

2014-2015

Fairbanks School of Public Health
Epidemiology PhD Student Handbook



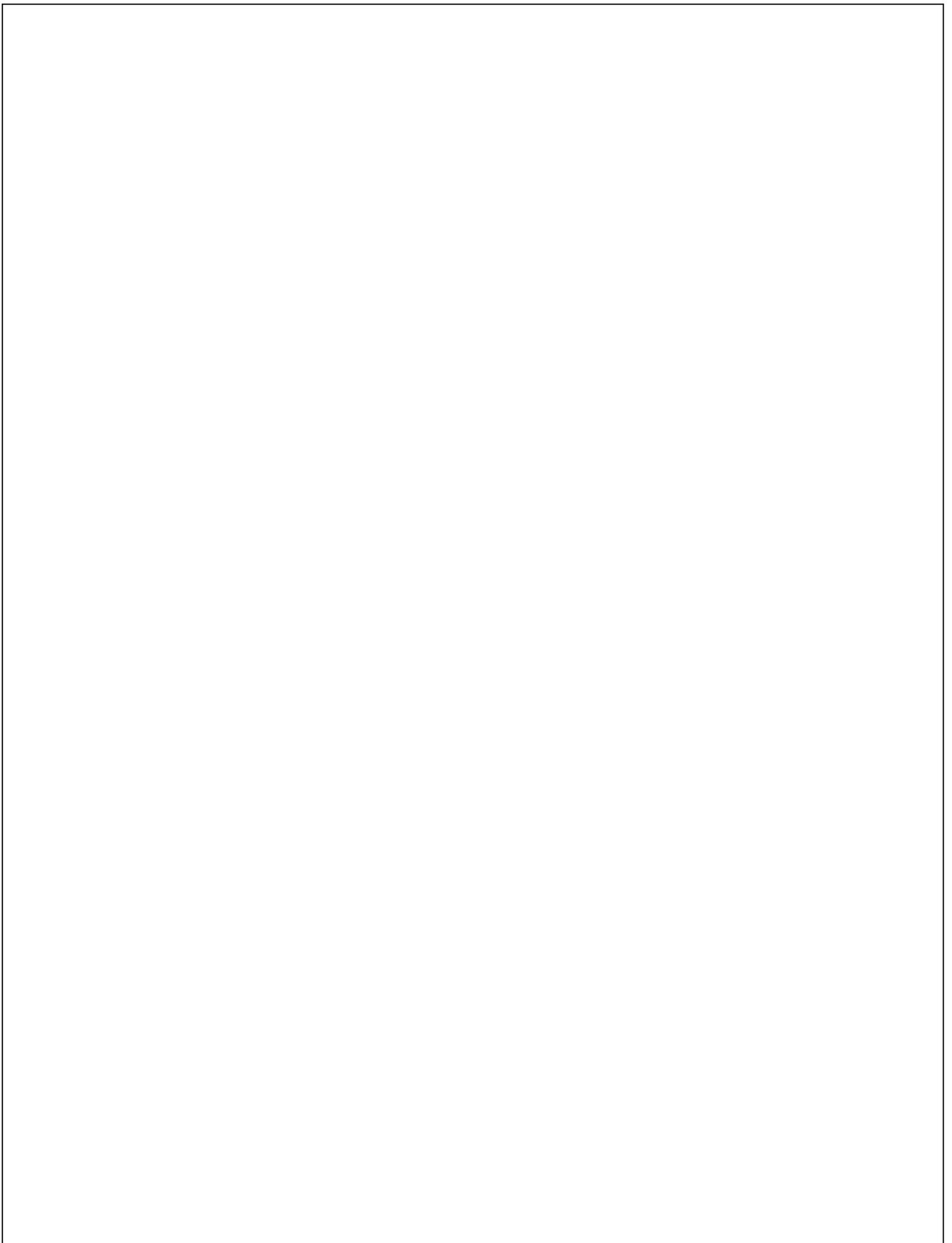


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IUPUI Vision, Mission, and Values

IUPUI is an urban research university created in 1969 as a partnership by and between Indiana and Purdue Universities, with Indiana University as the managing partner. Thus IUPUI is a campus of Indiana University that grants degrees in 185 programs from both Indiana University and Purdue University. IUPUI offers the broadest range of academic programs of any campus in Indiana and is the state's principal site for graduate professional education. This campus ranks among the top fifteen in the country in the number of first professional degrees it confers and among the top five in the number of health-related degrees. IUPUI is the home campus for state-wide programs in medicine, dentistry, nursing, allied health, and social work and extends its program offerings through IUPUC (Columbus). IUPUI's University Library provides regional leadership for developing digital resources and making them available throughout the community. Building upon a tradition of excellence in higher education, IUPUI provides access for committed learners to quality education that conveys the skills, intellectual framework, and values necessary for life-long learning. Its programs and services influence thinking and practice throughout the state, across the country, and around the world. IUPUI serves as a catalyst for collaboration in teaching, research, and service among its faculty, students, and staff, and among the state's educational institutions, including colleges, universities, and schools of the Indianapolis region, and other learning organizations. IUPUI is home to dozens of interdisciplinary research centers and in the next century expects to become one of the nation's leading centers of interdisciplinary teaching and learning.

