Requirement:** EPI 623 is required to be taken in the first Fall term of enrollment. EPI 623 is a one credit hour course that is offered from August to September each Fall term.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MSPH Core Requirements</strong></td>
<td>10</td>
</tr>
<tr>
<td>BST 611</td>
<td>3</td>
</tr>
<tr>
<td>BST 612</td>
<td>3</td>
</tr>
<tr>
<td>EPI610 and 610L</td>
<td>4</td>
</tr>
<tr>
<td><strong>SOPH Requirement</strong></td>
<td>1</td>
</tr>
<tr>
<td>EPI 623: Introduction to SAS Software (not required if BST 626 is taken)</td>
<td>1</td>
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<tr>
<td><strong>Epidemiology Methods Track Requirements</strong></td>
<td>13</td>
</tr>
<tr>
<td>EPI611 and 611L</td>
<td>4</td>
</tr>
<tr>
<td>EPI625</td>
<td>3</td>
</tr>
<tr>
<td>BST 613</td>
<td>3</td>
</tr>
<tr>
<td>EPI 627</td>
<td>3</td>
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<tr>
<td><strong>Research Credits</strong></td>
<td>9</td>
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<tr>
<td>EPI 699</td>
<td>9</td>
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</tbody>
</table>
Epidemiology Selectives (at least three) - Other courses may be substituted with the advisor's approval.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPI 601</td>
<td>Vaccinology</td>
<td>3</td>
</tr>
<tr>
<td>EPI 602</td>
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<tr>
<td>EPI 603</td>
<td>Injury-Epidemiologic Principles</td>
<td>3</td>
</tr>
<tr>
<td>EPI 604</td>
<td>Infectious Diseases Surveillance &amp; Control - Jamaica</td>
<td>3</td>
</tr>
<tr>
<td>EPI 605</td>
<td>Epidemiology of Infectious Diseases</td>
<td>3</td>
</tr>
<tr>
<td>EPI 606</td>
<td>Epidemiology of Cardiovascular Diseases</td>
<td>2</td>
</tr>
<tr>
<td>EPI 607</td>
<td>Fundamentals of Clinical Research</td>
<td>3</td>
</tr>
<tr>
<td>EPI 608</td>
<td>Tropical Infectious Diseases</td>
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</tr>
<tr>
<td>EPI 609</td>
<td>Pharmacoepidemiology &amp; Comp. Effectiveness Research</td>
<td>3</td>
</tr>
<tr>
<td>EPI 612</td>
<td>Nutritional Epidemiology</td>
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</tr>
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<td>EPI 613</td>
<td>Cancer Epidemiology &amp; Control</td>
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<td>EPI 616</td>
<td>Environmental Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>EPI 617</td>
<td>Occupational Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>EPI 618</td>
<td>Fieldwork in Public Health</td>
<td>2</td>
</tr>
<tr>
<td>EPI 621</td>
<td>AIDS/HIV and STDs</td>
<td>3</td>
</tr>
<tr>
<td>EPI 635</td>
<td>Genetics in Public Health</td>
<td>2</td>
</tr>
</tbody>
</table>

Biostatistics Selectives (at least two) - Other courses may be substituted with the advisor's approval.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST 619</td>
<td>Data Collection and Management</td>
<td>3</td>
</tr>
<tr>
<td>BST 625</td>
<td>Design and Conduct of Clinical Trials</td>
<td>3</td>
</tr>
<tr>
<td>BST 626</td>
<td>Data Management with SAS</td>
<td>3</td>
</tr>
</tbody>
</table>

Public Health Selectives (with advisor's approval and in some cases the approval of the instructor)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
</table>

**Total Credit Hours Required for Degree**: 47
MSPH in Clinical Research (CREP)

There is a growing interest in medical and other health science schools in developing the clinical research skills of faculty members and fellows. This interest has been fueled by increased support from the NIH to prepare such individuals to meet the demand for clinical investigators in the field. Locally, the Schools of Medicine and Public Health have combined efforts to create a training program for young faculty members and fellows from a variety of disciplines.

This program is a post-medical or other health science degree training program, aimed primarily at fellows and faculty members interested in developing skills required for clinical research. It is anticipated that this academic training will supplement extensive training in the content area in which the student is trained, and senior mentoring in the politics and policies of project development and management. A graduate of this program will have the academic training to develop and lead independent research programs and projects. The program consists of a core set of courses common to all students, plus research elective and focus elective courses that reflect the academic interest of the student. At this time, the program can accommodate students with specific interest in Biostatistics (CRBS), Epidemiology (CREP), and Health Behavior (CRHB). As a result, there will be some variation in the specific knowledge and skills acquired by each graduate. However, the primary learning objectives will apply to all students, irrespective of departmental affiliation. As such, graduates will be able to do the following upon completion of the program:

- design, conduct, and evaluate clinical research studies
- understand issues of data collection and study management
- follow appropriate policies and procedures relating to the utilization of human subjects in clinical research
- demonstrate an understanding of the ethics of research on human subjects
- prepare competitive applications for extramural research funding
- prepare manuscripts for publication in the scientific literature
- critically evaluate published research

**Admission:** Applicants should possess a medical or other health science professional degree. They may be in their final years of training as residents or fellows or hold positions as junior faculty members. The Graduate Record Examination (GRE) is required for applications to all MSPH programs in the School of Public Health. Scores of 550 or better on the Verbal and Quantitative sections of the general test and 4.0 on the Analytical Writing section are preferred. The GRE may be waived at the discretion of the committee, for applicants who have been pre-screened by the clinical investigator training grant committee of the School of Medicine. The applicant must produce three letters of reference and a letter stating that he/she will be guaranteed sufficient release time from clinical duties to be able to attend classes regularly and fulfill course requirements in a timely manner. A medical/health sciences mentor should be identified and a
setting where the student can gain experience in conducting clinical research. A faculty member within the School of Public Health will be assigned as an advisor based on the stated interests of the applicant. Please submit your application online using the UAB Graduate School's Apply Yourself electronic application system at: https://app.applyyourself.com/?id=uab-grad. The application deadline for the MSPH degree program is April 1st each year.

**Curriculum:** The MSPH in Clinical Research consists of a minimum of 42 semester hours. Of these, 14 hours are required, including 9 hours of specific Biostatistics courses and 5 hours of specific Epidemiology courses. Students then complete 13 hours of Methods Track courses and 6 hours from the approved list of electives. Students are also required to complete a minimum of 9 semester hours of Masters Level Directed Research (EPI 699). The MSPH-CR program requires a thesis research project. The final thesis research project is completed during the last enrollment term or graduation term.

<table>
<thead>
<tr>
<th>MSPH-CREP Coursework</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td><strong>Required Core Courses</strong></td>
<td>14</td>
</tr>
<tr>
<td>BST 611 Intermediate Statistical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>BST 612 Intermediate Statistical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>BST 625 Design and Conduct of Clinical Trials</td>
<td>3</td>
</tr>
<tr>
<td>EPI 607 Fundamentals of Clinical Research</td>
<td>3</td>
</tr>
<tr>
<td>EPI 680 Topics in Clinical Research *</td>
<td>2</td>
</tr>
<tr>
<td><strong>Methods Track</strong></td>
<td>13</td>
</tr>
<tr>
<td>EPI 611 and 611L Issues in Epidemiologic Design/Analysis and Lab</td>
<td>4</td>
</tr>
<tr>
<td>EPI 625 Quantitative Methods in Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>BST 613 Intermediate Statistical Analysis III</td>
<td>3</td>
</tr>
<tr>
<td>EPI 627 Data Analysis and Presentation of EPI Studies</td>
<td>3</td>
</tr>
<tr>
<td><strong>Masters Level Research</strong> (minimum 9 hours)</td>
<td>9</td>
</tr>
<tr>
<td>EPI 698 Masters Directed Research</td>
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<tr>
<td><strong>Electives - Other courses may be substituted with the advisor's approval.</strong></td>
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<tr>
<td>EPI 601 Vaccinology</td>
<td>3</td>
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<tr>
<td>EPI 602 Epidemiology of Chronic Diseases</td>
<td>3</td>
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<tr>
<td>EPI 603 Injury-Epidemiologic Principles</td>
<td>3</td>
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<tr>
<td>EPI 605 Epidemiology of Infectious Diseases</td>
<td>3</td>
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</tbody>
</table>
EPI 606 Epidemiology of Cardiovascular Diseases 2
EPI 608 Tropical Infectious Diseases 3
EPI 609 Pharmacoepidemiology & Comp. Effectiveness Research 3
EPI 610 and Principles of Epidemiologic Research and 4
610L Lab
EPI 612 Nutritional Epidemiology 3
EPI 613 Cancer Epidemiology and Control 2
EPI 616 Environmental Epidemiology 3
EPI 617 Occupational Epidemiology 3
EPI 621 AIDS/HIV and STDs 3
EPI 635 Genetics in Public Health 2
EPI 730 Intro to Human Population Genetics 3
BST 619 Data Collection and Management 3
BST 626 Data Management with SAS 3
ENH 650 Essentials of Environmental & Occupational 5
Toxicology & Diseases
HB 624 Adv Theory & Practice in Behavioral 3
Science
HCO 677 Patient-Based Outcomes Measurement 3

Selectives (can be taken from EPI electives above)

Total Credit Hours Required for Degree 42

Note that care must be exercised when selecting some of these courses since some have prerequisites that must be taken earlier in the sequence of classes or taken concurrently.

*EPI 680: Topics in Clinical Research is a 2 credit hour class in which students attend and participate in lectures provided through the K30 Clinical Studies Program at the UAB School of Medicine beginning each Spring term (January) following Fall admission and extending into the Summer term (June). However, do not register for EPI 680 until the Summer semester. The grading is on a Pass/No Pass basis. To earn a Pass grade, students must attend a minimum of 80% of the lectures over two semesters and participate in all discussions during which they are present. Please contact the EPI Program Coordinator for the course syllabus and course schedule.

PhD in Epidemiology

The PhD program emphasizes epidemiologic study design and data analysis. The program is designed to prepare exceptionally qualified individuals for a career of research and teaching. Admission is competitive. Applicants should have earned a Master of Public Health (MPH), Master of Science in Public Health (MSPH), Master of Science (MS) degree or equivalent, with a strong background in epidemiology and statistics. Students who complete the degree will master
the skills required for conducting independent research in epidemiology, with a firm background in epidemiology, biostatistics, and information management. Specific areas of concentration include chronic disease, infectious disease, molecular epidemiology, and injury epidemiologic methods. Further details of the program may be obtained by contacting the Program Director, Dr. John Waterbor at h2obor@uab.edu, or (205) 934-7146, (205) 934-7128. You may also contact the Program Coordinator, Kimberly Hawkins at hawkinsk@uab.edu, or (205) 975-9749.

Admission: Interested students should apply on-line at: https://app.applyyourself.com/?id=uab-grad. Please submit all academic transcripts, 3 letters of recommendation, GRE scores, your personal goals/career goals statement, a current copy of your CV/resume, etc... along with your application for admission. International students should also submit a World Education Services (WES/ECE, or similar) transcript evaluation along with your application materials. The Department of Epidemiology admits PhD students in the Spring for matriculation in the Fall semester only. The application deadline is April 1st each year (Feb. 1st to be considered for financial assistance).

Curriculum: To earn the PhD degree in Epidemiology students must complete a minimum of 60 total credit hours of academic course work. Of this 60 credit hour minimum, 18 semester hours are required and include Biostatistics and Epidemiology courses. 24 semester hours must be earned in doctoral level didactic Epidemiology courses and/or advanced Biostatistics courses.

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<th>PhD Coursework</th>
<th>Credit Hours</th>
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<tr>
<td><strong>Required Courses (18 Hours)</strong></td>
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<tr>
<td>BST 621 Statistical Methods I</td>
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<tr>
<td>BST 622 Statistical Methods II</td>
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<td>BST 665 Survival Analysis</td>
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<tr>
<td>EPI 709 Theoretical Basis of Epidemiology</td>
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<tr>
<td>EPI 710 Analysis of Case-Control Studies</td>
<td>3</td>
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<tr>
<td>EPI 720 Analysis of Follow-Up Studies</td>
<td>3</td>
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At least two additional **doctoral level Epidemiology courses** - Select from the following:

| EPI 703 Grant Proposal Writing | 3 |
| EPI 708 Tropical Infectious Diseases | 3 |
| EPI 712 Nutritional Epidemiology | 3 |
| EPI 713 Cancer Epidemiology and Control | 2 |
| EPI 730 Intro to Human Population Genetics | 3 |
| EPI 731 and 731L Genetic Epidemiology and Lab | 4 |
| EPI 781 Special Topics in Epidemiology | 3 |
| EPI 788 Principles & Methods in Molecular Epidemiology | 4 |

At least one **advanced level Biostatistics course**

| BST 623 General Linear Models | 3 |
| BST 625 Design and Conduct of Clinical Trials | 3 |
| BST 640 Nonparametric Methods | 3 |
| BST 670 Sampling Methods (offered on demand ≥5 students) | 3 |
| BST 671 Meta Analysis | 3 |

At least one **doctoral level course** in an area of medicine or in one of the major
areas of Public Health other than EPI and BST. Please consult your advisor for additional courses.

ENH 722 Integrated Biomedical Science III 3
HB 714 Survey Research Methods 3
HCO 711 Child Health and Development 3
PAT 700 Biology of Disease 3
PAT 703 Intro to Pathology Research 1

Required Doctoral Seminars (EPI 790 must be taken at least 3 times and EPI 797 must be taken at least 1 time)

EPI 790 Doctoral Seminar in Epidemiology 2
EPI 790 Doctoral Seminar in Epidemiology 2
EPI 790 Doctoral Seminar in Epidemiology 2
EPI 790 Analysis and Presentation of Epidemiologic Data 2
(used on demand ≥5 students)

Doctoral Level Research (at least 15 hours)

EPI 798 Doctoral Level Directed Research (register prior to admission to candidacy) 3-12

EPI 799 Dissertation Research (register after admission to candidacy; must have at least 3 or more hours) 3 or more

At least one course related to Research Ethics and Scientific Integrity (does not count toward the required 24 credit hours of didactic course work)

HCO 670 Social and Ethical Issues in Public Health 3
GRD 717 Principles of Scientific Integrity 3

Electives (with advisor's and/or instructor's approval to complete all total hours required)

Minimum Credit Hour Requirement 60

Epidemiology Courses (EPI)

(*) Indicates the course may be taken more than once for credit.

EPI 600. Introduction to Epidemiology.-Principles of epidemiologic thinking. Measures of disease frequency and association. Determinants of disease and distribution of factors influencing health and disease in populations. Epidemiology of diseases of public health importance today. Core requirement for Non-Epidemiology MPH majors. 3 hours. Fall (Thomas)

EPI 601. Vaccinology. - Introduction to the principles underlying disease control and prevention using vaccines. Review of major vaccine-preventable diseases as well as modern vaccine research endeavors. Prerequisites: Clinical doctoral degree (MD, DDS, DVM, DSN, or other similar degrees with approval); or completion of 15 or more credits of master's or doctoral level EPI courses; or permission of instructor. 3 hours. Fall (Kaslow)
EPI 602. Epidemiology of Chronic Diseases. - Application of epidemiologic principles to assess the causes of cancer, cardiovascular diseases, diabetes, rheumatoid arthritis, and other chronic diseases. Emphasis on biological basis, rates, association, etiology, prevention, and control. Pertinent literature critically reviewed. Prerequisites: EPI 600 or EPI 610. 3 hours. Course offered every odd calendar year in the Spring (Kabagambe)

EPI 603. Injury-Epidemiologic Principles and Prevention Strategies. - Concepts and methods of epidemiology applied to injury; epidemiology of major injury types, utilization of injury data sets; development and evaluation techniques of preventive strategies. Prerequisite: EPI 600 or EPI 610 recommended but not required. 3 hours. Spring (Waterbor)

EPI 604. Infectious Disease Control and Surveillance. - This course is a Study Abroad Opportunity offered jointly by the Department of Epidemiology and the Sparkman Center for Global Health at the University of Alabama at Birmingham (UAB) School of Public Health, the Department of Community Health and Psychiatry at the University of the West Indies (UWI), the Graduate School of Public Health at the San Diego State University (SDSU), and the Jamaican Ministry of Health (MJoH). At the conclusion of this course, students will be able to discuss research design, methods and techniques, describe and explain multi-factorial approaches to disease surveillance and control, integrate the major disciplines in public health in the context of disease control in Jamaica, and generate and analyze primary field and community based data and prepare electronic presentations of their findings. Course will be graded by letter. Prerequisites: Designed for master's students interested in epidemiology and international health. Advanced undergraduate students with a strong background in biology and/or ecology may enroll with permission of instructor. 3 hours. Summer (Wilson)

EPI 605. Epidemiology of Infectious Diseases. - Introduction to basic principles of infectious disease epidemiology, surveillance, and control. This course will also include critical analysis of the magnitude, distribution, risk factors, and public health significance of selected infectious diseases in community and institutional settings. While the primary geographic focus is the U.S., international comparisons and perspectives will be offered. Primary attention is neither on research methods nor on clinical and pathologic aspects of disease. Prerequisites: EPI 600, EPI 610 or an equivalent introductory epidemiology course or permission of instructor. 3 hours. Spring (Chamot)

EPI 606. The Epidemiology of Cardiovascular Disease. - Exploration of the breadth and depth of the epidemiology of cardiovascular disease including history, classification, surveillance, frequency, distribution, etiology, natural history, and control. This course addresses the programmatic details of large-scale epidemiologic studies in cardiovascular disease and the review and critical evaluation of epidemiological evidence on the major risk factors for heart disease and stroke. Primarily a lecture course including guest presentations by experts on selected topics. Prerequisite: EPI 610 or permission of instructor. 2 hours. Course offered every even calendar year in the Summer (Howard)

EPI 607. Fundamentals of Clinical Research. - This course will provide an overview of principles and practices related to the study of determinants and outcomes of medical interventions. Methods for conducting epidemiologic research in the "clinic", assessing the validity of diagnostic and screening tests, measuring therapeutic efficacy and safety, and describing the natural history of disease will be reviewed. Prerequisite: Introductory training in epidemiology (e.g., EPI 600 or EPI 610) is recommended but not required. 3 hours. Fall (Glasser)
EPI 608. Tropical Infectious Diseases.-Overview of infectious diseases important in tropical countries, including traditional parasitic diseases (e.g., helminthic and protozoal infections), as well as selected viral and bacterial infections. The agent, fundamentals of clinical course and pathogenesis, mode of transmission, geographic distribution, descriptive epidemiology, and principal methods of prevention and treatment are covered for each disease. Prerequisite: Strong Biology background, contact instructor to discuss. 3 hours. Spring (Jolly)

EPI 609. Pharmacoepidemiology & Comparative Effectiveness Research.- This course is open to graduate students registered in the masters or doctoral program at the UAB School of Public Health and residents and fellows in the School of Medicine, and it may also be of interest to students from graduate health-related programs outside the UAB School of Public Health. The course provides an overview of epidemiologic methods applied to the study of utilization and safety of drugs in large numbers of individuals and an overview of issues and methods used in comparative effectiveness research on drugs, other medical interventions and medical care delivery. Lecturers will present examples of methodological problems and studies based on ongoing research at UAB. 3 hours. Fall (Delzell)

EPI 610. Principles of Epidemiologic Research.-Concepts and methods of epidemiology. Measures of disease frequency, association and impact; study design and analysis, indices of disease and health; overview of major categories of acute and chronic disease, analysis of epidemiologic data sets. Track requirement for EPI majors. Co-require: EPI 610L (computer laboratory course) must be taken with EPI 610. 4 hours. Fall (McGwin)

EPI 610L. Principles of Epidemiologic Research-Lab.-Epidemiologic research lab. Co-require: Lab must be taken concurrently with EPI 610. 0 hours. Fall (McGwin)