The **VISION** of IUPUI is to be one of the best urban universities, recognized locally, nationally, and internationally for its achievements.

The **MISSION** of IUPUI is to advance the State of Indiana and the intellectual growth of its citizens to the highest levels nationally and internationally through research and creative activity, teaching and learning, and civic engagement. By offering a distinctive range of bachelor's, master's, professional, and Ph.D. degrees, IUPUI promotes the educational, cultural, and economic development of central Indiana and beyond through innovative collaborations, external partnerships, and a strong commitment to diversity.

In pursuing its mission and vision, IUPUI provides for its constituents excellence in:

- Teaching and Learning
- Research, Scholarship, and Creative Activity
- Civic Engagement, Locally, Nationally, and Globally

With each of these core activities characterized by:

- Collaboration within and across disciplines and with the community,
- A commitment to ensuring diversity, and
- Pursuit of best practices

IUPUI Statement of Values

IUPUI values the commitment of students to learning; of faculty to the highest standards of teaching, scholarship, and service; and of staff to the highest standards of service. IUPUI recognizes students as partners in learning. We value the opportunities afforded by our location in Indiana's capital city and are committed to serving the needs of our community. Our students, faculty, and staff are involved in the community, providing educational programs, working with a wide array of

IUPUI Statement of Values, continued

community partners who serve Indianapolis and Central Indiana, offering expert care and assistance to patients and clients, and engaging in field research spanning virtually every academic discipline. As a leader in fostering collaborative relationships, IUPUI values collegiality, cooperation, creativity, innovation, and entrepreneurship as well as honesty, integrity, and support for open inquiry and dissemination of findings. IUPUI is committed to the personal and professional development of a diverse campus community of students, faculty, and staff; to continuous improvement of its programs and services; and to building a strong, welcoming campus community for all.

IU Richard M. Fairbanks School of Public Health

Vision, Mission and Values

The Fairbanks School of Public Health is dedicated to the pursuit of health for all people. Health is defined as the capacity to develop full human potential, not simply the absence of disease. In promoting the health of communities, we emphasize the prevention of disease and injury and recognize the interconnectedness of the physical environment and ecosystem to the health of the community. We strive to ensure that the interests of the public are represented in health policies and practices and supports activities that promote this comprehensive view.

The School is committed to the principles of equality, shared decision-making, and a focus on the social, biological and environmental determinants of health which are central tenets of healthy communities and social justice. We embrace collaborative and participatory activities as a means of working collectively with other institutions and organizations in the community, across the state, nationally and internationally to ensure healthy communities and populations, a prerequisite for social justice.

While the traditional regulatory, legal and legislative functions of public health remain as important as ever today, public health is dynamic and must respond in innovative ways to emerging challenges to world health.

Our Vision:

The Indiana University Richard M. Fairbanks School of Public Health at IUPUI is a leader in improving the health of the people of Indiana, the nation and the world.

Our Mission:

The mission of the Indiana University Richard M. Fairbanks School of Public Health at IUPUI is to cultivate innovative, interdisciplinary, community engaged education, research and service and prepare leaders in public health and health care.

Core Values:

The FSPH has established core values to guide all aspects of teaching, research and service: collaboration, commitment to social justice, environmental consciousness, cultural competency, equity, innovation, respect, and sensitivity to diversity.

Campus and Department Policies

ACADEMIC INTEGRITY AND AVOIDANCE OF PLAGIARISM

Students in the Epidemiology PhD Program are expected to conduct themselves as professionals and avoid acts of plagiarism, cheating, or other forms of academic dishonesty. As outlined in the IUPUI Code of Students Rights, Responsibilities and Conduct, “the procedure for imposing academic and disciplinary sanctions are designed to provide students with due process and procedural fairness, to ensure equal protection for all students, and to provide for the imposition of similar sanctions for similar acts of misconduct. At the same time, the procedures reflect the need to be concerned about the individual student involved in a particular case. The procedures therefore provide that the imposition of disciplinary sanctions must also be based upon a consideration of all circumstances in a particular case, including a student's prior record of misconduct, if any.”

If a student is found to have participated in an act of academic misconduct, it will be dealt with immediately, according to the following steps:

Step 1: The instructor will notify the student in writing (via email or hard copy) of the offense and penalty. Penalties can include, but are not limited to, the following:

- Warning
- Lower grade for the assignment in which the infraction occurred
- Failing grade for the assignment in which the infraction occurred
- Failing grade for the course
- Recommendation for suspension or dismissal from the school.

Step 2: The student will be invited to meet with the instructor to discuss the situation in person as soon as possible. A third party from the Fairbanks School of Public Health will be in attendance at this meeting. The student will have an opportunity to share his/her comments and respond to the allegation. If the instructor concludes that the student did commit an act of misconduct, the instructor will complete the *Academic Misconduct Reporting Form*, with signatures, and submit it to the student, the Department Chair and the Associate Dean for Education and Training.

Step 3: The outcome of the meeting will be documented in writing within five business days with copies sent to the student, Department Chair, and Associate Dean for Education and Training. Acts of misconduct that warrant a recommendation for suspension or dismissal from the school will go before the MPH Academic Progress Review Committee for deliberation and decision. If the student disagrees with the decision of the instructor or the Academic Progress Review Committee, the student has the right to appeal the decision to the Associate Dean for Education and Training following the procedures and time period outlined in the IUPUI Code of Student Rights, Responsibilities and Conduct, <http://studentaffairs.iupui.edu/student-rights/student-code/disciplinary.shtml>.

ACADEMIC PROBATION

In order to be in good academic standing, the Epidemiology PhD Program requires students to maintain a minimum 3.0 cumulative GPA. Students will be placed on academic probation if their semester and or cumulative GPA falls below a 3.0. Students on academic probation are given one semester to bring their cumulative GPA to a 3.0 or higher. If students are unable to bring their GPA up to 3.0, their academic standing will be assessed by the Epidemiology PhD Academic Progress Review Committee, and a decision will be made as to whether or not they may continue in the program.

APPLICATION FOR GRADUATION

Students are required to notify Student Services of their pending graduation by completing the Application for Graduation Form found on the Fairbanks School of Public Health website. The Office of Student Services will notify students of application deadlines in advance via email.

CHANGE OF ADDRESS

It is important to keep your address up-to-date with the school and the university. This will ensure the prompt delivery of school-related information. Please note that official university mail for students on the IUPUI campus is sent to the student's current address. To update your address, please complete a change-of-address using [OneStart](#) and notify PhD Student Services.

COURSE AUTHORIZATION

Epidemiology PhD students need authorization to register for the following courses:

- Doctoral Readings in Epidemiology (PBHL E751)
- Doctoral Research in Epidemiology (PBHL E752)
- Epidemiology Dissertation Credits (PBHL E800)

Please contact the PhD Student Services representative to request course authorization.

COURSE REVALIDATION POLICY

Normally, courses taken prior to enrolling in the Epidemiology PhD program may not be counted toward degree requirements if the credit was earned more than seven years prior to passing the qualifying examination. The student's advisor may, however, recommend to the Epidemiology PhD Academic Progress Review Committee that course work taken beyond this time frame be revalidated if it can be demonstrated that the student's knowledge of course material remains current.

Currency of knowledge may be demonstrated by passing a more advanced Epidemiology PhD course in the same subject area, serving as a teaching assistant or instructor in a comparable or more advanced course, or publishing scholarly research demonstrating substantial knowledge of the content and fundamental principles of the course. Professional experience may also be used to justify course revalidation.

Students will work with their advisor to create a revalidation plan and complete the appropriate IUPUI Graduate Office form. Forms can be obtained from PhD Student Services. Each course under consideration for revalidation must be justified separately.

COURSE TRANSFER

In some cases, a student may be eligible to transfer course work/credit hours earned in another degree program into the Epidemiology PhD Program. According to the Indiana University Graduate School, students may transfer no more than 30 credit hours into a PhD program. Students must have earned a grade of "B" or better for a course to be eligible for transfer.

The student should complete a Request for Transfer form, obtained from PhD Student Services, and attach a copy of the syllabus for the course to be transferred, along with other supporting documentation (e.g., examinations, papers). Transfer Requests should be submitted to the PhD Student Services Representative.

The course director and student advisor will evaluate the transfer request. They will consider the following criteria when making the decision:

- The course in question must be a graduate course in which the student received at least a B grade (no B-'s will be accepted).
- The topics covered must be similar to the topics covered in the Epidemiology PhD course as demonstrated by a comparison of the syllabi and other materials from the two courses, and supporting materials.
- The course objectives must be similar to the objectives covered in the Epidemiology PhD course, as demonstrated by the syllabus.

When course transfer decisions have been made, the student will be notified in writing.

E-MAIL

E-mail is considered an appropriate mechanism for official communication from Indiana University to IU students. The University reserves the right to send official communications to students by email with the full expectation that students will receive e-mail and read these messages in a timely fashion.

Official university e-mail accounts are available for all students once they have been admitted to the university. Official university communications will be sent to the student's official university e-mail address. For IUPUI, official addresses end in @iupui.edu, @imail.iu.edu, or @umail.iu.edu.

Students are expected to check their e-mail on a frequent and consistent basis in order to keep abreast of university-related communications. In addition to their university e-mail account, students should also check for course-related e-mail on [OnCourse](#). The same user ID and password are used for OnCourse and the university e-mail system.

Students who choose to have their e-mail forwarded to a private (non-IU) e-mail address outside the official university network address do so at their own risk. The university is not responsible for any difficulties that may occur in the proper or timely transmission or access of e-mail forwarded to any unofficial e-mail address, and any such problems will not absolve students of their responsibility to know and comply with the content of official communications sent to students' official IU e-mail address. For instructions on forwarding e-mail click [here](#).

Help Desk Information:

If you are having problems with the Account Management Service or need assistance, please contact your campus support center or help desk at: 317-274-4357 (274-HELP). Phone support is available 24 hours a day, seven days a week. You can also [e-mail the Help Desk](#).

EXIT INTERVIEW

All Epidemiology PhD graduates are required to complete an Exit Interview prior to graduating. Student Services personnel will contact students to arrange an appointment.

GRADING SYSTEMS AND STANDARDS

FSPH has adopted the official grading system and grade point values of Indiana University.