EPI 611. Issues in Epidemiologic Design and Analysis.- Epidemiology is a combination of a subject matter science and research methodology. EPI 611 focuses on the latter component. The course extends knowledge of study designs introduced in EPI 610 as applied to human populations, including randomized trials and four types of observational studies (cohort, case-control, cross-sectional, ecological). Because cause-and-effect relations are at the heart of epidemiologic research, numerous related topics are taught in EPI 611 including causal inference, bias, and effect modification. Descriptive data analysis methods are integrated within each type of design. Track requirement for EPI majors. Prerequisite: EPI 610. 4 hours. Spring (Carson)

EPI 611L. Issues in Epidemiologic Design and Analysis-Lab.-Epidemiologic research lab. Co-require: Lab must be taken concurrently with EPI 611. 0 hours. Spring (Carson)

EPI 612. Nutritional Epidemiology.-Nutritional epidemiology will cover core concepts in human nutrition including nutrient classification, nutrient sources, nutritional deficiencies, nutritional excesses, recommended daily allowances, basic anthropometry, dietary assessment methods in free-living populations, validation of dietary assessment methods, identification of biomarkers of dietary intake, study designs used in nutritional epidemiology, issues in the analysis and presentation of dietary data, diet-disease associations, gene-diet associations and special topics in nutrition (e.g., folic acid and neural tube defects, fatty acids and the metabolic syndrome, diet and obesity, vitamin A and immune function, vitamins and mother-to-child transmission of HIV, etc). 3 hours Course offered every even calendar year in the Spring (Kabagambe)
EPI 613. Cancer Epidemiology and Control.- This course will address methodology and substantive issues in cancer epidemiology. Content will include definitions, biological origins and pathological and clinical aspects of cancer; an introduction to information sources and methods in cancer epidemiology; the global burden of cancer; descriptive epidemiology and major risk factors for various forms of cancer; strategies for cancer prevention and the role of epidemiology developing and evaluating those strategies. Prerequisite: Completion of an introductory Epidemiology course (EPI 600, EPI 610, or equivalent). Permission of instructor for students in other programs and schools. 2 hours. Summer (Waterbor)

EPI 615. Ecology and Epidemiology of Arthropod-Borne Diseases.-A course in infectious disease epidemiology. The topic is the epidemiology and control of arthropod-borne diseases. Prerequisites: Previous course or background in general infectious disease epidemiology, and background in biology or microbiology are desirable. Contact course master for guidance if you wish to enroll but are unsure that you are qualified. 3 hours. Spring (Novak)

EPI 616. Environmental Epidemiology.-Design and conduct of studies examining health effects of environmental exposures. Strengths and limitations of research strategies and interpretation of study results. Areas of interest include air and water pollution, lead, and biological marker outcomes. Prerequisite: EPI 600 or EPI 610. 3 hours. Summer (Sathiakumar)

EPI 617. Occupational Epidemiology.-Epidemiologic methods used in investigation of health effects of occupational exposures; review and critical evaluation of epidemiologic evidence pertaining to effects of selected occupational exposures on human health. Lectures and guest presentations by experts on selected topics. Prerequisite: EPI 610, EPI 610L. 3 hours

EPI 618. Fieldwork in Public Health.- Application of public health principles in the communicable disease control and environmental health programs carried out at Jefferson County Department of Health. Prerequisites: EPI 610, EPI 610L, and EPI 605 or Permission of instructor. Pass/No Pass. 2 hours. Summer (Amett)

EPI 621. AIDS/HIV and STD's.-Basic biology and pathogenesis, historical and current trends, domestic and international epidemiology, determinants of spread, immunogenetics and host susceptibility, options for prevention, surveillance and control of sexually transmitted diseases (STD's) and HIV/AIDS. Prerequisite: Clinical doctoral degree (MD, DDS, DVM, DSN, or other similar degrees with approval); or be at least a second year masters student, or permission of instructor. 3 hours. Fall (Kempf)

EPI 623. Introduction to the SAS Software.-An introduction and overview of the SAS software including navigating the various components of the software, importing and exporting data sets, simple programming to clean and query data sets or create subsets of data. This course does not require or include statistical analyses. Students are required to have a computer with the SAS software installed and have knowledge of the basic functions in the Windows operating system. Prerequisites: None. This course is open to both masters and doctoral students and the course is assigned a letter grade. 1 hour. Fall (Kabagambe)

EPI 624. Grant Applications in an International Setting.-Students will be expected to write all the sections of a grant proposal with an international focus (as could be submitted to the National Institute of Health or any other recognized funding agency pre-approved by the instructor). The
course will offer both didactic (lectures) and hands-on (group work) learning activities. The lectures will provide basic guidelines for completion of the assignments. The hands-on learning format will focus on reviewing assignments and providing feedback on fellow students' work. Prerequisite: Permission of Instructor. 3 hours.

EPI 625. Quantitative Methods in Epidemiology.-An introduction to multivariate techniques and survival analysis as they pertain to epidemiologic data and critical reading of corresponding literature, specifically, logistic regression, log-linear modeling, Poisson regression, life tables, Kaplan-Meier survival curves, and Cox proportional hazards modeling. Track requirement for EPI majors. Prerequisites: BST 612 and EPI 611. 3 hours. Summer May Mini-Term (Funkhouse).

EPI 626. Introduction to Data Analysis with SAS.-The general content will be basic SAS programming focused on fundamental statistical procedures. Upon completion of the course, the student should be able to do simple analysis and programming when given a SAS data set, and complete exercises from more advanced classes in epidemiology and biostatistics. 1 hour. Spring.

EPI 627. Data Analysis and Presentation of Epidemiologic Studies.-The students will analyze data from an epidemiologic study, addressing a specific question, and prepare a manuscript from their analysis. There are 3 possibilities regarding choice of data: 1) from a list of the instructor's datasets, 2) public use data, 3) from the student's research. Students working on an MSPH or another degree project may use data for that degree-project with approval of their advisor and course master. Upon completion of the course, the student should be able to analyze data from an epidemiologic study and prepare a manuscript. Prerequisites: BST 612, EPI 611, EPI 625 and BST 626 or EPI 626. 3 hours.

EPI 630. Data Analyses Using EPI Info.-Provides practical training in Epi Info and related software packages (SSS1, Logistic, Epi Map) developed by the Centers for Disease Control and Prevention (CDC). Hands-on exercises include: using statistical programs; developing questionnaires and data entry; data editing; analyses of data sets encompassing major study designs; and report writing. Also reviews important epidemiological and statistical principles in context of data analyses. Prerequisites: BST 612 and EPI 610. 3 hours.

EPI 635. Genetics in Public Health.- This course will provide a topical overview of issues in public health genetics. The purpose of this course is to introduce students to the complex issues involved in applying and integrating genetic technology and information into public health. Through a series of lectures, students will learn about the history of public health genetics, the role that genetics play in public health, and issues involved in applying genetic technology in clinical and research settings. Lectures will also address the ethical, legal, and social implications of genetic testing in populations and research designed to identify susceptibility genes in diverse ethnic and racial groups. Prerequisites: Currently enrolled in a Master's program. Undergraduates will need permission of instructor. 2 hours. Course offered every even calendar year during the Spring (Shrestha).

EPI 650. Global Perspectives on Disease Prevention and Control.-This course is designed to introduce and/or enhance the fundamental grasp of public health principles in disease control, management, and surveillance for practitioners, teachers, and students of public health in developing countries. EPI 650 will be graded by letter. Prerequisite: Permission of instructor. Prior exposure to the discipline of public health is required. This course is not suitable for the student entering the discipline for the first time, due to its intense nature, but may be suitable for selected
first year students who have prior international and/or public health experience. 6 hours. Summer. (Wilson)

EPI 680. Topics in Clinical Research.-Provide health sciences professionals interested in clinical trials, clinical epidemiology, and other forms of population research with both essential principles and specific technical knowledge in a variety of areas relevant to the conduct of biological and behavioral investigation of human subjects. Prerequisite: Limited to health professionals planning clinical research careers who have been accepted into the MSPH in Clinical Research Program. 2 hours. Irregular course that starts in January and ends in June. Register for this course during the Summer term. (Kaslow)

EPI 681. Special Topics in Epidemiology.- Discussion of infectious disease research and practice encompassing design, conduct, analysis, and interpretation. Students participate in supervised research and/or in research design. Prerequisite: EPI 605 and permission of instructor for enrolling in EPI 681, and permission of instructor for enrolling in EPI 781. 3 hours

EPI 682. Gorgas Course in Tropical Medicine. Hands-on exposure to tropical diseases and emerging pathogens in various teaching formats: didactic lectures, roundtables, laboratory work, clinical and hospital rounds, case conferences, computer training, field trips and independent study. Course is held in the Spring Term in Lima, Peru. 9 hours (3 or 6 hours are also accepted with evaluation restricted to selected sections of the course). Spring (Freedman)

*EPI 695. Epidemiology Seminar Series. This lectureship series is a forum for scientific dialogue on current topics in epidemiology, biostatistics and public health. The course will promote the development of knowledge about epidemiology methods, analytic approaches, disease etiology as well as natural history and current issues related to the application of these concepts to conducting epidemiologic research and public health practice. Pass/No Pass. 1 hour. Fall and Spring (Brown, Arnett, Kabagambe, Delzell)

EPI 696. Master’s Epidemiology Seminar.-Critical evaluation of selected epidemiologic papers from published literature. Consideration of composition, study design, and validity of analysis. Editorial review and disposition of manuscripts. Prerequisites: EPI 610 and EPI 611. 3 hours

EPI 697. Internship.-Field experience under joint direction of appropriate public health faculty member and qualified specialists working in selected aspects of public health. Pass/No Pass. 3 hours. Fall, Spring, Summer

*EPI 698. Master’s Directed Research, Epidemiology.-Independent study with guidance of appropriate public health faculty. Pass/No Pass. 1 - 9 hours. Fall, Spring, Summer

*EPI 699. Project Research, Epidemiology. - Research for project under direction of research committee. Pass/No Pass.1 - 9 hours. Fall, Spring, Summer

EPI 701. Advanced Readings in International Health.-Methodologically oriented course highlighting major findings in infectious disease control and prevention. Many highlights from the HIV/STD field in developing countries, emphasizing recent advances. Number of credit hours enrolled depends on the magnitude of the research paper or proposal that is developed. 1-3 hours

EPI 702. Doctoral Seminar in International Health.-Seminar for student presentations of
critiques of journal articles relevant to public health. Students will also present their dissertation research for peer review. Faculty presentations will focus on methods/topics of interest to all students. 1 hour

**EPI 703. Grant Proposal Writing.** - To provide the student with information about grant proposal writing and practice in preparing a grant proposal for submission. The proposal must relate to an epidemiologic topic. Human subject issues are discussed. Prerequisite: Must be a doctoral student or with permission of instructor. 3 hours. Course offered every even calendar year in the Summer (Amett)

**EPI 708. Tropical Infectious Diseases.** - Overview of infectious diseases important in tropical countries, including traditional parasitic diseases (e.g., helminthic and protozoal infections), as well as selected viral and bacterial infections. The agent, fundamentals of clinical course and pathogenesis, mode of transmission, geographic distribution, descriptive epidemiology, and principal methods of prevention and treatment are covered for each disease. Prerequisite: Strong Biology background, contact instructor to discuss. 3 hours. Spring (Jolly)

**EPI 709. Theoretical Basis of Epidemiology.** - This course is designed to complement the notions introduced in EPI 625 (Quantitative Methods in Epidemiology), EPI 710 (The Analysis of Case-Control Studies), and EPI 720 (The Analysis of Follow-up Studies). EPI 709 will provide doctoral students with the theoretical basis underlying key aspects of the design, analysis and interpretation of epidemiologic studies. The course is intended to provide sufficient depth and sophistication in coverage of statistical material as to prepare for independence in epidemiologic research. This aim will be achieved, in part, through the review and discussion of landmark papers that introduced important conceptual and methodological advances in the discipline of epidemiology. The course will cover the following topics in depth: relations among measures of disease frequency, measures of potential impact, confounding and effect modification, matching, statistical inference in epidemiology, and estimation of key epidemiologic parameters. Prerequisites: BST 612 and EPI 625, or permission of instructor. 3 hours. Course offered every odd calendar year in the Fall (Chamot)

**EPI 710. The Analysis of Case-Control Studies.** - This course is designed to provide doctoral students in epidemiology with practical experience in the analysis and interpretation of data from case-control studies. Specific aims are: To outline a strategy for data analysis and review relevant methodologic issues and to apply stratified analysis methods and regression models in the study of diseases of multifactorial etiology. Prerequisites: Permission of instructor. 3 hours. Spring (McGwin)

**EPI 713. Cancer Epidemiology and Control.** - This course will address methodology and substantive issues in cancer epidemiology. Content will include definitions, biological origins and pathological and clinical aspects of cancer; an introduction to information sources and methods in cancer epidemiology; the global burden of cancer; descriptive epidemiology and major risk factors for various forms of cancer; strategies for cancer prevention and the role of epidemiology developing and evaluating those strategies. Prerequisite: Doctoral student status in any Public Health discipline. Permission of instructor for students in other programs and schools. 2 hours. Summer (Waterbor)

**EPI 712. Nutritional Epidemiology.** - Nutritional epidemiology will cover core concepts in human nutrition including nutrient classification, nutrient sources, nutritional deficiencies, nutritional...
excesses, recommended daily allowances, basic anthropometry, dietary assessment methods in free-living populations, validation of dietary assessment methods, identification of biomarkers of dietary intake, study designs used in nutritional epidemiology, issues in the analysis and presentation of dietary data, diet-disease associations, gene-diet associations and special topics in nutrition (e.g., folic acid and neural tube defects, fatty acids and the metabolic syndrome, diet and obesity, vitamin A and immune function, vitamins and mother-to-child transmission of HIV, etc). 3 hours. Course offered every even calendar year during the Spring. (Kabagambe)

EPI 715. Ecology and Epidemiology of Arthropod-Borne Diseases.-A course in infectious disease epidemiology. The topic is the epidemiology and control of arthropod-borne diseases. Prerequisites: Previous course or background in general infectious disease epidemiology, and background in biology or microbiology are desirable. Contact course master for guidance if you wish to enroll but are unsure that you are qualified. 3 hours. Spring (Novak)

EPI 720. The Analysis of Follow-up Studies.-Designed to provide doctoral students in epidemiology with practical experience in the analysis and interpretation of data from follow-up studies. Specific aims are: to outline a strategy for data analysis and review relevant methodologic issues and to apply stratified analysis methods and regression models in the study of diseases of multifactorial etiology. Prerequisites: Permission of instructor. 3 hours. Fall (Levitan)

EPI 724. Grant Applications in an International Setting.-Students will be expected to write all the sections of a grant proposal with an international focus (as could be submitted to the National Institute of Health or any other recognized funding agency pre-approved by the instructor). The course will offer both didactic (lectures) and hands-on (group work) learning activities. The lectures will provide basic guidelines for completion of the assignments. The hands-on learning format will focus on reviewing assignments and providing feedback on fellow students' work. Prerequisite: Permission of Instructor. 3 hours.

EPI 730. Introduction to Human Population Genetics Theory.-Basic concepts, theory and mathematical principles underlying population genetics, i.e., mechanisms affecting distribution of genes in populations. Prerequisites: Background in genetics, algebra, and statistics; or permission of instructor. 3 hours

EPI 731. Genetic Epidemiology.-This course will cover core concepts of designs, methods and statistical tools in genetic epidemiology studies for determining the contribution of genes to disease risk. Methods for incorporating genetic markers into conventional epidemiologic study designs as risk factors including genetic risk models, familial correlations, migration and admixture, quantitative and qualitative traits, association and linkage analyses in family based designs, allele/haplotype frequency estimation, Hardy Weinberg Equilibrium and linkage disequilibrium and application in both family and population based studies will be discussed. Methods for gene-gene and gene-environment interaction assessment, genome wide association studies are also presented. Prerequisites: College level genetics course; basic biostatistics (BST 600 or BST 611 or BST 621 or equivalent); and basic epidemiology (EPI 600 or EPI 610 or equivalent). Students not meeting these pre-requisites may enroll only with the permission of the instructor. 4 hours. Course offered every odd calendar year during the Spring (Shrestha)

EPI 731L. Genetic Epidemiology-Lab.-Genetic EPI lab. Co-requisite: Lab must be taken concurrently with EPI731. 0 hours. Spring (Shrestha)
EPI 781. Special Topics in Epidemiology. Discussion of infectious disease research and practice encompassing design, conduct, analysis, and interpretation. Students participate in supervised research and/or in research design. Prerequisite: EPI 605 and permission of instructor for enrolling in EPI 681, and permission of instructor for enrolling in EPI 781. 3 hours

EPI 788. Principles and Methods in Molecular Epidemiology. Molecular biology and its relevance to the epidemiology, etiology and natural history of human diseases. The course will develop knowledge and skills in molecular biology, genetics and epidemiology methods, and facilitate the application of this information to evaluate susceptibility, etiology, natural history, treatment, and prevention of diseases. 4 hours. Summer (Brown)

*EPI 790. Doctoral Seminar in Epidemiology.- In depth study and discussion of several areas of epidemiologic methodology not covered in other courses. Students are responsible for selecting and presenting topics. Considerable reading and outside preparation required. Prerequisite: Permission of instructor. Pass/No Pass. 2 hours. Fall and Summer (Levitan, Limdi)

EPI 793. DrPH Practicum.- Field experience practicum which bridges professional academic preparation and advanced public health practice. Pass/No Pass. Fall, Spring, Summer. 6 hours (480 contact hours).

*EPI 795. Epidemiology Seminar Series. This lectureship series is a forum for scientific dialogue on current topics in epidemiology, biostatistics and public health. The course will promote the development of knowledge about epidemiology methods, analytic approaches, disease etiology as well as natural history and current issues related to the application of these concepts to conducting epidemiologic research and public health practice. Pass/No Pass. 1 hour. Fall and Spring (Brown, Arnett, Kabagambe, Delzell)

EPI 797. Analysis and Presentation of Epidemiologic Data.-To gain experience with the analysis, interpretation, and presentation of epidemiologic data by successfully analyzing a data set and presenting the results in the form of a publication quality manuscript. Restricted to PhD students in Epidemiology. Prerequisites: Permission of instructor. 2 hours. (McGwin)

*EPI 798. Doctoral Directed Research, Epidemiology.-Independent study with guidance of appropriate faculty. Pass/No Pass. Fall, Spring, Summer. 1 - 9 hours


Department of Health Behavior

Departmental Overview
The department's focus is the application of the principles of behavioral science to health promotion and disease/disability prevention and control at the individual, community and population levels. Students are trained to develop, implement, and evaluate behavior change programs for a wide variety of health-related issues such as STD/HIV and other reproductive behaviors, alcohol, tobacco, drug and other addictive behaviors, maintaining a healthy diet, physical activity and cancer screening behaviors based on advances in health communication/social marketing approaches and available multimedia computer-and Internet-based technology.

Chair
Jalie Tucker, Ph.D., M.P.H.

Faculty

Professors: Grimley, Tucker; Associate Professors: Davies, Galvin, Kohler, Lanzi, Schroder, Simpson; Assistant Professors: Foushee, Hendricks, Lewis, Norton, Pekmezi, Perkins; Professor Emeritus: Franklin; Associate Professor Emeritus: Coombs

The Department of Health Behavior brings together teaching, research, and service activities to promote healthy lifestyle behaviors and reduce risk behaviors within ethnically and economically diverse populations across the lifespan. The major instructional goals of the department are: (1) to train health promotion specialists/behavioral scientists to develop and evaluate programs; and (2) to provide doctoral training in health education and behavioral science.

Health Behavior students learn to develop behavior change programs utilizing theories and methods from the social and behavioral sciences. Students also learn state-of-the-art techniques and methods for program evaluation. Many students are involved in faculty research projects concerning a broad range of health problems including infectious diseases (HIV/AIDS and other sexually transmitted diseases), tobacco, alcohol, and other substance misuse, obesity, aging, cardiovascular disease, cancer, and intentional or unintentional injuries.