A+ or A	4.0	C	2.0
A-	3.7	C-	1.7
B+	3.3	D+	1.3
B	3.0	D	1.0
B-	2.7	D-	0.7
C+	2.3	F	0.0

A (4.0) Outstanding achievement. Student performance demonstrates full command of course material and evinces a high level of originality and/or creativity that far surpasses course expectation.

A- (3.7) Excellent achievement. Student performance demonstrates thorough knowledge of course materials and exceeds course expectations by completing all requirements in a superior manner.

B+ (3.3) Very good work. Student performance demonstrates above-average comprehension of the course materials and exceeds course expectations on all tasks as defined in the course syllabus.

B (3.0) Good work. Student performance meets designated course expectations, demonstrates understanding of the course materials, and performs at an acceptable level.

B- (2.7) Marginal work. Student performance demonstrates incomplete understanding of course materials.

No points are assigned for the following grade symbols: I (incomplete), R (deferred), NC (no credit), NR (no report by the instructor), S/F (satisfactory/failure), or W (withdrawn).

Based on these grade point values, Epidemiology PhD students must maintain a minimum cumulative grade average of 3.0 in their coursework each semester to remain in good standing. Courses approved as part of the student's curriculum requirements are included in the calculation of the Epidemiology PhD Grade Point Average (GPA).

The following policies apply:

Only courses with a grade of "B" or better will count toward graduation, although ALL grades (except ineligible course work and transfer credit) are used in computing the university GPA.

If a B- is earned in a required course, the course must be repeated until a grade of B or better is earned. All grades (including those from original and repeated courses) are used to calculate the student's cumulative GPA.

INCOMPLETE GRADES ASSIGNED

A grade of incomplete indicates that the work is passing at the end of the semester, but a relatively small part of the required course work has not been completed. An "I" may be assigned only when the candidate's work is of passing quality and upon proof of personal hardship that renders the normal course time requirements unreasonable. In order to give a grade of "I", the faculty member must file an Incomplete Form, which states the reason for the incomplete, the requirements for completion, and the date by which the course is expected to be completed.

Incomplete marks not removed after one year of assignment automatically convert to an “F.”
Epidemiology PhD students cannot be certified for candidacy until their record is cleared of all “Incompletes” in all coursework for credit toward the degree.

LEAVE OF ABSENCE POLICY

Generally, a leave of absence will not be granted to a student who has completed less than 7 credit hours in good academic standing. A non-medical leave of absence will not be granted if the request is submitted within two weeks of the beginning of final examinations at the end of a semester. The maximum cumulative leave of absence for personal or health problems may not exceed 18 months. No student may be granted a leave of absence solely because of poor academic performance.

To request a leave of absence, students must submit a Leave of Absence Request Form (available from PhD Student Services) to the Epidemiology Department Chair. Leave of Absence requests must be presented, in writing, either in hard copy or by e-mail. Written support from the student’s concentration advisor confirming the need for a leave of absence must be documented in the student’s file.

A student called to active duty may qualify for an incomplete in his or her coursework, provided that all the above criteria have been met. For more information please see the [Office for Veterans and Military Personnel website](#).

PASS/FAIL OPTION

Epidemiology PhD students may not elect to take a graded course using the pass/fail option.

STUDENT CODE OF CONDUCT

Every Indiana University student is responsible for reading and understanding this Statement, as well as other expectations identified by individual schools or organizations relevant to an academic major, professional field, or on-campus residence. This [Code of Student Rights, Responsibilities, and Conduct](#) is intended to identify basic rights, responsibilities, and expectations of all students and student groups to serve as a guide for the overall student experience at Indiana University.

WITHDRAWAL

There are circumstances when the “W” is an appropriate grade. The “W” indicates that the student has withdrawn from the course after a portion of the semester has lapsed. A grade of “W” is automatically assigned if withdrawal occurs after the first week but before the end of the first eight weeks of a regular-length semester or during the first week of an eight-week session. After that time, it is necessary to petition for a withdrawal. If the petition is granted, the student may withdraw and a “W” will be assigned for the course. The electronic [drop/add](#) form is available on OneStart and must be completed and signed by the student, instructor, and the student’s advisor.

During the last three weeks of a fifteen week course or the last two weeks of a six week course, the petition for withdrawal from course work is generally not granted. Such a request would only be granted in extraordinary situations.

IUPUI EMERGENCY WITHDRAWAL POLICY

The policy detailing emergency withdrawal procedures at IUPUI is available at http://www.iupui.edu/~fcouncil/committees/academic_affairs/emergency_withdrawal_final.pdf

GRAD G901- CONTINUOUS ENROLLMENT

Students who have completed their Epidemiology PhD curriculum requirements, including dissertation credits, must enroll in GRAD G901 each semester, excluding summers, until their dissertation has been completed. This course is offered for 6 credit hours each semester at a cost of \$150. Students may enroll in G901 for a maximum of 6 semesters. Failure to meet this requirement will automatically terminate the student's enrollment in the degree program.

Campus and School Resources

ACADEMIC CALENDARS

The Office of the Registrar maintains all academic calendars. The fall 2013 academic calendar can be access [here](#). To view the long term academic campus calendar, click [here](#).

ADAPTIVE EDUCATIONAL SERVICES

[The Office of Adaptive Educational Services](#) actively works to make campus life and learning accessible for students with disabilities. Sign language interpreters, note takers, readers, exam proctors, and classroom accommodations are services offered by Adaptive Educational Services. For more information, call 274-3241 or [e-mail](#).

BOOKSTORE

After you register, visit the bookstore website to view a complete textbook listing. Books are typically listed two weeks prior to the beginning of the semester.

IUPUI Campus Center, 1st floor
420 University Blvd.
278-BOOK
sm631@bncollege.com <http://iupui.bncollege.com/>

Ordering Textbooks Online: To order your textbooks online, visit the [IUPUI Jag Bookstore website](#) and create a student account. You can search for your books using the customized textbook listing, add them to your cart, pay for your books, and have them shipped to your home.

CAMPUS MAP

Click [here](#) for an interactive IUPUI Campus Map.

COMPUTER LABS

The Fairbanks School of Public Health has created a multipurpose student work area in room EF 220. This area houses many resources that are available for FSPH student use only.

- Windows computer lab with printing capabilities.
- Computer lab hours vary by semester. A current lab schedule will be posted in the lab.

Campus Computer Labs:

- Business/SPEA Building Rooms: 3000 & 3005
- Eskenazie Hall Room: 185
- Information Technology Building Rooms: 131, 131A, 131B, 131C, 131D, & 131G
- School of Education/Social Work Rooms: 2119, 2121, & 2124
- School of Nursing Room: 342
- School of Science Room: SL 070A
- University Library third and fourth floors

COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS)

[Counseling and Psychological Services \(CAPS\)](#) provides direct professional psychological services, including crisis response, counseling, assessment, and referral, that are accessible to, and provide for, the general well-being of all IUPUI students. Appointments have minimal costs associated with them.

FINANCIAL AID

The Office of Student Financial Aid Services administers federal, state, university, and private funds in the form of scholarships, grants, loans, and work-study part-time employment. The Office of the Bursar disburses all financial aid, except work-study.

The [Office of Student Financial Aid Services](#) is located in the IUPUI Campus Center room 250A. Students can contact the office by phone 317-274-4162 or FAX to 317-274-5930. Students can also email a [Financial Aid Advisor](#) for more information and resources.

IU WARE

[IUware](#) is a software distribution service for Indiana University students, faculty, and staff. IUware offers a wide variety of software packages at no charge, including site-licensed products from Adobe, Microsoft, Symantec, Thomson Reuters, and others. Software packages include programs for reading email and web browsing, as well as antivirus and office applications. The university pays for the relevant licenses through agreements with vendors, allowing students, faculty, and staff to use the programs available through IUware free of charge. The IUware server is regularly updated, and so patches and upgrades for IU-supported software are consistently available.

LIBRARIES

[University Library Main Desk](#): 274-8278, Reference Desk: 274-0469

Hours:

Monday-Thursday	8:00am - 11:00pm
Friday	8:00am – 9:00pm
Saturday	8:00am – 6:00pm
Sunday	12:00pm -11:00pm

[Ruth Lilly Medical Library](#): 274-7182

Monday-Friday	7:30am – 9:00pm
Saturday	Closed
Sunday	12:00pm – 9:00pm

[Dental School Library](#): 274-7204

Monday-Thursday	7:30am –10:00pm
Friday	7:30am – 5:00pm
Saturday	9:00am – 4:30pm
Sunday	1:00pm – 5:00pm

[School of Law Library](#): 274-4028

Monday-Friday	8:00am 11:00pm
Saturday	9:00 am – 9:00pm
Sunday	1:00 pm – 5:00pm

ONCOURSE & CANVAS

[OnCourse](#) is a Web-based teaching and learning environment. OnCourse provides course descriptions, course syllabi, information about the instructors, and many other resources. You can find OnCourse using the [OneStart portal](#). You may search OnCourse at any time to find out more about courses that are of interest to you. Indiana University has selected Canvas as its next learning management system. To learn more, visit [Canvas](#). During the transition from Oncourse to Canvas, all IU courses will automatically appear in both systems. Oncourse will continue to be available for teaching through summer 2016.

ONESTART

[OneStart](#) is Indiana University's Web-based application portal that provides a common front door to online services at all IU campuses. For example, you may view your current schedule, Bursar and Financial Aid information, and your transcript. You may also change your mailing address on this system.

PARKING AND TRANSPORTATION

Parking passes are available on-line at [IUPUI Parking Services](#). Students may purchase parking permits in person at the Parking Services office on Vermont Street, 1004 W. Vermont Street, Indianapolis, IN 46202. Parking Services hours: M-F: 8:00 a.m. - 5:00 p.m. Questions can be directed to 274-4232.

PUBLIC SAFETY ESCORT

If you are on campus alone at night, the Safety Escort Service can provide someone to walk or drive you to your car or another campus destination. Call 317-274-SAFE (7233). This service only operates on University and IU Health-related campus property.

REGISTRATION

Students register for courses via [OneStart](#). Click [here](#) for the IUPUI Registration Guide.