Career Opportunities

Demand for qualified behavioral scientists and health educators continues to increase with the current national focus on preventive care. Graduates of our master's degree programs are typically employed in public and private agencies at the local, state, and national levels such as health departments, health care institutions, and health-related outreach and fundraising agencies. They work to develop, implement, and evaluate health promotion and disease prevention programs. Graduates of our doctoral program go on to research and service careers in academic settings or public agencies such as the Centers for Disease Control and Prevention.

Health Behavior MPH Learning Objectives

The objectives of the MPH in Health Behavior are:

- To understand and apply social and behavioral science theories as they relate to public health;
- To review and critically evaluate the existing preventive health literature;
- To develop needs assessment tools and to develop and model theory-based assessment tools that are reliable and valid;
- To design, develop and implement health promotion and disease prevention programs; apply principles of behavior change and procedures for evaluating health promotion and disease prevention programs; and
- To gain the professional experience and expertise warranted to protect the in public's health.

Degree Programs: Department of Health
# Behavior

## MPH in Health Behavior (HB)

The Master of Public Health program is for both students with a bachelor’s degree and health care practitioners holding advanced professional degrees and/or two years of full-time, health-related work experience in a public health or health care setting. **Students in this track take 45-54 credit hours. The number of credit hours will be determined before admission by examining students’ education and professional experiences.** Students are taught to understand factors that affect health behaviors and to develop and evaluate behavioral interventions that promote healthy lifestyle changes. Emphasis is placed on both qualitative and quantitative approaches in the evaluation of health promotion programs. Full-time students can generally complete the program in four to five semesters depending on number of credit hours needed.

**Students are required to complete an internship. The internship is three-credit-hours and done following the completion of core course work.**

**Admission:** Applicants should have a strong academic record and meet the minimum requirements for admission to the School of Public Health.

**Curriculum:** In addition to the MPH core requirements which includes the Integrative Experience, students take 12 hours of health behavior track courses, 9-12 hours of electives, 4-10 hours of Public Health selectives, and a 3 hour internship.

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<tr>
<th>Coursework</th>
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<tr>
<td><strong>MPH Core</strong> (including the Integrative Experience)</td>
<td>17</td>
</tr>
<tr>
<td>BST 600 Biostatistics for Public Health</td>
<td>4</td>
</tr>
<tr>
<td>ENH 600 Fundamentals of Environmental Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>EPI 600 Introduction to Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HB 600 Social and Behavioral Science Core</td>
<td>3</td>
</tr>
<tr>
<td>HCO 600 Introduction to Public Health Systems and Population-Based Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>PUH 695 The Public Health Integrative Experience</td>
<td>1</td>
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</table>

<table>
<thead>
<tr>
<th>Departmental Track Requirements</th>
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<tbody>
<tr>
<td>HB 624 Advanced Theory and Practice in Behavioral Science</td>
<td>3</td>
</tr>
<tr>
<td>HB 630 Health Communication: Theory and Practice</td>
<td>3</td>
</tr>
<tr>
<td>HB 641 Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>HB 643 Health Program Evaluation</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavioral Science Electives</th>
<th>9-12</th>
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</thead>
<tbody>
<tr>
<td>Public Health Selectives</td>
<td>4-10</td>
</tr>
<tr>
<td>BST 619 Data Collection and Management</td>
<td>0-3</td>
</tr>
<tr>
<td>EPI 623 Intro To SAS Software</td>
<td>1</td>
</tr>
<tr>
<td>GRD Writing Course/s</td>
<td>3-6</td>
</tr>
<tr>
<td>Internship</td>
<td>3</td>
</tr>
</tbody>
</table>

| Internship | 3 |
Coordinated MPH MSN in Health Behavior (HBNR)

The coordinated MPH in Health Behavior/MSN degree is designed to address health behavior issues and needs of advanced practice nurses. This program of study prepares graduates to participate in the development, implementation, and evaluation of innovative health behavior programs and policies. Graduates may assume a variety of positions in nursing or health behavior including health behavior program directors and project coordinators. This dual degree program builds on the synergy generated through two complementary curriculum tracks. The purpose of this program is to prepare nurses for leadership positions in public health and health behavior intervention programs.

Admissions: Students are admitted separately to the MPH and MSN degree programs and must meet admission requirements in both the School of Public Health and the School of Nursing.

Curriculum: Students must complete a minimum of 42-45 semester hours of credit for the MPH degree, which includes six credit hours of required Nursing course work. Seventeen credits in the School of Public Health meet the requirements for core courses in the Master of Public Health program and provide a strong knowledge base in epidemiology, biostatistics, health behavior, environmental health sciences and health care organization and policy. Twenty-five to twenty seven additional credits (15 Health Behavior credit hours, 4-7 Public Health selectives credit hours and 6 Nursing credit hours) meet the requirements for the Health Behavior track in the School of Public Health. Students may select a focus in the nursing curriculum on one of four tracks (Please see School of Nursing Catalog for more information). The coordinated MPH/MSN degrees can be completed in two years or six consecutive terms if the student registers for full-time study beginning in the fall term. However, many students elect to register on a part-time basis and spread their program over seven or more terms. If a coordinated degree student drops out of the MSN program, he/she must apply for transfer to the MPH Health Behavior track.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPH Core (including the Integrative Experience)</td>
<td>17</td>
</tr>
<tr>
<td>BST 600</td>
<td>Biostatistics for Public Health</td>
</tr>
<tr>
<td>ENH 600</td>
<td>Fundamentals of Environmental Health Sciences</td>
</tr>
<tr>
<td>EPI 600</td>
<td>Introduction to Epidemiology</td>
</tr>
<tr>
<td>HB 600</td>
<td>Social and Behavioral Science Core</td>
</tr>
<tr>
<td>HCO 600</td>
<td>Introduction to Public Health Systems and Population-Based Programs</td>
</tr>
</tbody>
</table>
PUH 695  The Public Health Integrative Experience  1
Health Behavior Track  15
HB 624  Advanced Theory  3
HB 630  Health Communications: Theory and Practice  3
HB 641  Research Methods  3
HB 643  Health Program Evaluation  3
HB 697  Internship  3
Public Health Selectives  4-7
EPI 623  Intro to SAS Software  1
GRD  Writing Course/s  3-6
Required Nursing Courses for Health Behavior Track  6
NUR 602Q  Issues Affecting Advanced Nurse Practice  3
NHSA 630 or Principles of Epidemiology  3
HB elective

MPH Total 42 - 45
MSN Degree Total Variable *

* See the School of Nursing Catalog for the requirements for the MSN portion of the dual MPH/MSN degree. Students may also substitute a Health Behavior elective in the place of the NUR 630Q course.

Coordinated MPH PhD in Health Behavior and Psychology (HBPY) or Sociology (HSOC)

This dual degree program is offered in cooperation with the UAB Departments of Psychology and Sociology; and the University of Alabama (Tuscaloosa) Department of Psychology. This program enables students to obtain an MPH degree in Health Behavior simultaneously with a PhD in Psychology or Sociology.

Admission: Applicants to this program must first be admitted to the PhD program of interest. Applicants must meet the minimum requirements for admission into the School of Public Health.

Curriculum: The MPH degree requires a minimum of 45 credit hours. Selected MPH required courses, such as Research Methods, will be waived in this coordinated program when students can demonstrate that they have taken an equivalent course in the PhD program, although the required number of credit hours will not change. Because this is a coordinated dual degree track, graduation from the MPH program is contingent on completion of all requirements for graduation from the PhD program. If a coordinated degree student drops out of the PhD program, he/she must apply for transfer to the MPH Health Behavior track.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>MPH Core (including the Integrative Experience)</td>
<td>17</td>
</tr>
<tr>
<td>BST 600  Biostatistics for Public Health</td>
<td>4</td>
</tr>
<tr>
<td>ENH 600  Fundamentals of Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>EPI 600  Introduction to Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HB 600  Social and Behavioral Science Core</td>
<td>3</td>
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</tbody>
</table>
PhD in Health Education and Health Promotion (HEP)

The PhD program in health education/promotion provides students with instruction and research experience to become practitioners and scientists in health education and health promotion. The program also combines the resources of academic units from the University of Alabama at Birmingham (UAB – School of Public Health, Department of Health Behavior), and the University of Alabama (UA – College of Human Environmental Sciences, Department of Health Science), in addition to the University of Alabama at Birmingham (UAB – School of Education, Department of Human Studies) and utilizes the research expertise common to schools of public health along with the didactic, professional emphasis found in colleges of education. The specific objectives of the program are to enable the students to:

- Develop the skills to effectively plan, implement, and evaluate health education/promotion intervention programs;
- Develop theoretical knowledge from related social and behavior sciences;
- Develop the knowledge and skills to become independent researchers, demonstrated by completion of a dissertation; and
- Complete a substantive research experience integrating the first three objectives.

The PhD program requires completion of a minimum of 67 hours of graduate credit, satisfactory performance on comprehensive exams, and completion of a doctoral dissertation.
### Advanced Research and Statistical Methods Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST611</td>
<td>Intermediate Statistical Analysis I</td>
<td>3</td>
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EPR 609</td>
<td>Statistical Methods and Research in Education</td>
<td>3</td>
</tr>
<tr>
<td>BST 612</td>
<td>Intermediate Statistical Analysis II</td>
<td>3</td>
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</table>

* OR *

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPI 710</td>
<td>Computer Applications and Advanced Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>BST 619</td>
<td>Data Collection Management</td>
<td>3</td>
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* OR *

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 701</td>
<td>Data Management and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EPI 610</td>
<td>Principles of Epidemiologic Research</td>
<td>4</td>
</tr>
<tr>
<td>EPI 610L</td>
<td>Principles of Epidemiologic Research - Lab</td>
<td>0</td>
</tr>
<tr>
<td>HB 740</td>
<td>Advanced Health Program Evaluation</td>
<td>3</td>
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#### Evaluation/ Research Methods/Statistics Electives

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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#### Social and Behavioral Sciences Electives

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
</table>

#### Directed Research

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HB 798</td>
<td>Doctoral Directed Research</td>
<td>12</td>
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</tbody>
</table>

#### Dissertation Research

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HB 799</td>
<td>Doctoral Dissertation Research</td>
<td>12</td>
</tr>
</tbody>
</table>

**Total 67**

* BST 611 is the prerequisite for BST 612

** EPR 609 is the prerequisite for EPR 710

Specific courses needed for completion of the advanced research and statistical methods requirement may vary and require approval by the student's academic advisor. Specific courses for the social science concentration are selected by the student and his/her academic advisor. Students may transfer a minimum of 12 credits from comparable graduate courses completed previously if those courses were not used to complete another degree, are graduate level, and a grade of at least a B.

### Research Internship

A research internship is required. The internship gives students an opportunity to engage in a meaningful research experience by working with ongoing faculty research projects. The internship may be carried out in any one of the three academic units contributing to the PhD program or with approved research projects in other academic units at UA or UAB, or with the CDC, NIH, or other governmental or private agencies.

### Comprehensive Exam

Doctoral students are required to take comprehensive examinations before proposing a dissertation. At a minimum, the exams cover the scientific and theoretical basis of health education and health promotion, the design and evaluation of health promotion programs and research methods in health promotion. Prior to taking the comprehensive exams, the student must have completed the Health Education/Promotion Core Courses. Students will be eligible to take part one after completing 12 hours of the core courses.

### Doctoral Dissertation
The doctoral dissertation is designed to provide students with a comprehensive and original research experience, and it requires the completion of a minimum of 12 hours of dissertation credit. Students complete credits for the dissertation after completing coursework and comprehensive exams, and being admitted to candidacy.

All PhD students must meet the graduation requirements of their department and the Graduate School.

**MSPH Clinical Research (CRHB)**

There is a growing interest in medical and other health science schools in developing the clinical research skills of faculty members and fellows. This interest has been fueled by increased support from the NIH to prepare such individuals to meet the demand for clinical investigators in the field. Locally, the Schools of Medicine and Public Health have combined efforts to create a training program for young faculty members and fellows from a variety of disciplines.

This program is a post-medical or other health science degree training program, aimed primarily at fellows and faculty members interested in developing skills required for clinical research. It is anticipated that this academic training will supplement extensive training in the content area in which the student is trained, and senior mentoring in the politics and policies of project development and management. A graduate of this program will have the academic training to develop and lead independent research programs and projects. The program consists of a core set of courses common to all students, plus research elective and focus elective courses that reflect the academic interest of the student. At this time, the program can accommodate students with specific interest in Biostatistics (CRBS), Epidemiology (CREP), and Health Behavior (CRHB). As a result, there will be some variation in the specific knowledge and skills acquired by each graduate. However, the primary learning objectives will apply to all students, irrespective of departmental affiliation. As such, graduates will be able to do the following upon completion of the program:

- design, conduct, and evaluate clinical research studies;
- understand issues of data collection and study management;
- follow appropriate policies and procedures relating to the utilization of human subjects in clinical research;
- demonstrate an understanding of the ethics of research on human subjects;
- prepare competitive applications for extramural research funding;
- prepare manuscripts for publication in the scientific literature; and
- critically evaluate published research

**Admission:** Applicants should possess a medical or other health science professional degree. They may be in their final years of training as residents or fellows or hold positions as junior faculty members. The Graduate Record Examination (GRE) is required for applications to all MSPH programs in the School of Public Health. Scores of 550 or better on each of the three sections of the general test (verbal, quantitative, and analytical writing) are preferred. The GRE may be waived at the discretion of the committee, for applicants who have been pre-screened by the
clinical investigator training grant committee of the School of Medicine. The applicant must produce three letters of reference and a letter stating that he/she will be guaranteed sufficient release time from clinical duties to be able to attend classes regularly and fulfill course requirements in a timely manner. A medical/health sciences mentor should be identified and a setting where the student can gain experience in conducting clinical research. A faculty member within the School of Public Health will be assigned as an advisor based on the stated interests of the applicant.

**Curriculum:** The MSPH in clinical Research consists of a minimum of 41 credit hours. Of these, 14 hours are required, including 9 hours of specific Biostatistics courses and 5 hours of specific Epidemiology courses. Students then select at least 9 credit hours from a list of approved Masters Research Electives, complete 9 hours of focus specific electives in Biostatistics, Epidemiology, Environmental Health, or Health Behavior, and take at least 9 hours of (698 level) Masters Research to fulfill the MSPH requirement for conducting a research project.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td><strong>Required Core Courses</strong></td>
<td>14</td>
</tr>
<tr>
<td>BST 611* Intermediate Statistical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>BST 612* Intermediate Statistical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>BST 625 Design and Conduct of Clinical Trials</td>
<td>3</td>
</tr>
<tr>
<td>EPI 607 Epidemiology of Clinical Research</td>
<td>3</td>
</tr>
<tr>
<td>EPI 680 Topics in Clinical Research</td>
<td>2</td>
</tr>
<tr>
<td><strong>Masters Research Electives:</strong> Nine credit hours should be selected by faculty advisor and student</td>
<td>9</td>
</tr>
<tr>
<td>BST 619 Data Collection and Management</td>
<td>3</td>
</tr>
<tr>
<td>BST 626/626L Data Management/Reporting with SAS</td>
<td>3</td>
</tr>
<tr>
<td>ENH 650 Essentials of Environmental and Occupational Toxicology &amp; Diseases</td>
<td>5</td>
</tr>
<tr>
<td>EPI 611 Issues in Epidemiologic Design &amp; Analysis</td>
<td>4</td>
</tr>
<tr>
<td>EPI 625 Quantitative Methods in Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>EPI 703 Grant Writing</td>
<td>3</td>
</tr>
<tr>
<td>EPI 709 Theoretical Basis of Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HB 624 Advanced Theory and Practice in Behavioral Science</td>
<td>3</td>
</tr>
<tr>
<td>HCO 677 Patient-Based Outcomes Measurement</td>
<td>3</td>
</tr>
<tr>
<td><strong>Focus Specific Electives:</strong> Nine hours in field of interest selected by faculty advisor and student. With approval of the student's advisor, courses included in the Research Electives that are not taken to meet that requirement may be taken as a part of the Focus Specific Electives</td>
<td>9</td>
</tr>
<tr>
<td>HB 630 Health Communications</td>
<td>3</td>
</tr>
<tr>
<td>HB 642 Research Methods &amp; Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>HB Elective Behavioral Science Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Masters Directed Research:</strong> Nine hours of research (698 level) in a clinical setting (directed).</td>
<td>9</td>
</tr>
</tbody>
</table>
BST 698, EPI 698, HB 698, or ENH 698 (depending upon the area of study)

Total Hours 41

* Students who want to focus their degree on Biostatistics should take BST 621/622 rather than BST 611/612 since the former are prerequisites for more advanced Biostatistics focus courses. In addition, other students who wish to receive higher level mathematical training in Biostatistics could substitute BST 621/622 for BST 611/612.

Note that care must be exercised when selecting some of these courses since some have prerequisites that must be taken earlier in the sequence of classes or taken concurrently.

Health Behavior Courses (HB)

HB 498. Undergraduate Directed Research in Health Behavior.-- The goals and objectives of this course are for students to gain experience conducting field research concerning adolescents and poverty; to better understand the neighborhood context of poverty; to better understand how to measure risk behaviors, family dynamics and adolescent development in field settings. 3 hours

HB 600. Social and Behavioral Science Core.- This course is structured to provide students with a basic "starting point" for developing the required competencies in this area. The course consists of information delivery (e.g., lectures, readings), practice and application exercises, and knowledge integration and synthesis activities. Successful completion of this course will enable you to describe the role of social and community factors in both the onset and solution of public health problems; identify the causes of social and behavioral factors that affect health of individuals and populations; identify basic theories, concepts and models; apply ethical principles to public health program planning, implementation and evaluation; specify multiple targets and levels of intervention; identify individual, organizational and community concerns, assets, resources and deficits; apply evidence-based approaches in the development and evaluation of interventions; describe the merits of social and behavioral science interventions and policies; describe steps and procedures for the planning, implementation and evaluation of public health programs; and identify critical stakeholders for the planning, implementation and evaluation of public health programs, policies and interventions. Course will be graded by letter. 3 hours

HB 600Q. Social and Behavioral Science Core (On-line).- This course is structured to provide students with a basic "starting point" for developing the required competencies in this area. The course consists of information delivery (e.g., lectures, readings), practice and application exercises, and knowledge integration and synthesis activities. Successful completion of this course will enable you to describe the role of social and community factors in both the onset and solution of public health problems; identify the causes of social and behavioral factors that affect health of individuals and populations; identify basic theories, concepts and models; apply ethical principles to public health program planning, implementation and evaluation; specify multiple targets and levels of intervention; identify individual, organizational and community concerns, assets, resources and deficits; apply evidence-based approaches in the development and
evaluation of interventions; describe the merits of social and behavioral science interventions and policies; describe steps and procedures for the planning, implementation and evaluation of public health programs; and identify critical stakeholders for the planning, implementation and evaluation of public health programs, policies and intervention. Course will be graded by letter. Course is offered online. 3 hours

HB 602. Alcohol and Drug Abuse. - History and theory of human substance use and abuse. Empirical foundations of alcohol and drug abuse, diagnosis, assessment, treatment, and prevention. Course will be graded by letter. 3 hours. (Tucker)

HB 603. Behavioral Interventions for Cardiovascular Risk Reduction. - This course is designed to examine interventions that are used to decrease the risk of developing cardiovascular disease (CVD) by modifying health behaviors. The course will begin with a thorough review of the occurrence, etiology, and consequences of CVD among various subpopulations. This is followed by a systematic review of the literature on existing behavioral interventions to reduce health risks among various subpopulations. Based on this literature review, this course will conclude with the identification of key elements to the design of successful behavioral interventions to reduce the occurrence of CVD. Course will be graded by letter. 3 hours

HB 604. High Technology Approaches to Health Communications and Behavior Change Interventions. - To present students with an initial, in-depth exposure to concepts, technical skills and research findings associated with the integration of computer technology and health communications. Course will be graded by letter. 3 hours.