Office of the Registrar

IUPUI Campus Center Suite 250

420 University Boulevard

Indianapolis, IN 46202-5144

Telephone: (317) 274-1501

E-mail: iupuireg@iupui.edu

Web address: <http://registrar.iupui.edu>

Hours of Operation:

Monday – Thursday: 8:00 am – 6:00pm

Friday: 9:00 am – 5:00pm

STUDENT HEALTH SERVICES

A student's health plays an important role in success in the academic environment. Our campus offers many resources and opportunities for students to find assistance with health concerns. All IUPUI students may receive care in the [IUPUI Health Service](#) office on a fee for service basis. All x-rays or referrals will be the responsibility of the student.

STUDENT INSURANCE PLANS

The IU student health insurance plan is administered by Aetna Student Health. Information regarding rates, benefits, and provisions can be obtained by e-mailing: studenthc@indiana.edu or visiting: <http://health.iupui.edu/students/insurance.html>.

STUDENT ID CARDS

The [IUPUI JagTag](#) is free to all enrolled students at IUPUI. The IUPUI JagTag can be used as campus identification, library card, print release validation card, physical education & recreation sports card, etc. The IUPUI JagTag may also be used by students to purchase food and drinks from campus vending machines as well as from various dining locations across campus and around town.

UNIVERSITY ID NUMBER

The university does not use social security numbers as a student's primary identification number. While in most cases, students will be able to complete their business with the university through [OneStart](#) by use of a user ID and password, there may be occasions when a student ID number may be required. Students may obtain their university ID numbers by viewing the “View My Personal Information” page in [OneStart](#) or by bringing photo identification to the Office of the Registrar.

UNIVERSITY WRITING CENTER

[The University Writing Center \(UWC\)](#) supports faculty, staff and student writers by focusing on their individual needs in one-on-one conferences. Staff consists of faculty and carefully selected student tutors who strive to support and supplement classroom-writing instruction in all schools and disciplines on the IUPUI campus. The UWC does not fix papers for students. Its goal is to create better writers, rather than better papers, by guiding students toward strengthening their own writing skills. The UWC can also assist students needing help with resume writing and critiquing.

Student Involvement

STUDENT LIFE

[The Division of Student Life at IUPUI](#), as educators and advocates, provides student-centered services, consulting, facilities, learning experiences and programs for students, faculty, staff, alumni and the community.

STUDENT REPRESENTATION ON DEPARTMENT COMMITTEES

PhD Program Committee

This committee reviews proposals for new courses and dual degrees, recommends actions to the Faculty Committee, discusses issues related to the academic program, and reflects on short-term and long-term planning matters (public health competencies, course development, and curriculum content). The committee meets monthly during the fall and spring semesters. A PhD student representative is appointed by the PhD Student Association to sit on this committee.

PhD Student Association

This association represents all students enrolled in the three FSPH PhD programs. Student leaders are actively involved in organizing professional development activities, student social gatherings, and philanthropic events. This committee meets monthly or as needed. Officers are elected annually by the PhD student body.

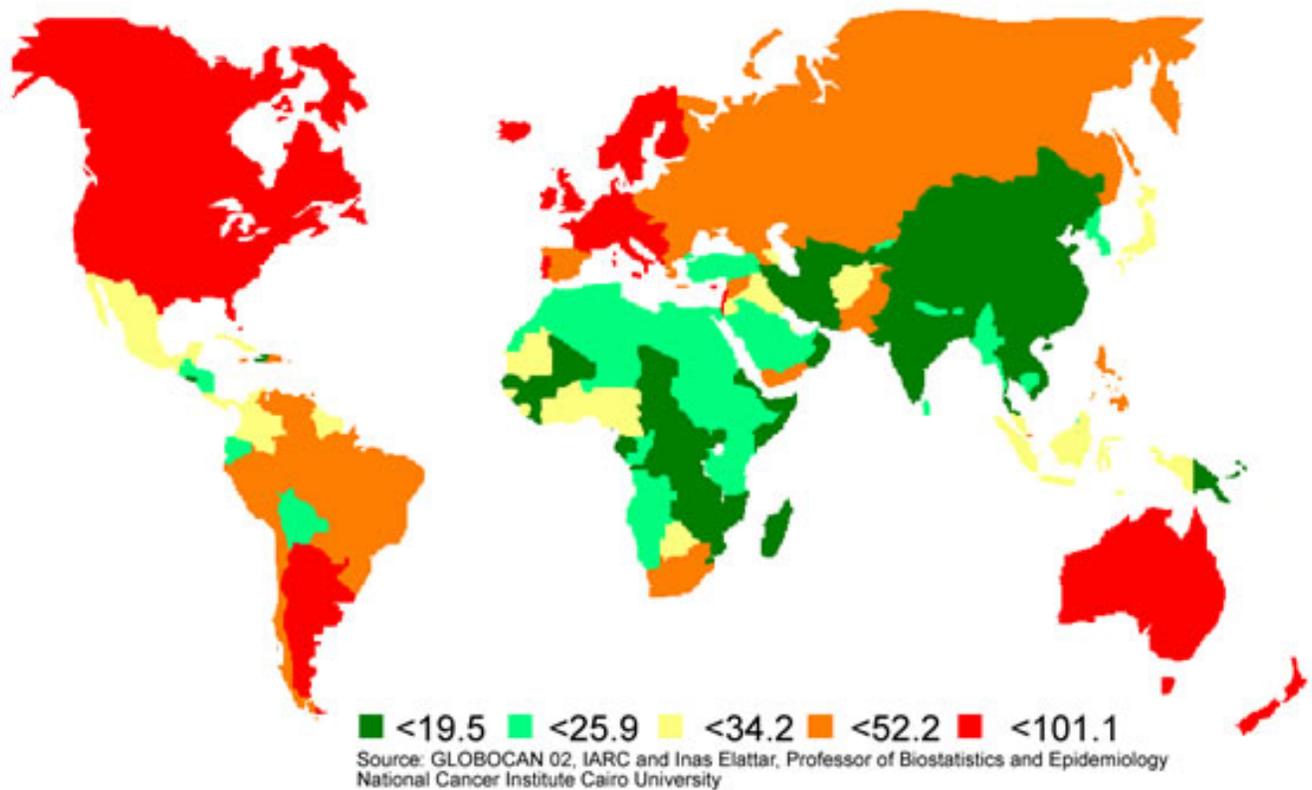
Graduate and Professional Student Organization (GPSG)