HB 607/707. Nutrition in Maternal and Child Health. - Overview of nutrition throughout the life cycle of mothers and children in both developed and underdeveloped countries. The core topics of nutrition in pregnancy, infancy, undernutrition and obesity are reviewed at the levels of biology, epidemiology and prevention, programs, practices and policy. Nutritional antecedents of adult chronic diseases (e.g. cardiovascular disease, diabetes, and cancer) will be reviewed. Course will be graded by letter. 3 hours. (Franklin)

HB 608. Women's Health and Social Behavior. - This course examines social and behavioral factors that adversely affect women's health. Students learn to apply gender specific theories to design health interventions tailored towards women. Course will be graded by letter. 3 hours.

HB 609. African-American Health Issues. - This is an intermediate-level course that focuses on: epidemiological data illustrating the health risks experienced by African-Americans; sociocultural factors essential for understanding and enhancing the health of African-Americans; effective health-related prevention programs for African-Americans. Course will be graded by letter. 3 hours.

HB 610. Health Promotion/Disease Prevention: Advanced Theory and Practice. - This course is a comprehensive overview of methods used to develop health promotion and disease prevention programs. It focuses on understanding, synthesizing, and applying behavior change theories to public health program development and includes the critical review of existing assessment measurements, the development of theory-based measures and evaluation principles in the context of intervention development and implementation. Course will be graded by letter. 3 hours. Prerequisite: HB 600 or permission of instructor.

HB 611. Mental Illness as a Public Health Issue. - This course is designed to increase knowledge of mental illness at the individual, community, and population levels. It also covers
historical and contemporary models and research on the etiology, diagnosis, assessment, treatment and prevention of mental and other behavioral health disorders. Course will be graded by letter. 3 hours (Tucker)

HB 624. Advanced Theory and Practice in Behavioral Science.-Advanced review of selected behavioral science concepts and theories useful for developing health promotion programs; social cognitive theory and the transtheoretical model of change are examined in depth. This course may be required for some MPH students. Course will be graded by letter. 3 hours. (Grimley)

HB 630. Health Communications: Theory and Practice.- This course is designed to investigate the role of communication theories and methods in promoting public health and preventing disease. Both theoretical background in communication and behavioral science and practical communication/intervention development methods will be addressed. Course will be graded by letter. Pre-requisite: HB 624. 3 hours (Kohler)

HB 635. Communities, Families and Health.-This course is designed for graduate students in public health and related fields interested in working with families and communities to improve health outcomes. It is intended to provide students with a broader understanding of the structural and psychosocial factors related to health and well-being. To do so, the course will focus on theoretical frameworks that draw on an ecological perspective and examine how factors associated with families, peers, schools, neighborhoods, and communities influence health. Emphasis will also be placed on the relevance of individual and community assets for the science of Health Behavior and the broader public health arena. Course will be graded by letter. 3 hours (Davies)

HB 638Q. Public Health Promotion and Aging Seminar.-Exploration of current problems of the elderly, introduction to broad principles of health promotion for the elderly and review model health promotion programs. Course will be graded by letter. Course offered on-line. 3 hours (Galvin)

HB 641. Research Methods in Behavioral Sciences.-Review of research methodology in behavioral sciences. Formulation of research questions, causality, experimental and quasi-experimental designs, reliability and validity, reporting findings. Prerequisite: Permission of instructor. Course will be graded by letter. 3 hours.

HB 642. Research Methods and Evaluation.- Review of research methodology in behavioral sciences. Formulation of research questions, causality, experimental and quasi-experimental designs, reliability and validity, reporting findings. Principles and procedures to evaluate health promotion/disease prevention programs: data collection methods, instrument-scale development, measurement, evaluation designs, and analysis of case studies of disease prevention literature on evaluation. Course will be graded by letter. 3 hours.

HB 643. Health Program Evaluation.-Principles and procedures to evaluate health promotion/disease prevention programs: data collection methods, instrument-scale development, measurement, evaluation designs and analysis of case studies of disease prevention literature on evaluation. Course will be graded by letter. Prerequisite: HB 641. 3 hours.

HB 660. Adolescent Health: A Social and Behavioral Perspective.- Designed to provide students with the most current knowledge and analysis of issues influencing the health and well-being of adolescents. Theoretical frameworks that draw on an ecological perspective will provide a better understanding of how families, peers, schools, and neighborhoods influence risk and
protective factors in youth. Emphasis will be placed on the relevance of adolescent health issues for the science of Health Behavior and the broader public health arena. Course will be graded by letter. 3 hours. (Davies)

**HB 680. Health Promotion Through Radio Outreach.** - Alternative methods for delivering health promotion messages to "hard-to-reach" audiences are being explored across the U.S. This course examines the strategy known as "entertainment education", specifically in terms of radio programming. Students who enroll will participate on the "BODYLOVE" script writers group as they learn to apply principals of behavior change in an "entertainment-education" format. "BODYLOVE" is a radio drama that is aired across the state of Alabama to educate people about risk factors for cardiovascular disease. Course will be graded as Pass/No Pass. 3 hours (Kohler)

**HB 692. Principles and Practices of Community Organization.** - Seminar designed as an integrative experience for persons working with community groups. The focus is on learning to use available resources and advocating change to maximize community involvement. Course will be graded by letter. Prerequisite: Permission of Instructor. 3 hours (Galvin)

**HB 695. Seminar on Selected Health Behavior Topics.** - Seminar covering a variety of health behavior topics. Course will be graded as Pass/No Pass. Prerequisite: Permission of instructor. 3 hours

**HB 697. Internship.** - Field experience under joint direction of appropriate faculty member and qualified health education specialist. Written report specifying activities, products, and outcomes of experience submitted upon completion of internship. Course will be graded as Pass/No Pass. 3 hours.

**HB 698. Master's Directed Research.** - Independent study with guidance of appropriate faculty. Includes activities such as literature review and evaluation. Course will be graded as Pass/No Pass. 1 - 9 hours.

**HB 699. Master's Project Research.** - Research for project under direction of research project committee. Course will be graded as Pass/No Pass. 3-6 hours

**HB 701. Theory-Based Measurement Development.** - The aim of this course is to introduce students to measurement development based on well-specified behavioral theories. This course will review and discuss key issues related to measurement development such as item/scale development, number of factors to retain, rotation options and statistical programs. Prerequisite: Requires knowledge of elementary probability and statistics for non-statistics majors and BST 600. Course will be graded by letter. 3 hours (Grimley)

**HB 714. Survey Research Methods.** - This course will provide students with a theoretical and practical overview of survey research methodology. Topics to be covered include questionnaire and interview design; tailoring instruments for specific settings, populations and methods of administration; maximizing reliability of measurement; construction of scales and indices; sampling theory and methods, assessing sampling bias, and maximizing response rates. Course will be graded by letter. Prerequisites: Doctoral standing or Permission of Instructor. 3 hours. (Foushee)

**HB 720. Neighborhood Influences on Health Behavior.** - To expose students to classical and current theories of neighborhoods and their affects on development and behavior in such a way that they will develop an appreciation for the importance of neighborhood context and its impact on
development and behavior and the ability to critically evaluate studies of neighborhoods and neighborhood context, and the conceptual tools to be able to incorporate neighborhood (and other) contextual effects into their own research. Course will be graded by letter. 3 hours

**HB 730. Health Communication Research.**- This course is designed to investigate the role of communication theories and methods in promoting public health and preventing disease. Both theoretical background in communication and behavioral science and practical communication/intervention development methods will be addressed. Course will be graded by letter. Prerequisite: HB 750. 3 hours (Kohler)

**HB 740. Advanced Program Evaluation.**-Advanced review of evaluation theories, approaches, and methods for assessing the plans, implementation, and effectiveness of health promotion programs. Course will be graded by letter. Prerequisite: HB 643 or other master's level evaluation course and a graduate level multiple regression or multivariate statistics course. 3 hours

**HB 750. Advanced Theoretical and Scientific Basis of Health Education and Promotion.**- Provides doctoral students with in-depth examination of history and philosophy of health education; reviews professional competencies and outlines major theories of behavior change. Course will be graded by letter. 3 hours. (Turner)

**HB 760. Planning and Administration of Health Education and Promotion Programs.**- The purpose of this course is to teach and practice the three basic phases of comprehensive health education and promotion programs (planning, implementation and evaluation). Course will be graded by letter. Prerequisites: HB 750 and HB 730. 3 hours (Geiger)

**HB 770. Doctoral Studies Seminar.**- The broad intent of the course is to review current issues relevant to the field of Health Promotion/Health Education, critically examine the relationship between scholarship, research, ethics and funding, and reflect and discuss theoretical aspects of Health Promotion/Health Education. Course will be graded by letter. Prerequisites: HB 750, HB 730 and HB 760. 3 hours. (Usdan)

**HB 780. Health Promotion and Aging Seminar.**-Problems of aging and public health solutions for older Americans examined. Sub-areas of aging explore biological, social, behavioral, and economic aspects of aging. Community-based research/intervention project required. Course will be graded by letter. 3 hours.

**HB 798. Doctoral Directed Research.**-Independent study with guidance of senior public health faculty. Course will be graded as Pass/No Pass. 1 - 9 hours

**HB 799. Dissertation Research.**-Research for dissertation under direction of dissertation committee. Course will be graded as Pass/No Pass. Prerequisite: Students must be admitted to candidacy in order to register for this class.1 - 9 hours.

**Department of Health Care Organization and Policy**

**Departmental Overview**
Department of Health Care Organization and Policy (MPH, MSPH, DrPH)

Research and instructional foci in this department include health economics, public health administration and planning, health policy, outcomes research and health services evaluation.

Peter M. Ginter, MBA, PhD, Professor and Chair

Faculty

Professors: Bronstein, Duncan, Ginter, Mennemeyer, Michael, Morrisey, Nelson; Associate Professors: Kilgore, Klapow, Kulczycki, Locher, Menachemi, Mulvihill, Pass, Rucks, Sen; Assistant Professors: Altarac, Becker, Gary, Wingate

Programs in the Department of Health Care Organization and Policy (HCOP) are designed to provide training and education at the master's level for those desiring a professional career in the analysis of health services policy options, outcomes research, maternal and child health policy or in the management of public health programs. The didactic programs of the department require that students master the major concepts of:

- health economics,
- public health management and planning,
- health policy,
- outcomes research,
- health services evaluation, and
- policy and leadership in maternal and child health

The instructional programs of the department address the need for:

- Administrators with training in management, law, public health policy, health economics, epidemiology, and biostatistics;
- Individuals with specific training in health policy analysis;
- Individuals capable of assessing treatment protocols and outcomes;
- Professionals with training in both law and public health;
- Individuals pursuing other professional degrees desiring an emphasis in health care; and
- Enhanced skills of established health workers, clinicians, or other professionals through didactic training in Public Health and Health Care Organization.

The department offers Master of Public Health (MPH) degree options in health care organization, health policy, general theory and practice, maternal and child health policy, and in public health preparedness and management. Also offered are a coordinated Master of Public Health/Juris Doctorate program, a coordinated Master of Public Health/Master of Business Administration program, a coordinated Master of Public Health/Doctor of Optometry program, a coordinated Master of Public Health/Master of Nursing program, a coordinated Master of Public Health/Master of Social Work program, a coordinated Master of Public Health/Master of Public Administration program. The department offers the Master of Science in Public Health (MSPH) option in outcomes research and a coordinated MSPH/PhD degree program with the Department of Psychology. A Doctor of Public Health (DrPH) degree is offered in public health management and maternal and child health policy.

Career Opportunities
Rapid changes taking place in both the private and public sectors of health care and related industries have created a need for a broad spectrum of qualified professionals to manage complex institutions, organizations, and public health services delivery programs. Additionally, these changes have created an increased demand for professionals with expertise in policy analysis, outcomes research, strategic planning, and health economics. Depending on their educational background, experience, and interests, graduates of our programs typically find positions at all levels of federal, state, and local public health agencies, industry, consulting firms, traditional and non-traditional health services delivery organizations, managed care organizations, voluntary organizations, federal and state legislative offices, research organizations, or law firms.

Degree Programs: Department of Health Care Organization and Policy

MPH in Health Care Organization (HCOP)

Master of Public Health (in Health Care Organization)

The MPH in health care organization is designed to train individuals for management positions in public health and other health care organizations. Students are introduced to the public health system and the fundamental skills necessary for managing health care organizations. Required coursework includes basic management disciplines and selected content in economics, finance, marketing, law and insurance.

Health Care Organization Learning Objectives

- describe the economic, legal, organization, and political underpinnings of the US health system;
- apply principles of management, finance, marketing, accounting and strategic planning in health care organizations; and
- apply basic planning and management skills necessary for successful administration of health care organizations.

Admission: Applicants to the Master of Public Health in Health Care Organization must meet the general admission requirements for the Master of Public Health degree program. Applicants with a previously earned doctoral degree may be waived from the requirement to submit a GRE score. Students may apply for admission to this program at any time and once admitted may begin taking classes the next semester.

Curriculum: Students in this track take 48 credit hours. The work can generally be completed in two years or less.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPH Core (including the Integrative Experience)</td>
<td>17 Hours</td>
</tr>
<tr>
<td>BST 600 Biostatistics for Public Health</td>
<td>4</td>
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<tr>
<td>ENH 600 Fundamentals of Environmental Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
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</tr>
<tr>
<td>EPI 600</td>
<td>Introduction to Epidemiology</td>
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<td>HB 600</td>
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<tr>
<td>HCO 600</td>
<td>Introduction to Public Health Systems and Population-Based Health Programs</td>
</tr>
<tr>
<td>PUH 695</td>
<td>The Public Health Integrative Experience</td>
</tr>
</tbody>
</table>

**SOPH Requirements**

- EPI 623  Introduction to SAS Software  1
- GRD 727  Writing Reviewing Research  3

**Health Care Organization Track**

- HCO 601  Health Economics  3
- HCO 612  Strategic Management in Health Programs  3
- HCO 613  Health Information in Technology and Policy  3
- HCO 615  Finance for Health Professionals  3
- HCO 620  Health Insurance and Managed Care  3
- HCO 618  Management Concepts in Public Health  3
- HCO 670  Social and Ethical Issues in Public Health  3
- HCO 686  Integrative Health Policy Analysis  3

**Internship**

- HCO 697  Internship  3

**Total** 48

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**Online MPH HCO Degree Program for Public Health and Health Care Professionals**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tr>
<td><strong>Fall First Year:</strong></td>
<td></td>
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<tr>
<td>HCO 600</td>
<td>Intro to Public Health Systems &amp; Pop. Based Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>BST 600</td>
<td>BST for Public Health</td>
<td>4</td>
</tr>
<tr>
<td><strong>Spring First Year:</strong></td>
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<tr>
<td>ENH 600</td>
<td>Fundamentals of Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>HB 600</td>
<td>Social &amp; Behavioral Sciences Core</td>
<td>3</td>
</tr>
<tr>
<td><strong>Summer First Year:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCO 612</td>
<td>Strategic Management</td>
<td>3</td>
</tr>
<tr>
<td>HCO 686</td>
<td>Integrative Health Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td><strong>Fall Second Year:</strong></td>
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<td></td>
</tr>
<tr>
<td>EPI 600</td>
<td>Introduction to Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HCO 601</td>
<td>Health Economics</td>
<td>3</td>
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<tr>
<td><strong>Spring Second Year:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCO 613</td>
<td>Health Information in Technology &amp; Policy</td>
<td>3</td>
</tr>
</tbody>
</table>
MPH in General Theory and Practice (GTP)

Master of Public Health (in General Theory and Practice)

This program is available to students who prefer a generalist background rather than a more specialized track with additional course requirements. The instructional program is formulated by students and their advisors to meet the specific needs of practicing professionals and to provide a broad, interdisciplinary review of public health theory and practice.

General Theory and Practice Learning Objectives

- describe the economic, legal, organization, and political underpinnings of the US health system;
- analyze clinical issues in health care from a public health perspective; and
- describe public health principles and programs.

Admission: Students must meet the general admission requirements for the Master of Public Health degree program. Only persons with doctoral level professional degrees and/or five years or more of senior level experience in public health or a closely allied field may apply to this program. Students who have been admitted to medical school also may apply to this program. Applicants with a previously earned doctoral credential may, upon request, be waived from the requirements to submit a GRE score.

Curriculum: In addition to the MPH core which includes the Integrative Experience, students in this program are required to take public health law and public health policy courses, and participate in an Internship. Other electives are chosen to total a minimum of 45 hours. This track can usually be completed within one year.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPH Core (including the Integrative Experience)</td>
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</tr>
<tr>
<td>BST 600</td>
<td>Biostatistics for Public Health</td>
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<tr>
<td>ENH 600</td>
<td>Fundamentals of Environmental Health Sciences</td>
</tr>
<tr>
<td>Course</td>
<td>Title</td>
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</tr>
<tr>
<td>EPI 600</td>
<td>Introductory to Epidemiology</td>
</tr>
<tr>
<td>HB 600</td>
<td>Social and Behavioral Science Core</td>
</tr>
<tr>
<td>HCO 600</td>
<td>Introduction to Public Health Systems and Population-Based Health Programs</td>
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<td>PUH 695</td>
<td>The Public Health Integrative Experience</td>
</tr>
</tbody>
</table>

**SOPH Health Requirements**  
4 Hours  
EPI 623  Introduction to SAS Software  1  
GRD 727  Writing Reviewing Research  3

**General Theory and Practice Track**  
9 Hours  
HCO 601  Health Economics  3  
HCO 603  Public Health Policy  3  
HCO 686  Integrative Health Policy Analysis  3  

**Internship**  
3 Hours  
HCO 697  Internship  3

**Electives**  
12 Hours

Total Hours 45

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**MPH in Health Policy (HPOL)**

**Master of Public Health (in Health Policy)**

The MPH in health policy is designed to train policy analysts at the master's level to work in government agencies, voluntary health organizations, local, state, and federal legislative bodies, managed care organizations, private industry, and consulting firms.

The MPH in health policy is offered in two variations:
- The health policy variation, which is designed for individuals who hope to work for providers or trade organization that require familiarity with policy issues.
- The quantitative variation, which required courses that emphasize skills appropriate to an active mid-level research career.

**Health Policy Learning Objectives**

- Understanding of the unique economic features of health markets
- Skill in applying empirical methods of health research

**Admission:** The track is open to students with a bachelor's degree and strong mathematics preparation. An undergraduate grade point average of a 3.0 on a 4.0 scale and a minimum combined score of 1080 on the verbal and quantitative portions of the Graduate Record Examination General Test (GRE) are desirable for admission consideration.
**Curriculum:**

*Policy Analysis* – 51 total credit hours required.
*Quantitative Policy Analysis* – 50 total credit hours required.

### MPH in Health Policy – Policy Analysis

<table>
<thead>
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<th>Coursework</th>
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<tr>
<td>HB 600 Social and Behavioral Sciences Core</td>
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<tr>
<td>HCO 600 Introduction to Public Health Systems and Population-Based Health Programs</td>
<td>3</td>
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<tr>
<td>PUH 695 The Public Health Integrative Experience</td>
<td>1</td>
</tr>
<tr>
<td><strong>SOPH Health Requirements</strong></td>
<td>4 Hours</td>
</tr>
<tr>
<td>EPI 623 Introduction to SAS Software</td>
<td>1</td>
</tr>
<tr>
<td>GRD 727 Writing Reviewing Research</td>
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</table>

**Policy Analysis Required Courses** 21 Hours

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>BST 619 Data Collection and Management</td>
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<tr>
<td>HCO 601 Health Economics</td>
<td>3</td>
</tr>
<tr>
<td>HCO 603 Public Health Policy</td>
<td>3</td>
</tr>
<tr>
<td>HCO 620 Health Insurance and Managed Care</td>
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</tr>
<tr>
<td>HCO 670 Social and Ethical Issues in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>HCO 686 Integrative Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td>HCO 691 Modeling and Simulation</td>
<td>3</td>
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</table>

**Electives** 6 Hours

**Internship** 3 Hours

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCO 697 Internship</td>
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</tr>
</tbody>
</table>

*Total Hours 51*

### MPH in Health Policy – Quantitative Policy Analysis

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td><strong>MPH Core</strong></td>
<td>19 Hours</td>
</tr>
<tr>
<td>BST 611 Intermediate Statistical Analysis I</td>
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<tr>
<td>BST 612</td>
<td>Intermediate Statistical Analysis II</td>
</tr>
<tr>
<td>ENH 600</td>
<td>Fundamentals of Environmental Health</td>
</tr>
<tr>
<td>EPI 600</td>
<td>Introduction to Epidemiology</td>
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<tr>
<td>HB 600</td>
<td>Social and Behavioral Sciences Core</td>
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<td>HCO 600</td>
<td>Introduction to Public Health Systems and Population-Based Health Programs</td>
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<td>PUH 695</td>
<td>The Public Health Integrative Experience</td>
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<tr>
<td></td>
<td><strong>SOPH Health Requirements</strong></td>
</tr>
<tr>
<td>EPI 623</td>
<td>Introduction to SAS Software</td>
</tr>
<tr>
<td>GRD 727</td>
<td>Writing Reviewing Research</td>
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<td><strong>Quantitative Policy Analysis Required Courses</strong></td>
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<tr>
<td>BST 619</td>
<td>Data Collection and Management</td>
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<tr>
<td>HCO 601</td>
<td>Health Economics</td>
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<td>HCO 603</td>
<td>Public Health Policy</td>
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<tr>
<td>HCO 686</td>
<td>Integrative Policy Analysis</td>
</tr>
<tr>
<td>HCO 687</td>
<td>Empirical Methods for Health Research</td>
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<tr>
<td>HCO 691</td>
<td>Modeling and Simulation</td>
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<td></td>
<td><strong>Electives</strong></td>
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<tr>
<td></td>
<td><strong>Internship</strong></td>
</tr>
<tr>
<td>HCO 697</td>
<td>Internship</td>
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<td><strong>Total Hours</strong></td>
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</tbody>
</table>

**MPH in Public Health Preparedness Management and Policy (PHPM)**

**Master of Public Health (in Public Health Preparedness Management and Policy)**

This specialized degree covers all hazards preparedness topics including, event typologies, response organization, leadership and management, hazard and risk assessment policy development and evaluation and risk communication.

**Public Health Preparedness Management and Policy Learning Objectives**

- Describe the economic, legal, organization, and political underpinnings of the US health system with regard to preparedness;
- Apply principles of management, finance, accounting and strategic planning in health care organizations with regard to preparedness; and
- Apply basic planning and management skills as well as risk assessment policy development.
and evaluation and risk communication necessary with regard to preparedness

**Admission:** Applicants must meet the general admission requirements for the Master of Public Health degree program. Applicants with a previously earned doctoral degree may be waived from the requirement to submit a GRE score. Students may apply for admission to this program at any time and once admitted may begin taking classes the next semester.

**Curriculum:** Students in this track take 54 credit hours. The work can generally be completed in two years. All of the required courses for this program are offered on weeknights.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>MPH Core (including the Integrative Experience)</strong></td>
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<tr>
<td>BST 600 Biostatistics for Public Health</td>
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</tr>
<tr>
<td>EPI 600 Introduction to Epidemiology</td>
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<tr>
<td>HB 600 Social and Behavioral Science Core</td>
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<tr>
<td>HCO 600 Introduction to Public Health Systems and Population-Based Health</td>
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</tr>
<tr>
<td>PUH 695 The Public Health Integrative Experience</td>
<td>1</td>
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<tr>
<td><strong>SOPH Health Requirements</strong></td>
<td>4 Hours</td>
</tr>
<tr>
<td>EPI 623 Introduction to SAS Software</td>
<td>1</td>
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<tr>
<td>GRD 727 Writing Reviewing Research</td>
<td>3</td>
</tr>
<tr>
<td><strong>MPH Requirements</strong></td>
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<tr>
<td>HCO 613 Health Information Technology &amp; Policy*</td>
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<tr>
<td>HCO 640 Disaster and Emergency Management</td>
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<tr>
<td>HCO 641 Health Preparedness and Response Policy</td>
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<tr>
<td>HCO 643 Communication Issues in Disaster Preparedness</td>
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<tr>
<td>HCO 644 Community Preparedness Needs Assessment and Evaluation</td>
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<tr>
<td>HCO 670 Social and Ethical Issues in Public Health</td>
<td>3</td>
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<tr>
<td>HCO 686 Integrative Health Policy Analysis</td>
<td>3</td>
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<tr>
<td>ENH 610 Environmental Disasters</td>
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<tr>
<td>EPI 605 Epidemiology of Infectious Diseases</td>
<td>3</td>
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<td><strong>One of the following:</strong></td>
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<tr>
<td>CLS 690 Biological and Chemical Weapons: Detectors/Response</td>
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<tr>
<td>HCO 642 Prevention and Response to Agro-terrorism Events</td>
<td>3</td>
</tr>
<tr>
<td>ENH 770 Advanced Topics in Environmental Disasters and Public Health</td>
<td>3</td>
</tr>
<tr>
<td><strong>Internship</strong></td>
<td>3 Hours</td>
</tr>
<tr>
<td>HCO 697 Internship</td>
<td>3</td>
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</table>
* May substitute HCO 601 Health Economics in Spring or Fall semesters.

MPH in Maternal and Child Health Policy and Leadership (MCPL)

The MPH programs in the maternal and child health concentration are designed to educate individuals who will plan, administer, and evaluate programs in maternal and child health. The programs provide information about the special problems faced by women and children, including children with special health care needs, and their families. The programs develop and integrate skills from maternal and child health, health policy and leadership and demonstrate their application in problem solving and systems development.

<table>
<thead>
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<tr>
<td>EPI 600 Introduction to Epidemiology</td>
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<tr>
<td>HB 600 Social and Behavioral Science Core</td>
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<tr>
<td>HCO 600 Introduction to Public Health Systems and Population-Based Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>PUH 695 The Public Health Integrative Experience</td>
<td>1</td>
</tr>
</tbody>
</table>

| SOPH Health Requirements                                                  | 4 Hours      |
| EPI 623 Introduction to SAS Software                                      | 1            |
| GRD 727 Writing Reviewing Research                                       | 3            |

| Health Care Organization (HCO) Competencies                              | 17 Hours     |
| HCO 601/701 Health Economics                                             | 3            |
| HCO 605 Fundamentals of MCH I: Issues, Programs & Policies               | 4            |
| HCO 606 Fundamentals of MCH II: Research Methods, Needs Assessment and Program Planning | 4            |
| HCO 618 Management Concepts in Public Health                             | 3            |
| HCO 625 Advanced Leadership in MCH Part I: Introduction to Leadership    | 1            |
| Advanced Leadership in MCH Part II: Collaborative Leadership             |              |
HCO 626 and Advocacy 1
HCO 627 Advanced Leadership in MCH Part II: Into the Streets:
Leadership Field Experience* 1

**Departmental Electives** 6-15 Hours
HCO 603 Health Policy 3
HCO 608/708 Reproductive Health in Developing Countries 3
HCO 611/711 Child Health and Development 3
HCO 613 Health Information Technology and Policy 3
HCO 615 Public Health Finance 3
HCO 617 International Children's Rights and Social Justice: Global Perspective 3
HCO 620 Health Insurance 3
HCO 631 Public Health Demography 3
HCO 670 Social and Ethical Issues in Public Health 3
HCO 673/773 Applied Global Child Health Policy 3
HCO 686 Integrative Policy Analysis 3
HCO 692 Advanced Topics in Health Disparities 3

**Internship** 3 Hours
HCO 697 Internship 3

Total 47-56** Hours

* web-based course

**Students with limited public health experience may be required to take up to 9 additional elective hours which will be determined by their academic advisor

**MSPH in Outcomes Research (OR)**

**Master of Science in Public Health (in Outcomes Research)**

The health care field is placing increasing emphasis on the identification and measurement of clinical decision making and cost/utility analysis. Continuing pressure for the development and measurement of both efficient and effective protocols and health care policies is the driving force underlying this emphasis. Increasingly, employers are seeking qualified analysts to study treatment effectiveness. Graduates of this track will work in clinical settings, government agencies, managed care organizations, insurance companies, health associations, pharmaceutical firms, and consulting firms analyzing cost effectiveness, utilization and treatment effectiveness.

**Outcomes Research Learning Objectives**

- understanding the problems of measurement and decision making in health care
- skill in applying methods of decision making, cost effectiveness analysis, modeling and simulation
**Admission:** The track is open to students with a bachelor's degree and strong mathematics preparation. An undergraduate grade point average of a 3.0 on a 4.0 scale and a minimum combined score of 1080 on the verbal and quantitative portions of the Graduate Record Examination General Test (GRE) is desirable for admission consideration.

**Curriculum:** Students are required to take a total of 44 credit hours which include nine credit hours of project research.

<table>
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<tbody>
<tr>
<td><strong>MSPH Core Requirements</strong></td>
<td>9 Hours</td>
</tr>
<tr>
<td>BST 611 Intermediate Statistical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>BST 612 Intermediate Statistical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>EPI 610 Principles of Epidemiologic Research/Lab</td>
<td>4</td>
</tr>
<tr>
<td><strong>SOPH Health Requirements</strong></td>
<td>1 Hour</td>
</tr>
<tr>
<td>EPI 623 Introduction to SAS Software</td>
<td>1</td>
</tr>
<tr>
<td><strong>Outcomes Research Required Courses</strong></td>
<td>21 Hours</td>
</tr>
<tr>
<td>HCO 601 Health Economics</td>
<td>3</td>
</tr>
<tr>
<td>HCO 670 Social and Ethical Issues in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>HCO 677 Patient-Based Outcomes Measurement</td>
<td>3</td>
</tr>
<tr>
<td>HCO 687 Empirical Methods for Health Research</td>
<td>3</td>
</tr>
<tr>
<td>HCO 693 Modeling and Simulation</td>
<td>3</td>
</tr>
<tr>
<td>HCO 621/721 Clinical Decision Making and Cost-Effectiveness Analysis</td>
<td>3</td>
</tr>
<tr>
<td>HCO 622/722 Cost-Effectiveness Research Methods</td>
<td>3</td>
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<tr>
<td><strong>Elective</strong> **</td>
<td>3 Hours</td>
</tr>
<tr>
<td>BST 613 Intermediate Statistical Analysis III</td>
<td>3</td>
</tr>
<tr>
<td>BST 625 Design and Conduct of Clinical Trials</td>
<td>3</td>
</tr>
<tr>
<td>HB 714 Survey Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>HCO 675 Improving Quality &amp; Outcomes</td>
<td>3</td>
</tr>
<tr>
<td>HCO 680 Aging Policy</td>
<td>3</td>
</tr>
<tr>
<td>HCO 694 Special Problems in Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td><strong>Research</strong></td>
<td>9 Hours</td>
</tr>
<tr>
<td>HCO 699 Master's Project Research</td>
<td>9</td>
</tr>
</tbody>
</table>

**Total 44 Hours**

**Selected by faculty advisor and student to complete total hours required for degree.**

**Coordinated MPH-JD in Public Health and**
Juris Doctorate (PHJD)

Coordinated Master of Public Health/Juris Doctorate Program

The department offers a coordinated Master of Public Health and Juris doctorate degree program in cooperation with the Cumberland School of Law at Samford University, also located in Birmingham. The purpose of the program is to offer future attorneys exposure to the broad areas of public health.

Coordinated MPH/JD Learning Objectives

- describe the economic, legal, organizational, and political underpinnings of the US health system;
- acquire a health care field concentration for individuals seeking a J.D. degree.

Admission: Students enrolled in this program must be enrolled at the Cumberland School of Law. In order to be admitted to the coordinated programs, a student must have a GPA of 2.5 at the end of the first year of law school. A minimum law school GPA of 2.5 each semester and a minimum 3.0 GPA each term in public health are required for students to continue in the coordinated program. Interested students should contact the Office of Student and Academic Services at the School of Public Health for MPH application materials and Cumberland Law School for J.D. application materials.

Curriculum: The J.D. degree requires 90 semester hours of coursework, and the MPH degree requires 47 semester hours. In the coordinated program, 12 hours of public health courses will be credited toward the J.D. degree, and 14 hours of law courses will be credited toward the MPH degree. A minimum of 32 credit hours must be taken in the School of Public Health.

This is a coordinated dual degree track, and, as such, graduation from one program is contingent on completion of all requirements for graduation from the other program.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPH Core (including the Integrative Experience)</td>
<td>17 Hours</td>
</tr>
<tr>
<td>BST 600</td>
<td>Biostatistics for Public Health</td>
</tr>
<tr>
<td>ENH 600</td>
<td>Fundamentals of Environmental Health Sciences</td>
</tr>
<tr>
<td>EPI 600</td>
<td>Introduction to Epidemiology</td>
</tr>
<tr>
<td>HB 600</td>
<td>Social and Behavioral Science Core</td>
</tr>
<tr>
<td>HCO 600</td>
<td>Introduction to Public Health Systems and Population-Based Health Programs</td>
</tr>
<tr>
<td>PUH 695</td>
<td>The Public Health Integrative Experience</td>
</tr>
<tr>
<td>SOPH Health Requirements</td>
<td>4 Hours</td>
</tr>
<tr>
<td>EPI 623</td>
<td>Introduction to SAS Software</td>
</tr>
<tr>
<td>GRD 727</td>
<td>Writing Reviewing Research</td>
</tr>
<tr>
<td>Coordinated Juris Doctor Track</td>
<td>9 Hours</td>
</tr>
<tr>
<td>HCO 601</td>
<td>Health Economics</td>
</tr>
</tbody>
</table>
HCO 603  Public Health Policy  3
Elective  3

Internship  3 Hours
HCO 697  Internship  3

Transfer of Credit from the following law school courses*  14 Hours
Law 502 - Torts  4
Law 506 - Contracts I  3
Law 507 - Contracts II  3
Law 526 - Business Organizations  4

Total 47 Hours

* The courses must have at least a grade of "B" to be eligible for transfer.

Coordinated MPH-MBA in Public Health and Business Administration (PHBA)

Coordinated Master of Public Health/Master of Business Administration Program

This program's purpose is to provide students without relevant advanced degrees and/or without previous public health experience with those skills necessary for advanced positions in health management. Also, students with experience and/or a relevant advanced degree who wish to pursue a health management credential with broad applicability should seriously consider this coordinated program.

Coordinated MPH/MBA Learning Objectives

- describe the economic, legal, organizational, and political underpinnings of the US health system;
- apply the principles of management and strategic planning in health care organizations;
- apply skills necessary for advanced positions in health management;
- demonstrate leadership skills necessary for managing a health care organization;
- apply finance, accounting, marketing, planning and management skills necessary for successful administration of health care organizations; and
- acquire a health care field concentration for individuals seeking a Master of Business Administration degree.

Admission: Students admitted to this program will have at least a bachelor's degree. Students are admitted separately to the MPH and MBA programs. The School of Business should be contacted for MBA application materials and the School of Public Health should be contacted for MPH application materials. The GRE will be accepted in lieu GMAT. An undergraduate calculus
course is also required for admission. If an applicant does not meet this requirement additional information can be found at MBA Admission website [http://www.uab.edu/business.degrees-certificates/mba/mba-admission](http://www.uab.edu/business.degrees-certificates/mba/mba-admission).

**Curriculum:** Students in this track complete the MPH core (17 credit hours) which includes an Integrative Experience, as well as 4 credit hours of SOPH requirements and 15 credit hours of additional HCO courses, including a 3 credit hour Internship and 36-39 credit hours of MBA courses, for a total of at least 75 credit hours. The work can be completed in two to three academic years.

This is a coordinated dual degree track, and, as such, graduation from one program is contingent on completion of all requirements for graduation from the other program.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MPH Core (including the Integrative Experience)</strong> 17 Hours</td>
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</tr>
<tr>
<td>BST 600 Biostatistics for Public Health</td>
<td>4</td>
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<tr>
<td>ENH 600 Fundamentals of Environmental Health Sciences</td>
<td>3</td>
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<tr>
<td>EPI 600 Introduction to Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HB 600 Social and Behavioral Science Core</td>
<td>3</td>
</tr>
<tr>
<td>HCO 600 Introduction to Public Health Systems and Population-Based Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>PUH 695 The Public Health Integrative Experience</td>
<td>1</td>
</tr>
<tr>
<td><strong>SOPH Health Requirements</strong> 4 Hours</td>
<td></td>
</tr>
<tr>
<td>EPI 623 Introduction to SAS Software</td>
<td>1</td>
</tr>
<tr>
<td>GRD 727 Writing Reviewing Research</td>
<td>3</td>
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<tr>
<td><strong>MPH Courses and Electives</strong> 15 Hours</td>
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<tr>
<td>HCO 601 Health Economics</td>
<td>3</td>
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<tr>
<td>HCO 603 Public Health Policy</td>
<td>3</td>
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<tr>
<td>HCO 612 Strategic Management in Health Programs (HCO 613)</td>
<td>3</td>
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<tr>
<td>HCO 620 Health Insurance and Managed Care</td>
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<tr>
<td>MPH Electives</td>
<td>3</td>
</tr>
<tr>
<td><strong>Internship</strong> 3 Hours</td>
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<tr>
<td>HCO 697 Internship</td>
<td>3</td>
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<td><strong>Total MPH Hours</strong> 39</td>
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</table>

**MBA Courses** 33-36 Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBA 609 * Financial Accounting for Managers</td>
<td>3</td>
</tr>
<tr>
<td>MBA 610 Financial Analysis and Reporting for Management</td>
<td>3</td>
</tr>
</tbody>
</table>
MBA 611  Management Information Systems  3
MBA 620  Corporate Finance  3
MBA 630  Social, Ethical, and Legal Environment  3
MBA 632  Managerial Processes & Organizational Behavior  3
MBA 633  Production and Operations Management  3
MBA 634  Business Strategy  3
MBA 641  Macroeconomic Analysis & Decision Making  3
MBA 650  Modern Marketing Concepts  3
MBA 651  Seminar in Marketing Policy  3
MBA 661  Decision Science or Quantitative Methods II  3

One of the following:  3 Hours
MBA 624  Global Financial Management  3
MBA 635  International Business Policy  3
MBA 654  International Marketing  3

Total MBA Hours 36-39
Total Degree Hours 75-78

* MBA 609 may be waived if six or more credit hours of financial accounting was taken as an undergraduate and received a grade of B or better.

Coordinated MPH-OD in Public Health and Optometry (PHOD)

Coordinated Master of Public Health/Doctor of Optometry Program

Vision disorders and eye diseases are major public health problems, both nationally and internationally. Optometrists with training and experience in public health are needed to assess community needs for vision care services, to determine which factors contribute to treatment and prevention of visual system anomalies, to develop and apply quality assurance systems, to participate and provide leadership in health-related agencies, and to foster public awareness of the need for vision care. An individual qualified both in optometry and public health is expected to have the capability to develop, administer, and evaluate eye and vision health programs in research projects; design and conduct epidemiological field studies; use statistical methods in data analysis of case-control and cohort studies; develop and implement vision health education programs; and develop occupational health and eye safety programs.

Coordinated MPH/OD Learning Objectives
• Describe the economic, legal organizational and political underpinnings of the US health system;
• Acquire a public health field concentration for individuals seeking a doctor of optometry degree; and
• Apply population-based sciences and methods of public health as they relate to vision and vision disorders.

Admission: Applicants to the concurrent MPH/OD program must meet the following requirements: enrollment and good standing in the School of Optometry, interview by MPH/OD committee in the School of Optometry, approval and recommendation by the dean of the School of Optometry, and apply and be accepted for admission to the School of Public Health.

Curriculum: Students in the concurrent MPH/OD program are expected to complete the curriculum of the optometry professional program, and a total of 45 credit hours in the MPH program. Work in the public health program can be completed over a four-year period, including summers. Students may begin their MPH program in the summer prior to their entering the Optometry professional program.