The Graduate and Professional Student Organization is the graduate student government body on the campus of IUPUI. An FSPH PhD student is appointed to represent fellow PhD students at the IUPUI GPSG monthly meetings.

IU Fairbanks School of Public Health

Epidemiology PhD Program

Breast Cancer Age-Standardized Incidence Rate Per 100,000



INTRODUCTION

There is strong interest in graduate public health education, and epidemiology in particular, because of the unprecedented local, state, national and global focus on public health issues (i.e., influenza pandemics, genetic risk factors, cancer, diabetes, heart disease, food- and water-borne E. coli outbreaks, emergency preparedness, obesity, tobacco use, sexually transmitted infections, etc.) and from the demand in the job market for qualified public health professionals. Epidemiologists are the basic scientists in public health who collect and interpret the information upon which population-based health preparedness and disease prevention are founded.

The IU Richard M. Fairbanks School of Public Health Epidemiology PhD program was designed for advanced graduate students who wish to be prepared to study the distribution of health and illness in diverse populations, to study the occurrence of illness, and to assess the determinants of health and disease risk in human populations. At the PhD level, students are trained to become scientific leaders in academic, governmental agency, non-governmental agency, and industry settings. Graduates will be trained to develop and conduct epidemiologic research and to translate their findings to the biomedical research community, to public health practitioners, to health policy makers, and to clinicians in the health professions, as well as to the general public and its diverse populations and communities.

The 90 credit hour Epidemiology PhD program can be completed on a part-time or full-time basis. Scholarships, traineeships, and pre-doctoral fellowships are available to full-time students. The Fairbanks Epidemiology PhD program promotes educational and scientific development through research collaborations, public health partnerships, and a commitment to diversity.

Epidemiology PhD students will be able to work one-on-one with individual faculty members and can pursue topics of interest as they arise, capitalizing on faculty's research expertise and on-going projects. The key areas of research available to epidemiology doctoral students on the IUPUI campus include the etiology and prevention of cancer and other chronic diseases, molecular epidemiology and genetics, injury epidemiology, pharmaco-epidemiology, and environmental epidemiology. Extensive research opportunities will be available to our doctoral students across the IUPUI academic health center.

PHD DEGREE IN EPIDEMIOLOGY

The PhD degree in Epidemiology requires completion of at least 90 credit hours of advanced epidemiology courses including a dissertation on a topic central to epidemiology. This degree is awarded by the Indiana University Graduate School through the Indiana University Fairbanks School of Public Health, Indianapolis; thus the policies governing the Epidemiology PhD degree have been approved by the University Graduate School. Students receive this degree in recognition of their command of a broad field of knowledge in epidemiology and accomplishments in the field through an original contribution of meaningful knowledge and ideas presented in their dissertation.

MAJOR SUBJECT AND MINOR SUBJECTS

Major Subject: The students' major subject is epidemiology. The Department of Epidemiology in the Fairbanks School of Public Health is responsible for specifying the program requirements, monitoring students' progress toward the degree, and making recommendations to the University Graduate School regarding the nomination to candidacy, appointment of a research committee, defense of the dissertation, and conferring of the degree.

Minor Subject: Students will select at least one minor subject. A minor provides additional breadth and depth to the student's program. It must be taken outside the major department from among those areas of study already approved by the University Graduate School, or in a specifically approved inter- or intradepartmental area. The determination of minimum requirements and examination procedure (if any) for the minor is entirely at the discretion of the minor department or program. In certain cases, special interdepartmental minors (12 or more credit hours of work in two or more departments) may be approved by the dean upon recommendation of the student's advisory committee, provided such approval is requested prior to pursuit of any of the proposed courses of study.

TIME LIMITS

All course work offered in partial fulfillment of the Epidemiology PhD degree requirements must either have been completed within seven consecutive calendar years of passing the qualifying examination or be revalidated according to procedures outlined in the IU Graduate School Bulletin. The student's academic advisor has access to the forms that need to be completed and submitted to revalidate courses when needed. In addition, once a student has been awarded a Certificate of Candidacy following passing the qualifying exam, the candidate potentially has another seven years to complete his or her dissertation. However, admission to the Epidemiology PhD program is good for a maximum of ten years; course work and dissertation must both be completed within this ten year period.