This is a coordinated, dual degree track, and, as such, graduation from one program is contingent upon completion of all requirements for graduation from the other program.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MPH Core Requirements</strong></td>
<td><strong>17 Hours</strong></td>
</tr>
<tr>
<td>BST 600 Biostatistics for Public Health</td>
<td>4</td>
</tr>
<tr>
<td>ENH 600 Fundamentals of Environmental Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>EPI 600 Introduction to Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HB 600 Social and Behavioral Science Core</td>
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</tr>
<tr>
<td>HCO 600 Introduction to Public Health Systems and Population-Based Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>PUH 695 The Public Health Integrative Experience</td>
<td>1</td>
</tr>
<tr>
<td><strong>SOPH Health Requirements</strong></td>
<td><strong>4 Hours</strong></td>
</tr>
<tr>
<td>EPI 623 Introduction to SAS Software</td>
<td>1</td>
</tr>
<tr>
<td>GRD 727 Writing Reviewing Research</td>
<td>3</td>
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<tr>
<td><strong>Department Track Requirements</strong></td>
<td><strong>21 Hours</strong></td>
</tr>
<tr>
<td>HCO 601 Health Economics</td>
<td>3</td>
</tr>
<tr>
<td>HCO 603 Public Health Policy</td>
<td>3</td>
</tr>
<tr>
<td>HCO 686 Integrative Health Policy Analysis</td>
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<tr>
<td><strong>Internship</strong></td>
<td><strong>3 Hours</strong></td>
</tr>
<tr>
<td>HCO 697 Internship</td>
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</tbody>
</table>

Total 45 Hours
Coordinated MPH-MPA in Public Health and Public Administration (PHPA)

Coordinated Master of Public Health/Master of Public Administration Program

The MPH/MPA degree program provides students with the knowledge base of public health and the skills required to work effectively in a responsible, administrative position in the public sector. Through this coordinated degree program, students in the MPH program can satisfy some of their requirements through courses in the MPA program and vice versa.

Coordinated MPH/MPA Learning Objectives

- describe the economic, legal, organizational, and political underpinnings of the US health system (both tracks);
- apply skills required to work effectively in an administrative position in the government sector based on public health principles and programs (both tracks);
- apply the principles of management and strategic planning in health care organizations (management track);
- apply basic planning and management skills necessary for administration of health care organizations (management track);
- critically evaluate health policy research studies and resulting recommendations (policy track); and
- design and implement health policy studies and draw appropriate conclusions (policy track).

Admission: Students entering this program must meet the minimum requirements for admission into the School of Public health. The student must apply to and be admitted to both programs. The graduate School should be contacted for MPA application materials and the School of Public Health should be contacted for MPH application materials.

Curriculum: The MPH/MPA program requires the satisfactory completion of 56-60 credit hours. Students must complete both MPH and MPA core requirements. Students may choose either of two program options - health policy analysis or management. It is anticipated that a full-time student can complete the dual curriculum in two years. Part-time students may take up to five years to complete their studies. This is a coordinated dual degree track, and, as such, graduation from one program is contingent upon completion of all requirements for graduation from the other program.

Coursework

<table>
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<tr>
<th>MPH Core Requirements</th>
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<tbody>
<tr>
<td>HCO 600</td>
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<tr>
<td>BST 600</td>
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</tr>
<tr>
<td>MPA 607</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>Intro to Public Health Systems &amp; Pop. Based Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>Biostatistics for Public Health*</td>
<td>4</td>
</tr>
<tr>
<td>Statistical Analysis*</td>
<td>3</td>
</tr>
<tr>
<td>Course</td>
<td>Title</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>EPI 600</td>
<td>Introduction to Epidemiology</td>
</tr>
<tr>
<td>ENH 600</td>
<td>Introduction to Environmental Health Sciences</td>
</tr>
<tr>
<td>HB 600</td>
<td>Social &amp; Behavioral Sciences Core</td>
</tr>
<tr>
<td>PUH 695</td>
<td>Integrative Experience</td>
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</table>

**SOPH Health Requirements**

<table>
<thead>
<tr>
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<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>EPI 623</td>
<td>Introduction to SAS Software</td>
<td>1</td>
</tr>
<tr>
<td>GRD 727</td>
<td>Writing Reviewing Research or MPA 690 Community Health</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Mapping**</td>
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</table>

**MPA Core Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>MPA 601</td>
<td>The Public Policy Making Process</td>
<td>3</td>
</tr>
<tr>
<td>MPA 602</td>
<td>Administrative Theory and Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MPA 603</td>
<td>Public and Nonprofit Budgeting</td>
<td>3</td>
</tr>
<tr>
<td>MPA 604</td>
<td>Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>MPA 605</td>
<td>Information Technology in Government</td>
<td>3</td>
</tr>
<tr>
<td>MPA 606</td>
<td>Research Design</td>
<td>3</td>
</tr>
<tr>
<td>MPA 697</td>
<td>Capstone Project/Graduation Research</td>
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</table>

**Internship**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCO 697</td>
<td>Internship</td>
<td>3</td>
</tr>
<tr>
<td>MPA 693</td>
<td>Internship in Public Administration***</td>
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</table>

**Health Policy Analysis/Management Options**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCO 601</td>
<td>Economics</td>
<td>3</td>
</tr>
<tr>
<td>HCO 603</td>
<td>Public Health Policy</td>
<td>3</td>
</tr>
<tr>
<td>HCO 612</td>
<td>Strategic Management in Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>HCO 620</td>
<td>Health Insurance and Managed Care</td>
<td>3</td>
</tr>
<tr>
<td>HCO 640</td>
<td>Disaster and Emergency Management</td>
<td>3</td>
</tr>
<tr>
<td>HCO 641</td>
<td>Public Health Preparedness and Response Policy</td>
<td>3</td>
</tr>
<tr>
<td>HCO 643</td>
<td>Communication Issues in Disaster Preparedness</td>
<td>3</td>
</tr>
<tr>
<td>HCO 686</td>
<td>Integrative Health Policy Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Hours**: 56-60 Hours

* May use MPA 607 as course substitute; MPA 607 has a pre-requisite; MPA 606: Research Design. Can be waived with prior experience; if waived, student must complete an additional 3 hour graduate level elective.

**All MPH students are required to take the writing assessment; students who waive out will be advised to take MPA 690

*** If waived by the MPA program because of student's non-profit or public agency experience, an additional 3 credit MPH course must be taken, and the request for waiver of the MPH internship must be completed. If MPA 693 is not waived by the MPA program, students should discuss their choice of internship placement with their MPH advisor. The students must complete the School of Public Health Internship.
Agreement/Description form. This form documents the goals and objectives of the internship as it relates to public health content. It should also state that the internship should include a minimum of 240 hours of public health content. It should be signed and delivered to the Internship Coordinator in the Dean’s Office before the internship begins so that it can be recorded.

Coordinated MSPH-PhD in Public Health and Psychology (HCPY)

Coordinated Master of Science in Public Health /Doctor of Philosophy (Psychology)

The department offers coordinated Master of Science in Public Health and PhD degrees in cooperation with the Department of Psychology at the University of Alabama at Birmingham or at the University of Alabama (Tuscaloosa).

Coordinated MSPH/PhD (Psychology) Learning Objectives

- describe the economic, legal, organizational, and political underpinnings of the US health system;
- apply theoretical principles of health economics;
- apply analytic skills necessary to assess the outcomes of medical interventions and population-based public health programs;
- critically evaluate health policy research and outcomes research studies and resulting recommendations; and
- design and implement health policy and outcomes research studies and draw appropriate conclusions.

Admission: To be considered for this program, students must first be admitted to the PhD program in clinical psychology at UAB or in the PhD in psychology at the University of Alabama (Tuscaloosa) Students must meet the admission criteria for the School of Public Health and remain in good standing in their PhD program.

Curriculum: The MSPH degree requires a minimum of 43 hours. Students in this coordinated program will be waived from the biostatistics requirement upon documentation of successful completion of Advanced Statistics I and II in the PhD program. This is a coordinated dual degree track, and, as such, graduation from one program is contingent on completion of all requirements for graduation from the other program. Students may emphasize health policy issues or outcomes
research issues through six hours of approved electives. In addition, all students must complete a nine credit hour research project.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MSPH Core Requirements</strong></td>
<td>9 Hours</td>
</tr>
<tr>
<td>BST 611 Statistical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>BST 612 Statistical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>EPI 610 Principles of Epidemiologic Research/Lab</td>
<td>4</td>
</tr>
</tbody>
</table>

| **PhD Required Courses**                        | 21 Hours     |
| HCO 687 Empirical Methods for Health Research  | 3            |
| HCO 601 Health Economics                       | 3            |
| HCO 670 Social and Ethical Issues in Public Health | 3       |
| HCO 677 Patient-Based Outcomes Measurement     | 3            |
| HCO 693 Modeling and Simulation                | 3            |
| HCO 721 Clinical Decision Making and Cost-Effectiveness Analysis | 3 |
| HCO 722 Cost-Effectiveness Research Methods    | 3            |

| **Electives**                                   | 3 Hours      |
| BST 625 Design and Conduct of Clinical Trials   | 3            |
| BST 613 Intermediate Statistical Analysis III   | 3            |
| HB 714 Survey Research Methods                  | 3            |
| HCO 675 Improving Quality and Outcomes          | 3            |
| HCO 680 Aging Policy                            | 3            |
| HCO 694 Special Problems in Policy Analysis     | 3            |

| **Research**                                    | 9 Hours      |
| HCO 699 Master's Project Research               | 9            |

Total 43 Hours

* Other courses may be selected with written approval from advisor.

Students receiving a MSPH are required to complete a 12 1/2 hour WebCT course entitled "Overview of Public Health" by the end of their second semester. Students with prior public health education (coursework in each of the public health core disciplines) or experience (5 years in public health) may be waived from this requirement by permission of the Associate Dean.

**Coordinated MPH-MSN in Maternal and Child Health Policy**

**Coordinated Master of Public Health (in Maternal and Child Health) Master of Science in Nursing**

The coordinated MPH/MSN degree is designed to address the dynamic health care needs of
women and children. This program prepares nurse practitioners to participate in the development, implementation, and evaluation of innovative maternal and child health (MCH) programs and policies. This dual degree builds on the synergy generated through two complementary curriculum tracks. In this educational experience, advanced clinical skill is combined with expertise in program planning and evaluation.

**Admissions:** Students are admitted separately to the MPH and MSN degree programs and must meet admission requirements in both the School of Public Health and the School of Nursing at UAB.

**MPH/MSN Learning Objectives**

- describe the health problems faced by children and their families within the context of public health;
- apply current policies and programs directed at children and their families and describe how they are developed
- demonstrate skill in providing clinical services to children and their families;
- plan, implement, and administer MCH programs;
- demonstrate skill in the provision of primary care that includes health promotion and prevention of specific disorders and injury;
- demonstrate early identification and treatment or referral for treatment of health problems; and
- manage chronic conditions to avoid complications and promote optimal physical, psychological, and social functioning.

**Curriculum:** The coordinated MPH/MSN degree can be completed in two years of full-time study. Students may select a focus in the nursing curriculum in either of three tracks: Nursing and Health Systems Administration, or Nurse Practitioner or Clinical Nurse Specialist, or Quality and Outcomes Management in Health Systems. At the completion of the coordinated degree, nurse practitioner graduates are eligible to take the certification examination for pediatric nurse practitioner, family nurse practitioner, or women's health nurse practitioner, depending on the specialty course of study.

**MCH Policy & Leadership Concentration- MPH/MSN Dual Degree Program**

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td><strong>MPH Core</strong></td>
<td>17 Hours</td>
</tr>
<tr>
<td>BST 600 Biostatistics for Public Health</td>
<td>4</td>
</tr>
<tr>
<td>ENH 600 Fundamentals of Environmental Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>EPI 600 Introduction to Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HB 600 Social and Behavioral Science Core</td>
<td>3</td>
</tr>
<tr>
<td>HCO 600 Introduction to Public Health Systems and Population-Based Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>PUH 695 The Public Health Integrative Experience</td>
<td>1</td>
</tr>
<tr>
<td><strong>SOPH Health Requirements</strong></td>
<td>4 Hours</td>
</tr>
<tr>
<td>EPI 623 Introduction to SAS Software</td>
<td>1</td>
</tr>
<tr>
<td>GRD 727 Writing Reviewing Research</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
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<tr>
<td>HCO 601</td>
<td>Health Economics</td>
</tr>
<tr>
<td>HCO 605</td>
<td>Fundamentals of MCH I: Issues, Programs &amp; Policies</td>
</tr>
<tr>
<td>HCO 606</td>
<td>Fundamentals of MCH II: Basic Research Methods, Needs</td>
</tr>
<tr>
<td>HCO 618</td>
<td>Management Concepts in Public Health</td>
</tr>
<tr>
<td>HCO 625</td>
<td>Advanced Leadership in MCH Part I: Introduction to Leadership</td>
</tr>
<tr>
<td>HCO 626</td>
<td>Advanced Leadership MCH Part II: Collaborative Leadership and Advocacy</td>
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<tr>
<td>HCO 627</td>
<td>Advanced Leadership in MCH Part III: Into the Streets: Leadership Field Experience</td>
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>HCO 697</td>
<td>Internship</td>
<td>3</td>
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</tbody>
</table>

**Required Nursing Course for MPH degree**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 6020 *</td>
<td>Issues Affecting Advanced Nurse Practice</td>
<td>3</td>
</tr>
<tr>
<td>NUR 612Q **</td>
<td>Advanced Pathophysiology</td>
<td>3</td>
</tr>
</tbody>
</table>

**MPH Degree Total 47 Hours**

**MSN Degree Total Variable ***

* This course is required for all three nursing tracks in the dual degree program.
** This course is required only for the Nurse Practitioner or Clinical Nurse Specialist nursing tracks in the dual degree program.
*** See the School of Nursing Catalog for requirements for the MSN portion of the dual MPH/MSN program.

## Coordinated MPH-MSW in Maternal and Child Health Policy

### Coordinated Master of Public Health/Master of Social Work (with Maternal and Child Health Concentration)

The MPH/MSW degree program is coordinated between the School of Social Work at the University of Alabama (MSW) and the Department of Health Care Organization and Policy (HCOP). The coordinated program prepares social workers for interdisciplinary practice in public health programs concerned with the promotion and improvement of the health of diverse populations, including women, children, and families. Students who have been admitted to the MSW program in the School of Social Work and wish to pursue the coordinated degree option should contact the Department of Health Care Organization and Policy. Students will attend...
classes in Tuscaloosa and Birmingham.

**Admissions:** Students who choose the coordinated degree plan will be required to first secure admission to the University of Alabama (Tuscaloosa) School of Social Work (for the MSW) and, at the end of the first semester, to apply separately to the Department of Health Care Organization and Policy (for the MPH). Acceptance in the MSW program does not automatically insure acceptance into the MPH program and vice versa.

**MPH/MSW Learning Objectives**

- describe the health problems faced by children and their families within the context of public health;
- apply the tools of biostatistics and epidemiology to analyze problems faced by children and their families;
- apply current policies and programs directed at children and their families and describe how they are developed;
- plan, implement, and administer MCH programs;
- demonstrate a solid foundation in both social work and public health principles and skills necessary for individuals interested in leadership positions at the community, state and national levels.

**Curriculum:** The coordinated MPH/MSW degree can be completed in two academic years (including two summers) of full-time study. Students in the coordinated program will complete courses in the MCH Policy & Leadership Concentration program in Health Care Organization and Policy.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td><strong>MPH Core</strong></td>
<td>17 Hours</td>
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<tr>
<td>BST 600 Biostatistics for Public Health</td>
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<tr>
<td>ENH 600 Fundamentals of Environmental Health Sciences**</td>
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<tr>
<td>HB 600 Social and Behavioral Sciences Core**</td>
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</tr>
<tr>
<td>HCO 600 Systems and Population Bases Health Programs**</td>
<td>3</td>
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<tr>
<td>PUH 695 The Public Health Integrative Experience</td>
<td>1</td>
</tr>
<tr>
<td><strong>SOPH Health Requirements</strong></td>
<td>4 Hours</td>
</tr>
<tr>
<td>EPI 623 Introduction to SAS Software</td>
<td>1</td>
</tr>
<tr>
<td>GRD 727 Writing Reviewing Research</td>
<td>3</td>
</tr>
<tr>
<td><strong>Department Track Requirements</strong></td>
<td>17 Hours</td>
</tr>
<tr>
<td>HCO 601 Health Economics</td>
<td>3</td>
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<tr>
<td>HCO 605 Fundamentals of MCH I</td>
<td>4</td>
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</table>
Doctoral Program in Health Care Organization and Policy

Doctor of Public Health in Health Care Organization and Policy

The DrPH degree is the highest professional degree in public health. The DrPH Program in HCOP develops leaders and research faculty who have proficiency in data analysis, management, critical thinking, teaching, and translating research into policy and practice. Students will be exposed to complex practical problems facing public health practitioners and policy-makers. This program, housed within the Department of HCOP has three concentrations (1) Public Health Management, (2) Maternal and Child Health Policy, and (3) Outcomes Research.

Admission Requirements

- An MPH or equivalent degree in public health;
- Applicants with advanced non-public health degrees can be admitted directly into the DrPH program, but must successfully complete the MPH and concentration-specific prerequisite courses.
- Applicants with an MPH or equivalent degree not in their concentration will take the necessary concentration prerequisites only.
- Applicants with only a bachelor’s degree but with an exceptional academic record or rich professional experience will be considered. They must be admitted into the MPH program prior to applying to the DrPH program and complete the MPH program before being fully accepted into the DrPH program.
- Experience in public health. Preference to applicants with experience in public health leadership and administration; Applicants must submit GRE scores taken within five years. Both the score and the percentile on each of the verbal, quantitative, and analytical writing sections of the examination will be evaluated. A minimum of 1100 (550 on each of the verbal and quantitative sections) is expected.
- International applicants whose native language is not English or who did not complete a degree at an English-speaking institution must submit a TOEFL with TWE test score. The minimum acceptable score is: (Paper Based) 550, (Computer Based) 213 and (Internet-
Based) 79-80.
- Other aspects of an applicant's record, such as educational achievement, professional experience and clarity of career goals are helpful in determining admissibility.

DrPH Course Requirements

The DrPH program must be completed within seven years. Students who have not successfully completed their comprehensive examinations within five years will be subject to dismissal from the program. A minimum of 42 credit hours, exclusive of HCO courses 793; 796-799, are required to complete the degree. Students will complete at least 15 credit hours of analytical or methodological courses; at least 15 hours of concentration-core courses; and at least 12 hours of any 700-level electives (as approved by advisor). Students must also complete the doctoral seminars (HCO 796) comprehensive examination (HCO 797), practicum (HCO 793), dissertation proposal/protocol development (HCO 798), and dissertation research (HCO 799).

Curriculum:

Below is a general outline for each of the three concentrations available in the DrPH Program.

<table>
<thead>
<tr>
<th>Concentration:</th>
<th>Public Health Management</th>
<th>Maternal &amp; Child Health Policy</th>
<th>Outcomes Research</th>
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</thead>
<tbody>
<tr>
<td>MPH Prerequisites (if student has no MPH). These courses do not count toward degree hours</td>
<td>HCO 600 Introduction to Public Health Systems and Population-Based Health Programs</td>
<td>- EPI 600 (or equivalent) Introduction to Epidemiology</td>
<td>- HCO 601: Health Economics</td>
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<td>- ENH 600 Fundamentals of Environmental Health Sciences</td>
<td>- HCO 605: Fundamentals of MCH I</td>
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<td>- HB 600 Social and Behavioral Science Core</td>
<td>- HCO 606: Fundamentals of MCH II</td>
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<td>- BST 600/BST 601 Biostatistics for Public Health</td>
<td>- HCO 618: Management of Concepts in Public Health</td>
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<td>PUH 695 Integrative Experience (optional)</td>
<td>- HCO 620: Health Care</td>
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<tr>
<td>Concentration Prerequisites: (These courses do not count toward degree hours)</td>
<td>HCO 601: Health Economics</td>
<td>- HCO 605: Fundamentals of MCH I</td>
<td>- HCO 625: Advanced Leadership in MCH</td>
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<td></td>
<td>HCO 603: Public Health Policy</td>
<td>- HCO 606: Fundamentals of MCH II</td>
<td>- Part I</td>
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<td>HCO 720: Health Insurance and Managed Care</td>
<td>- HCO 620: Health Care</td>
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<td>HCO 686: Integrative Policy Analysis</td>
<td>- HCO 625: Advanced Leadership in MCH</td>
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<tr>
<td>Concentration Core</td>
<td>Part II</td>
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<td></td>
<td>HCO 715: Finance for Health Professionals</td>
<td>HCO 703: Public Health Policy</td>
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<td></td>
<td>HCO 718: Mgt of Concepts in Public Health Programs</td>
<td>HCO 708: Reproductive Health</td>
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<td></td>
<td>AH 701: Administrative Theory</td>
<td>HCO 711: Child Health and Development</td>
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<td>AH 706: Strategic Management &amp; Theory</td>
<td>HCO 713: Health IT policy &amp; Mgt</td>
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<td></td>
<td>HCO 713: Health Information Technology and Policy</td>
<td>HCO 772: Perinatal Health: issues, Data and Policies</td>
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<td></td>
<td></td>
<td>HCO 721: Clinical Decision-making &amp; Cost Effectiveness</td>
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<tr>
<td>Methods Core</td>
<td>BST 611: Intermediate Stats I (3)</td>
<td>HCO 722: Cost-Effectiveness Research</td>
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<td></td>
<td>BST 612: Intermediate Stats II (3)</td>
<td>HCO 777: Patient-Based Outcomes Measurement</td>
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<tr>
<td></td>
<td>BST 613: Intermediate Stats III (3)</td>
<td>HCO 791: Modeling &amp; Simulation Elective methods course of 700 as approved by advisor</td>
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<tr>
<td></td>
<td>HCO 787: Empirical Methods for Health Research (3)</td>
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<td></td>
<td>HCO 781: Research Methods and Study Design</td>
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<tr>
<td>Electives</td>
<td>Electives (12 credit hours required), at the 700-level, may be selected from the previously listed courses, from other School of Public Health courses, or from anywhere within the university with advisor approval.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctoral Seminar (credit hours do not count toward degree hours)</td>
<td>HCO 796: 1 credit hour in each Fall and Spring semester (first two years only)</td>
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<tr>
<td>Other</td>
<td>HCO 793: DrPH Practicum (6)</td>
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<td></td>
<td>HCO 797: Directed Readings for DrPH Comprehensive Exam in HCOP</td>
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<td></td>
<td>HCO 798: Dissertation Protocol Development in HCOP</td>
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<td></td>
<td>HCO 799: Dissertation Research</td>
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For more information please contact, Dr. Nir Menachemi, PhD, Director of the Doctoral Program or Brenda Campbell, Program Coordinator.

**Health Care Organization and Policy Courses (HCO)**

**HCO 600. Introduction to Public Health Systems and Population –Based Health Programs**- This course presents selected information, concepts, and methods from the field of public health. Topics concerning the structure, financing and current status of the US health care system, as well as the history, organization, financing, and services of the public health system are discussed. All topics are presented from a population-based perspective. 3 hours (Rucks, Wingate, Mennemeyer)

**HCO 601/701. Health Economics**- Economics as systematic way of thinking about use of resources. Tools of economics applied to issues of organization, delivery, financing, and outcome
of health care. Develops economic principles and describes system of health care financing and delivery in the United States, providing basis for analyzing health management and policy options. With didactic coursework provided in HCO 601, doctoral students prepare a major paper under instructor's direction. 3 hours (Sen, Becker, Mennemeyer)

HCO 603/703. Public Health Policy- Theoretical framework and concepts used to understand evolution of public health policies and processes of policy formulation, implementation, and change. Significance of health policy for public health practical foundation of knowledge and skills useful in analyzing and responding to policy environment. Doctoral students will have an emphasis on independent analysis of health policy issues. 3 hours (Becker)

HCO 605. Fundamentals of Maternal and Child Health (MCH) Part I: Issues, Programs & Policies- Provides students with knowledge about current MCH health, social, economic, and environmental issues; programs and policies for women of reproductive age, infants, and children. Required for the MPH degree in the Department of Health Care Organization and Policy's MCH Policy and Leadership concentration. 4 hours (Wingate)

HCO 606. Fundamentals of Maternal and Child Health (MCH) Part II: Research Methods, Needs Assessment and Program Planning- The focus of the first part of the course is on the development of knowledge and skills related to the review, assessment, and conduct of data-based research. The emphasis of the second part of the course is on applying these research skills to the public health planning process, including needs assessment, planning and evaluation. Required for the MPH in HCOP MCH Policy and Leadership concentration. Prerequisite HCO 605. 4 hours (Mulvihill)

HCO 608/708. Reproductive Health- Examines key areas of reproductive health including contraception and family planning, sexual health and sexually transmitted diseases, unwanted pregnancies, health pregnancy and safe motherhood, and adolescent reproductive health. Content addresses measurement, prevalence, determinants and consequences of reproductive health problems; issues of survey design, research methods, and analysis; and development, implementation, and evaluation of reproductive health policies and services to low-to middle-income. 3 hours (Kulczycki)

HCO 611/711. Child Health and Development: Womb to Young Adulthood- Focuses on the key developmental processes that influence health outcomes from the prenatal period through early childbearing years. Processes and outcomes are linked to MCH programs, policies, resources, and barriers relevant to these populations. 3 hours (Mulvihill)

HCO 612. Strategic Management in Health Programs- Provides a framework for strategic management in health care and public health organizations and provides opportunities to develop strategic plans for health care organization. Objectives are: to relate prior knowledge and experience to specific problem-solving situations; encourage strategic thinking in decision making in health care organizations; provide opportunities to engage in and manage a group decision-making process; gain experience in analyzing the public health environment and prepare a strategic plan for that environment; and develop implementation plans to accomplish strategic plans. 3 hours (Ginter)
HCO 613/713. Health Information Technology and Policy- The overall goal of the course is to familiarize students with current issues associated with health information technology (IT) and their impact on the U.S. healthcare system. Health IT applications (e.g., electronic health records, computerized physician order entry systems, decision support systems, health information exchanges, etc.) are playing an increasingly important role in the efficiency and effectiveness of healthcare delivery and management. 3 hours (Menachemi)

HCO 615/715. Finance for Health Professionals- Financial management of public health care organizations. Emphasis on time value on money, capital raising methods, cost of capital, capital budgeting methods and working capital policy. Problem-solving orientation with applications to public health issues. 3 hours (Rucks)

HCO 617. International Children’s Rights and Social Justice: Global Perspectives- Familiarizes students with public health and legal issues with regard to children. The course provides background on international law and international human rights law, and international treaties focused particularly on children, followed by the role of public health in achieving these rights and lessening the gap between theory and practice. Prerequisites: Only available to School of Public Health degree seeking students. 3 hours (Altarac)

HCO 618/718. Management Concepts in Public Health Programs- Organization structure, management, finance and budgeting, human resources, contracts, negotiation, and operations research in public health settings. Presentation of general principles combined with study of actual cases from practice. Prerequisite: Permission of Instructor 3 hours (Duncan)

HCO 619. Social Work in Public Health- Introduction and overview of the field of public health and the subspecialty of public health social work. Provides information about practical macro-level skills and increases the knowledge of students regarding the role and functions of advanced-trained social workers within major public health programs. 3 hours (Mulvihill)

HCO 620/720. Health Insurance and Managed Care- Insurance as mechanism for dealing with consequences of an uncertain world. Health insurance and its consequences as significant reasons health care markets differ from others. Workings of insurance markets and current policy issues. Demand for health insurance, underwriting, rate making, moral hazard and adverse selection, HMOs and PPOs, employer health benefits and self insurance, Medicare and Medicaid, long term care insurance and catastrophic coverage. Prerequisite: HCO 601 or equivalent. 3 hours (Morrisey)

HCO 621/721. Clinical Decision Making and Cost-Effectiveness Analysis- The objectives of this course are to acquaint public health and other professionals with techniques of decision making under conditions of uncertainty and the basics of cost-effectiveness analysis. Topics include decision analysis, Markov processes, Monte Carlo simulation, valuing diagnostic tests, and measuring the costs and outcomes of health service programs. Students who successfully complete the course will be able to understand the strengths and limitations of these types of analysis and determine the relevance of research findings to their on areas of expertise. Prerequisite: HCO 601,BST 611, BST 612, or Permission of instructor. 3 hours. (Kilgore)

HCO 622/722. Cost-Effectiveness Research Methods- The objective of this course is to familiarize students with the design and implementation of cost-effectiveness and cost-benefit
analysis. Specific topics include cost estimation, effectiveness measurement, time preference, uncertainty, ethical issues, valuing health outcomes, and ethical issues in cost-effectiveness research. At the end of the course students will develop and present analysis plans related to their particular fields of practice. Prerequisite: HCO 621 or Permission of instructor. 3 hours. (Kilgore)

HCO 625. Advanced Leadership in Maternal and Child Health (MCH) Part I: Introduction to Leadership- The Advanced Leadership in MCH course series is offered as three one-hour courses. For students in the MPH or DrPH programs in the MCH concentration in HCOP, all 3 courses are required. Others students may take individual segments for one hour credit with permission of the instructor. HCO 625 provides students with the leadership skills necessary to work effectively at a community, state or regional level in the capacity of designing and advocating for programs and policies necessary to promote the health of women, children and families. 1 hour (Duncan, Ginter, Mulvihill, Pass)

HCO 626. Advanced Leadership in Maternal and Child Health (MCH) Part II: Collaborative Leadership and Advocacy- Equip students with knowledge and skills needed to provide leadership in the development and delivery of needed programs and policies to promote the health and well being of MCH and other populations. Focus on honing leadership skills beneficial to MCH public health practice. Students are encouraged to challenge the status quo through the analysis of policy-based case studies and researching leadership challenges for MCH programs. Prerequisite HCO 625 or permission of instructor. 1 hour. (Mulvihill, Pass, Rucks)

HCO 627. Advanced Leadership in Maternal and Child Health (MCH) Part III: Into the Streets: Leadership Field Experience- Provide students with opportunities to apply the leadership skills necessary to work effectively at a community, state or regional level to design and advocate for programs and policies that promote the health of women, children and families. Includes lectures, small group discussions, exercises, individual project work, and on-line service-learning field-based activities, usually linked to the internship or other field-based experiences. Prerequisite HCO 625 and 626, or permission of instructor. 1 hour (Mulvihill, Wingate)

HCO 631. Public Health Demography- Focuses on principles of demography (the study of population) as related to public health. Course content covers: the measurement and analysis of fertility, mortality, migration, population size, and composition; sources and evaluation of demographic data, techniques of population projection; and determinants and consequences of population trends and processes, with applications for health and health care. 3 hours (Kulczycki)

HCO 632. Readings in Maternal and Child Health- Critical analysis of literature in focused area of maternal and child health under supervision of faculty member. 1-3 hours Pass/Fail

HCO 640/740. Disaster and Emergency Management- This course will provide a concerted look into the realm of disaster and emergency management. Discussions in the course will concentrate on how disaster and emergency management has changed since 9/11 including new legislation and governmental structures. The course will culminate with a look at the roles and responsibilities of the public health system in preparing for and responding to both natural and man-initiated disasters. This course is intended for advanced MPH or doctoral students with an interest in preparedness policy, emergency management, or public health preparedness. Course graded as letter. 3 hours (McCormick/Ginter)
HCO 641/741. Preparedness and Response Policy- This course will focus on the development of public policy in the U.S. and the evolution of preparedness policy since September 2001. Students should gain both a capacity for framing issues in order to influence policy makers and public discourse and an understanding of how preparedness policy affects the public health system in the U.S. (McCormick, Ginter)

HCO 642/742. Preparedness and Agriculture- This course presents the potential effects of an animal disease outbreak, whether natural, accidental or deliberate, on the affected communities. Topics covering the prevention and diagnosis of and the response to an animal disease outbreak will be presented. Examples of the interaction of public health with other disciplines will be provided. This course is designed for MPH students with an interest in preparedness policy, emergency management, or public health preparedness. Note: It is preferred that this course is completed during the final year of enrollment; however, any MPH candidate who has completed the entire core curriculum is eligible to enroll in the course. Course graded by letter. 3 hours (Fields)

HCO 643/743. Communication Issues in Disaster Preparedness- This course will provide participants with an understanding of the psychological processes that occur during crises, how those processes impact human functioning, and how communication plays a critical role in the psychological outcome of crisis situations. Course graded by letter. 3 hours (Klapow)

HCO 644. Needs Assessment, Program Planning, and Evaluation: The Public Health Planning Process (also MCH 609) - To introduce the needs assessment, program planning, and evaluation processes specifically related to public health and provide practical educational experiences to develop skills in the range of activities needed to conduct needs assessments and use the information gathered to plan, direct, evaluate public health programs, and impact public health policies. Course graded by letter. 3 hours (Wingate/Mulvihill)

HCO 670. Social and Ethical Issues in Public Health- This class examines situations where public health programs or policies create or become embroiled in social controversies. Topics examined include: the underlying social conflicts involved in these controversies, the nature of the types of groups involved, and the ethical dilemmas that face decision makers in these situations. 3 hours (Bronstein)

HCO 672/772. Perinatal Health: Issues, Data and Policies- This course will focus primarily on perinatal U.S. health problems although examples from international settings will be utilized. Data analyses will focus on U.S. data. Course work includes article critiques; a literature review and presentation; and a final exam. The course will include lectures, discussions, in-class computer sessions and computer assignments. Students will gain information on maternal morbidity and mortality, birth weight, gestational age, fetal growth, and infant morbidities (injuries, birth defects, etc.). Students also will learn about data sources for perinatal health issues and be guided through hands-on exercises using SAS and a population-based dataset. The course will culminate with a field-based experience that will illustrate the effects of some adverse perinatal outcomes on children and their families. 3 hours (Wingate)

HCO 675. Improving Health Care Quality Outcomes- Examination of current issues in quality of care and outcomes management. The course includes a review of past and current efforts, tools, and theories of quality assessment, assurance, utilization management, and measuring and improving outcomes. 3 hours (Van Matre)
HCO 677. Patient-Based Outcomes Measurement: Detailed examination of patient-based outcomes measurement in the context of health care delivery systems and health care policy. Topics include: Theories and development of outcome evaluation instruments; disease-specific and generic measures of outcome; utility estimation; mediators and moderators of health outcomes; issues in instrument selection and administration; methods for evaluating outcomes data; and uses of outcomes data. Prerequisites: BST 601, BST 602 or Permission of Instructor. 3 hours (Klapow)

HCO 680. Aging Policy: Providing for the physical and economic well-being of the aging population is a continual challenge facing society. The objectives of this course are to develop an understanding of the influence of demographic changes, economic factors, and public policy on the health status and health care of the aging population; investigate the work, retirement, savings, and health insurance decisions facing the elderly; describe the system of health care financing and delivery arrangements for the elderly in the United States and other developing countries. Prerequisites: Basic biostatistics or equivalent. 3 hours (Locher)

HCO 686/786. Integrative Health Policy Analysis: The aim of this interdisciplinary course is to engage students in critical thinking about the goals, paradigms, effectiveness and implementation of health care policy in the United States. The course will incorporate several concepts from public policy analysis, public policymaking, health politics, public opinion research, media research, and technical-writing communication. Note: There are no prerequisite course requirements; however, students are expected to be familiar with the basics of the U.S. health care system and prior experience in health policy will be useful. Course graded by letter. 3 hours (Gary)

HCO 687/787. Empirical Methods for Health Research: The objectives of the course are to provide thorough treatment of simple and multivariate regression models, simple binary dependent variable models, instrumental variables estimators, sample selection and two-part models, and simple panel data models. Course provides students with an opportunity to acquire hands-on software. This course is designed for students who have had limited experience with regression analysis but a working knowledge of simple statistics, probability distributions, and basic calculus. Prerequisite: Upper level undergraduate or graduate course in statistics and probability; basic calculus. 3 hours (Sen)

HCO 691. Policy Analysis: Modeling and Simulation: Training in basic skills necessary to design, test, implement, manage, present, and critique policy analysis in health care sector. Fundamentals of policy research design, and linkage between theory and operation. Various research techniques examined case studies and analyses of secondary data. Emphasis on choosing appropriate analytical strategies for particular policy issues. Data analysis using computers and critical evaluation of technical policy literature. Special topics in econometrics also addressed. Original policy analytic paper required at end of sequence. Prerequisites: HCO 601 or equivalent, BST 600 or higher recommended. 3 hours (Mennemeyer)

HCO 692. Advanced Topics in Health Disparities Research: The primary aim of this course is to engage students in critical thinking about the current paradigms for health care disparities research in the U.S. As a part of this process, students will be challenged to think about the social, political, and economic determinants of health disparities for diverse health care consumers, to identify substantive trends and gaps in the health disparities literature, and to develop an innovative
research or policy-oriented strategy for reducing health disparities. A secondary aim of this course is to provide students with a broad overview of health and health care disparities according to race/ethnicity, gender, and health status. The three specific racial/ethnic groups are: African Americans, Hispanic/Latinos, and Asian/Pacific Islanders. The gender classifications include men and women. The health status groupings include persons with chronic health problems (such as diabetes or a mental health condition, e.g., schizophrenia). Course graded by letter. 3 hours (Gary)

HCO 694. Special Problems in Policy Analysis- (Continuation of HCO 693) Prerequisite: HCO 693. 3 hours (Mennemeyer)

HCO 695. Seminar in Health Care Organization- Factors currently influencing finance and administration of public and private health programs; availability, accessibility, and utilization by selected population groups. Prerequisites: MPH core or permission of instructor.

HCO 696. Selected Topics in Public Health Finance- Financing of public health programs; sources of revenue (grants and contracts, tax revenues, and service fees), capital financing, and management of cash flows Techniques of maximizing revenues in public health programs. Prerequisite: HCO 601 3 hours.

HCO 697. Internship- Field experience under joint direction of faculty member and qualified specialist working in selected aspects of public health. Written report specifying activities, products, and outcomes of experience required upon completing the internship. Pass/No Pass.3,6,9 hours


HCO 701/601. Health Economics- Economics as systematic way of thinking about use of resources. Tools of economics applied to issues of organization, delivery, financing, and outcome of health care. Develops economic principles and describes system of health care financing and delivery in the United States, providing basis for analyzing health management and policy options. With didactic coursework provided in HCO 601, doctoral students prepare a major paper under instructor's direction. Prerequisite: BST 601 or equivalent. 3 hours (Sen, Becker, Mennemeyer)

HCO 703/603. Public Health Policy- Theoretical framework and concepts used to understand evolution of public health policies and processes of policy formulation, implementation, and change. Significance of health policy for public health practical foundation of knowledge and skills useful in analyzing and responding to policy environment. Doctoral students will have an emphasis on independent analysis of health policy issues. Prerequisite: HCO 601 or HCO 701 recommended. 3 hours (Becker)

HCO 704. Advanced Health Economics- Advanced analysis of economic concepts important to public health problems; government financing of health services, public health deliver, utilization of health, and public health services; and perspectives and policy issues in public health. Prerequisites: HCO 601 or HCO 701. 3 hours (Sen)
HCO 713/613. Health Information Technology and Policy- The overall goal of the course is to familiarize students with current issues associated with health information technology (IT) and their impact on the U.S. healthcare system. Health IT applications (e.g., electronic health records, computerized physician order entry systems, decision support systems, health information exchanges, etc.) are playing an increasingly important role in the efficiency and effectiveness of healthcare delivery and management. 3 hours (Menachemi)

HCO 715/615. Finance for Health Professionals- Financial management of public health care organizations. Emphasis on time value on money, capital raising methods, cost of capital, capital budgeting methods and working capital policy. Problem-solving orientation with applications to public health issues. 3 hours (Rucks)

HCO 718/618. Management Concepts in Public Health Programs- Organization structure, management, finance and budgeting, human resources, contracts, negotiation, and operations research in public health settings. Presentation of general principles combined with study of actual cases from practice. Prerequisite: Permission of Instructor. 3 hours (Rucks)

HCO 720/620. Health Insurance and Managed Care- Insurance as mechanism for dealing with consequences of an uncertain world. Health insurance and its consequences as significant reasons health care markets differ from others. Workings of insurance markets and current policy issues. Demand for health insurance, underwriting, rate making, moral hazard and adverse selection, HMOs and PPOs, employer health benefits and self insurance, Medicare and Medicaid, long term care insurance and catastrophic coverage. Prerequisite: HCO 601 or equivalent. 3 hours (Morrisey)

HCO 721/621. Clinical Decision Making and Cost-Effectiveness Analysis- The objectives of this course are to acquaint public health and other professionals with techniques of decision making under conditions of uncertainty and the basics of cost-effectiveness analysis. Topics include decision analysis, Markov processes, Monte Carlo simulation, valuing diagnostic tests, and measuring the costs and outcomes of health service programs. Students who successfully complete the course will be able to understand the strengths and limitations of these types of analysis and determine the relevance of research findings to their on areas of expertise. Prerequisite: HCO 601,BST 611, BST 612, or Permission of instructor. 3 hours. (Kilgore)

HCO 722/622. Cost-Effectiveness Research Methods- The objective of this course is to familiarize students with the design and implementation of cost-effectiveness and cost-benefit analysis. Specific topics include cost estimation, effectiveness measurement, time preference, uncertainty, ethical issues, valuing health outcomes, and ethical issues in cost-effectiveness research. At the end of the course students will develop and present analysis plans related to their particular fields of practice. Prerequisite: HCO 621 or Permission of instructor. 3 hours. (Kilgore)

HCO 731. Adolescent Sexuality- Comprehensive review of the causes and consequences of adolescent sexuality, pregnancy, and parenting. Demographics and time trends; relationship to other problem behaviors of adolescence. Prerequisite: Only advanced doctoral students (second year and above) can register; masters students must obtain permission of instructor. 3 hours (Altara)

HCO 740/640. Disaster and Emergency Management- This course will provide a concerted
look into the realm of disaster and emergency management. Discussions in the course will concentrate on how disaster and emergency management has changed since 9/11 including new legislation and governmental structures. The course will culminate with a look at the roles and responsibilities of the public health system in preparing for and responding to both natural and man-initiated disasters. This course is intended for advanced MPH or doctoral students with an interest in preparedness policy, emergency management, or public health preparedness. Course graded as letter. 3 hours (McCormick/Ginter)

HCO 741/641. Preparedness and Response Policy- This course will focus on the development of public policy in the U.S. and the evolution of preparedness policy since September 2001. Students should gain both a capacity for framing issues in order to influence policy makers and public discourse and an understanding of how preparedness policy affects the public health system in the U.S. 3 hours (McCormick/Ginter)

HCO 781. Research Methods and Study Design- The course supplements the material covered in HCO 787, with a focus on the sensible application of econometric methods to important topics in health research. The course will begin with an overview of experimental and non-experimental research and the critical distinction between associative and causal relationships. The remainder of the course will focus on the difficulty of identifying causal relationships in non-experimental contexts, and the methods that are commonly used to overcome these challenges. At the end of the semester, students should come away with an improved grasp of the interdisciplinary language of health research and a deeper appreciation of the importance of research design. 3 hours (Becker)

HCO 786/686. Integrative Health Policy Analysis- The aim of this interdisciplinary course is to engage students in critical thinking about the goals, paradigms, effectiveness and implementation of health care policy in the United States. The course will incorporate several concepts from public policy analysis, public policymaking, health politics, public opinion research, media research, and technical-writing communication. Note: There are no prerequisite course requirements; however, students are expected to be familiar with the basics of the U.S. health care system and prior experience in health policy will be useful. Course graded by letter. 3 hours (Gary)

HCO 787/687. Empirical Methods for Health Research- The objectives of the course are to provide thorough treatment of simple and multivariate regression models, simple binary dependent variable models, instrumental variables estimators, sample selection and two-part models, and simple panel data models. Course provides students with an opportunity to acquire hands-on software. This course is designed for students who have had limited experience with regression analysis but a working knowledge of simple statistics, probability distributions, and basic calculus. Prerequisite: Upper level undergraduate or graduate course in statistics and probability; basic calculus. 3 hours (Sen)

HCO 793. DrPH Practicum in HCO- Doctoral students are required to complete a 6 hour practicum working in a public health agency or organization. Students should have passed their comprehensive exam prior to enrolling in HCO 793. Pass/No Pass. 3-6 hours.


HCO 796. Doctoral Seminar in Health Care Organization and Policy- Through participation in
this course, students will be introduced to advanced topics in public health and management research. Students are required to register for the seminar course each fall and spring semester they are enrolled. 1 hour (Menachemi)

HCO 797. Directed Readings for DrPH Comprehensive Exam in Health Care Organization and Policy - Assists students in preparing for the comprehensive exam. Doctoral Students may register in the semester in which they prepare for and take their comprehensive exam. Pass/No Pass. 3 hours

HCO 798. Dissertation Protocol Development in Health Care Organization and Policy - Assists students with their dissertation protocol development. Doctoral Students may register for this course during the period in which they are preparing their doctoral dissertation protocol. Pass/No Pass. 3 hours


School of Public Health Courses

School of Public Health Courses (PUH)

PUH 301. Origins of Epidemics: How Public Health Defines Populations and Nations. - The intellectual tools of public health describe diseases from cholera and pandemic avian influenza to obesity and diabetes that threaten the integrity of organized societies. This course explores the richness of public health through its disciplines and its stories to demonstrate how the understanding of the origins of epidemics determines the progress of civilizations. (Graded by letter) 3 credit hours.

PUH 697. MPH/MD Practice Placement Internship. - This course is taken by those students in the coordinated MPH/MD program who have an interest in public health or disease prevention practice or research. Graded as Pass/No Pass. 1-9 hours.

Policies and Procedures

Academic Practices

Academic Performance

For a student to maintain good academic standing, a grade point average of at least 3.0 (B average) and overall satisfactory performance on pass/no pass courses is required. Satisfactory performance on pass/no pass courses is defined as the earning of at least as many P grades as NP grades combined.
Probationary Admission

Students who are admitted on probation must demonstrate their ability to perform at the level required for graduation by establishing good academic standing at the end of the semester when their graduate semester hours attempted equals or first exceeds 12.

If a 3.0 grade point average is not achieved as required, the student will be dismissed from the School of Public Health.

**Note:** During a probation period, students should not receive "I" or "N" grades. Also, a student's academic advisor can petition, in writing, the Academic Dean for an extension of the probationary period.

Academic Probation

Students must maintain a 3.0 grade point average to remain in good academic standing. A student who has been in good academic standing but who, at the end of any semester, fails to meet the criteria to continue in good academic standing will be placed on probation. Such a student must re-establish good academic standing within the next two semesters of graduate study undertaken. Students who do not accomplish this level of performance will be academically dismissed from the School of Public Health. In addition, research course work earning more credit hours of NP than P, regardless of grade point average, will be placed on academic probation.

**Note:** During a probation period, students should not receive "I" or "N" grades. Also, a student's academic advisor can petition, in writing, the academic dean for an extension of the probationary period.

Readmission After Academic Withdrawal

Students dismissed for failing to meet scholastic or other degree requirements are considered withdrawn for academic reasons and will be considered for readmission only with a written recommendation from the faculty responsible for the program. A written statement from the student's advisor and department chair justifying a readmission decision should support the student's written petition for readmission. The statement should clearly set forth conditions that the student must meet in order to establish good academic standing and complete the degree requirements within the required time limits for the degree.

Grading, Grade Point Average and Course Repeat Policies

**Grading System, Pass/No Pass, Incomplete and No Grades Reported**

Grading in the School of Public Health is based on a 4.0 scale. The grade of A is used to indicate
superior performance; \textit{B}, for adequate performance; \textit{C}, for minimally adequate performance. Performance below \textit{C} is recorded as an \textit{F} and negatively affects the students total quality point rating. Some classes are designated as \textit{pass/no pass courses}, for which a grade of \textit{P (passing)} signifies satisfactory work and the grade of \textit{NP (not passing)} indicates unsatisfactory work. Temporary notations used by the school are \textit{N for no grade reported, I for incomplete}. The letter \textit{N} denotes late or no submission of a grade by the instructor. An \textit{I} may be requested by a student and submitted at the instructor's discretion, to indicate that a student has performed satisfactorily in the course but due to unforeseen circumstances has been unable to complete requirements. Students requesting consideration of an \textit{I} grade must discuss with the instructor and agree upon a plan and a schedule for completing course requirements and complete a "Request for Incomplete Grade Form". If no permanent grade is reported by the end of the following term, an \textit{F} will be automatically assigned to replace the \textit{I or N}. \textbf{Extension of I grades may be granted only upon written request of the instructor to the Academic Dean.}

\textbf{Cumulative Credits and Grade Point Average}

\textbf{Semester Hours Earned:} The student's "semester hours earned" are increased by:
1. earning a grade of \textit{C} or better in a course for which the student was registered on a regular (letter grade) basis, or
2. obtaining the \textit{P} grade in a course taken on a pass/no pass basis

\textbf{Semester Hours Attempted:} The student's "semester hours attempted" are increased by:
1. receiving an \textit{A, B, C} or \textit{F} in a course for which the student was registered on a regular basis, or
2. receiving an \textit{NP} grade in a course taken on a pass/no pass basis.

\textbf{Quality Points:} Four quality points are awarded for each semester hour for which the student receives a grade of \textit{A}, three quality points are awarded for each semester hour in which a \textit{B} is earned, and two quality points are awarded for each semester hour in which a \textit{C} is earned. No quality points are earned for \textit{P} grades.

\textbf{Grade Point Average:} The grade point average (GPA) is determined by dividing the total quality points awarded by the semester hours attempted. The transcript will show cumulative GPA's for students who have completed previous graduate work at UAB and those students who are enrolled in dual programs; however, to determine the students current academic status the GPA for each program will be calculated separately by each program.

\textbf{Course Repeat Policy}

Public Health courses may be repeated using the following guidelines:

- Only a course with a grade of \textit{C} or \textit{F} is eligible for repeat
- A course can be repeated only once at UAB
- A course taken at UAB earning a grade of \textit{C} or \textit{F} that is

  repeated at UAB, will have the credit and GPA of the first course removed and will have the credit and GPA of the second course retained.

\textbf{The UAB transcript will show both courses.}

- A course taken at another university, that a student requests be transferred to
replace the credit of a C or F graded course at UAB, must have a B or better grade and follow all transfer of credit guidelines. In addition, the GPA will be retained but the credit of the first course dropped and both the credit and GPA retained for the second course.

The UAB transcript will show both courses.

Incomplete Request Policy

Request for "I" Incomplete Grade

The UAB Incomplete Grade Policy states that a temporary grade notation of "I" for incomplete may be requested by the student prior to the end of the term and submitted at the course master's discretion due to unforeseen circumstances that effect the student's ability to complete course requirements. Students requesting consideration of an "I" grade must discuss with the course instructor, and agree upon a plan and a schedule for, completion of course requirements. It is the students responsibility to initiate this discussion, assure completion of the "I" request form and return it to the Office of Student and Academic Services. If no permanent grade is reported by the end of the subsequent term, an "F" will be automatically assigned to replace the "I". Extension of "I" grades may be granted only upon written request of the course instructor to the Academic Affairs Dean.

Time Limitations for Degree Completion and Satisfactory Progress

The School of Public Health allows a maximum of five years from initial matriculation to complete an MPH, MSPH or MS degree and a maximum of seven years from initial matriculation to complete a DrPH or PhD degree. Credits older than five years cannot be counted toward a master's degree; credits older than seven years cannot be counted toward a doctoral degree. In general, retention in the school is contingent on the faculty's belief that a the student is likely to complete the program in a timely fashion. A student must complete the degree requirements within specified time limits or otherwise exhibit satisfactory progress in their academic program to avoid the risk of being dismissed from the program.

Transfer of Credit

This policy pertains to transfer of credit from other universities, course work taken in other graduate degree programs or course work taken at the UAB School of Public Health as a non-degree seeking student.

Previously earned graduate credit (up to 12 semester hours) that has not been applied toward another degree is eligible for transfer into the student's current degree program if the following
criteria are met:

- An official transcript showing the course work must be on file.
- Course content information must be provided to determine comparability.
- The course(s) must be at the graduate level.
- The course(s) must not have been used to complete another degree.
- No grades below "B" will be acceptable.

All transfers must be initiated by the student through the Office of Student and Academic Services and require the approval of the advisor, department chair, and academic dean. Transfer of credit, including non-degree credit, cannot take place until one term of course work toward a degree has been completed and/or until probationary status has been removed. Once the transfer of credit has been accepted, it will be included in the grade point average (GPA) calculation in the student's current program.

Course Substitution

The substitution of a "Core", "Track" or "Elective" courses can be requested by the student when a "Course Substitution Form" is completed. In addition, a copy of the syllabus or course description of the substituted course must be provided before the request can be evaluated. The request for substitution of a Core Course Substitution and a Track Substitution, requires the signature of the instructor. The student's advisor can determine substitution applicability for elective courses. The form must have all appropriate signatures before returning to Office of Student and Academic Services for processing.

The following rules apply for course substitutions:

- Documentation verifying that the course was not used to complete a previous degree; and
- Verification that the course was at a graduate level.

If a course substitution is requested for a course taken at another university, a "Transfer of Credit Form" will also be processed and if accepted will be included in the grade point average (GPA) calculation in the student's current program.

Course Waiver

A course waiver indicates that a course was completed, most likely as part of another degree, but it is felt by the student in consultation with his/her advisor that the student has sufficient knowledge in a particular area and is not required to complete a course that would be redundant. In the case of "core" courses, the core instructor must determine if the student can waive the course. A waiver request must be accompanied by a written explanation for the request as well as a copy of a syllabus or course description. Receiving a waiver of a required class does not remove the obligation to earn sufficient credit hours as required for the degree. The deficit in credit hours due to course waivers must be made up by determining course options in consultation with the advisor.
Grade Appeal Policy

The only legitimate bases for appealing a grade assigned for School of Public Health courses are:

- a belief that an error was made in the determination of the grade; and
- a belief that a grade was arrived at unfairly or on the basis of inconsistent application among students of the stated evaluation standards.

Should a student believe that either of these circumstances applied and that an appeal is warranted, the following procedures are to be followed:

1. Clarification should be sought from the course instructor in an attempt to resolve the disagreement without further appeal.

2. If the matter cannot be resolved in consultation with the course instructor, the student may submit a written appeal to the Academic Dean requesting consideration of the appeal. This request should include a description of the basis for the appeal and the failed attempt to resolve it with the instructor. Upon receipt of such a request, the Academic Dean will bear responsibility to solicit information relevant to the situation from the student and the course instructor, and on the basis of that information to make a determination for or against the appeal. If in the judgment of the Academic Dean there is a legitimate basis for the appeal, the chair of the course instructor's department will ensure that the assigned grade is appropriately changed.

3. If the Academic Dean determines that there is an insufficient basis for a grade change and rules against the appeal, the student may submit a final written appeal to the Academic Dean requesting him or her to convene a panel of three faculty and one student to consider the appeal and make a recommendation to him or her on its disposition. Similarly, if the Academic Dean rules for the appeal, the instructor may appeal the decision by going through the same process. Based on the recommendation of the panel, the Dean will issue a decision. This decision will be final.

4. Appeals of grades in courses taken outside the School of Public Health will be handled according to the policies and procedures of the schools within which the courses reside. Final disposition of grade appeals for courses in Graduate School programs resides with the Dean of the Graduate School.

Approved, Admissions and Graduation Committee, March 1997
Adopted, Educational Policy Committee, April 1997
Amended at Faculty Assembly Meeting, April 18, 1997

Administrative Practices

Changing Degree, Track, Advisor Options (Inter- and Intra-departmental Change of Status)
Change Degree, Track and Advisor Options Across Departments (Interdepartmental Change)

If a matriculated student wishes to transfer departments, the Interdepartmental Change of Status Form must be completed and returned to the Office of Student and Academic Services. A newly matriculated student may request a transfer only after the completion of one term in the department of which the student was originally admitted. All applicable changes must be indicated on the form and only the signatures of the students current advisor and department chair should be obtained before returning the form to the Office of Student and Academic Services for processing. A copy of the student's file will be forwarded to the department for which the student is requesting a transfer for review. The student, as well as, the former and new department will receive notification of the decision. Students only requesting a change of advisor should complete the Change of Advisor Request Form.

Change Degree, Track and Advisor Options Within Current Department (Intra departmental Change)

If a matriculated student wishes to transfer degree, track and advisor within the same department, the Intra departmental Change of Status Form must be completed and returned to the Office of Student and Academic Services. All applicable changes should be indicated on the form and all required departmental signatures should be obtained before returning the form to the Office of Student and Academic Services for processing. The student and the department will receive notification of the decision. Students only requesting a change of advisor should complete the Change of Advisor Request Form.

Continuous Enrollment and Leave of Absence

All students are required to remain continuously enrolled throughout his or her course of study unless medical, personal or family emergencies necessitate a leave of absence. A leave of absence is generally granted for one semester at a time. A student may request a leave of absence extension however, circumstances must warrant such considerations. If an extension is needed, a new leave request form must be completed. If a leave of absence is approved, it is still the student's responsibility to complete his or her degree requirements in the time period allotted (5 years for master's students and 7 years for doctoral students). International students are required to complete their degree in seven (7) semesters including vacations. Under no circumstances shall students enroll in coursework of any kind at UAB or engage in any work toward completion of a degree while on active leave of absence. This would include sitting for comprehensive examinations, being examined for admission to candidacy, and defending dissertations. Students enrolled in courses or otherwise engaged in degree-related work are not on leave and must be enrolled for a minimum of three (3) credit hours.

Records of students who do not obtain written approval for a Leave of Absence but who fail to enroll in courses for one year, will be archived by the university student system and be administratively withdrawn as a student in the School of Public Health. Conversely,
students who do not return from an approved leave of absence will also be administratively withdrawn.

Whether or not a leave of absence is taken, the school allows a maximum of five years from initial matriculation to complete the MPH, MS, and MSPH degrees and a maximum of seven years from initial matriculation to complete the DrPH and PhD degrees. Leave of absence forms can be found on the Schools website under Student Forms. Note: International students must complete a leave of absence form in the School of Public Health as well as any required documents in the International Scholars and Student Office when taking their vacation.

Administrative Withdrawal

Students who would be administratively withdrawn from the School of Public Health fall into the following categories:

- Students who voluntarily withdraw.
- Students who do not request a leave of absence.
- Students who do not enroll for a one year period and whose records are archived
- Students who do not return from an approved leave of absence by the designated and approved date.

Readmission after Administrative Withdrawal

Students may be considered for readmission into the program to which they were previously admitted in the School of Public Health if it was within the last five (5) years; they were administratively withdrawn; or were accepted within the past year but did not matriculate, and did not request a deferral of matriculation.

Note: Students who have attended another university in the interim must provide an official transcript from that school.

The Application for Readmission Form must be completed, following all instructions and returned to the Office of Student and Academic Services before readmission will be considered.

If readmitted, students will be required to meet the degree requirements of the catalog in effect at the time of readmission.

Credits older than five (5) years cannot be counted toward a master's degree and credit older than seven (7) years cannot be counted toward a doctoral degree.

Policy - Pursuit of Two Degrees
Concurrently

School of Public Health Policy Regarding the Pursuit of Two Degrees Concurrently.

It is against school policy to pursue two degree programs at the same time unless the programs are approved coordinated/dual programs.

- Students who wish to pursue a degree other than that for which they were admitted in the School of Public Health must withdraw from the School of Public Health.
- Students found to be pursuing a second degree without having followed the withdrawal procedure, will be automatically withdrawn from the School of Public Health.
- Once withdrawn, students may reapply to the School of Public Health but must follow the catalog in force at the time of the readmission.

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