ADVISORY COMMITTEE

The Director of the Epidemiology PhD program, in collaboration with each PhD student and the student's academic advisor, will identify and recruit faculty to serve on the student's advisory committee. The advisory committee will include at least two members from the Department of Epidemiology and one from another department. At least two members of the advisory committee will be members of the graduate faculty. The names of faculty members nominated to serve on the advisory committee will be forwarded to the Dean of the University Graduate School for approval when full time students have completed their first year in the PhD program. The advisory committee will help the student focus on a researchable dissertation topic, provide direction to the student regarding specific methods and substantive elective courses required to complete the program, assist with identifying resources to enable the student to plan their dissertation research, and provide other needed academic counsel until the student passes the qualifying examination.

QUALIFYING EXAMINATION

The Director of the Epidemiology PhD program will schedule students to take the qualifying examination when they have completed all required core courses, methods courses, substantive elective courses and minor courses. The qualifying examination will be designed to assess students' mastery of the stated competencies for the Epidemiology PhD program. At the discretion of the minor department(s) or the interdepartmental committee, the qualifying exam may cover the minor subject(s) as well.

Normally the qualifying examination will be scheduled once or twice a year for students who have completed their course work; the exam will be a written take-home exam conducted over a two week period. In a timely fashion, the Department of Epidemiology faculty and course instructors will assess whether the students has answered the items completely and correctly to determine if they have passed or failed the exam.

Students who fail the qualifying exam are normally allowed to retake it only once. If the exam has multiple parts and the student fails one part, they may retake only the part they failed. The date of passing is regarded as the date of passing the final portion of the examination. The qualifying exam must be passed at least eight months before the date the PhD degree is awarded.

ADMISSION TO CANDIDACY STATUS

Following the passing of the qualifying examination, the student's advisory committee will submit a Nomination to Candidacy Form to the University Graduate School. Upon approval of the dean, the student will be admitted to candidacy and awarded a Certificate of Candidacy. The date of successful completion of the qualifying examination (not the date of final approval of candidacy) is the one used in determining the seven-year period for currency of courses and completion of the dissertation.

CONTINUING ENROLLMENT

Students who have passed the qualifying examination must enroll each semester (excluding summer sessions) for any remaining required course work or dissertation credits. Once such students have accumulated 90 credit hours in completed course work and deferred dissertation credits, they must enroll for a for 6 hours of graduate credit (GRAD-G901) each semester until the degree is completed. The fee for this course is \$150. Students are permitted to enroll in G901 for a maximum of six semesters. Failure to meet the continuous enrollment requirement will automatically terminate the student's enrollment in the degree program.

DISSERTATION

The culmination of the PhD program is the writing of the dissertation which is required of all Epidemiology PhD students. The dissertation must be an original contribution to knowledge and of high scholarly merit. The candidate's research must reveal critical thinking ability and synthesis of information. The dissertation is written under the supervision of a research director and a research committee as described below.

There must be a logical connection between all components of the dissertation, and these must be integrated in a rational and coherent fashion. It is the responsibility of the student's research committee to determine the kind and amount of published materials that may be included in the dissertation.

DISSERTATION OF THREE PUBLISHABLE PAPERS

In lieu of the traditional dissertation, students may elect to write a dissertation that consists of and introduction, three papers of publishable quality and a conclusion. The Dissertation Committee must approve the selection of the three-paper option at the time of the proposal defense. Upon successful final oral defense, the papers are to be submitted to referenced journals. Evidence of manuscript submission, as determined at the defense, is required prior to final dissertation signatures. Guidelines for the Dissertation of Three Publishable Papers can be found [here](#).

DISSERTATION RESEARCH COMMITTEE

To initiate research for the dissertation, the student chooses a professor who will agree to direct his or her dissertation. The Department of Epidemiology shall then recommend to the Dean of the IU Graduate School for approval a dissertation research committee composed of the chosen director (who will also normally serve as chair of the committee), two or more additional faculty members

from the major department, and a representative of each minor. The committee will be selected from the members of the graduate faculty who are best qualified to assist the student in conducting the research for the dissertation.

In the event that the dissertation research does not involve the area of the minor, the Epidemiology Department may request, with the consent of the minor field representative, the substitution of a representative or representatives from some other field more appropriate to the dissertation topic. The committee has the responsibility of supervising the research, reading the dissertation, and conducting the asking of examination questions for the student's dissertation defense.

All chairpersons of research committees must be members of the graduate faculty with the endorsement to direct doctoral dissertations. If, however, special expertise in an area is held by a member of the graduate faculty who does not have the endorsement, the Chair of the Department of Epidemiology may request that the Dean of the Graduate School approve such an individual as research committee chairperson.

All members of the dissertation research committee must be members of the graduate faculty. At least half of the members of the committee must be members of the graduate faculty with the endorsement to direct doctoral dissertations; others may be regular members.

After consultation with an approval by the dissertation committee chair and research committee, the student will submit to the University Graduate School a one- or two-page prospectus of the planned dissertation research. If the proposed research involves human subjects, animals, biohazards, or radiation, approval from the appropriate university committees must also be obtained. The membership of the dissertation research committee as well as the dissertation prospectus must be approved by the University Graduate School at least six months before the defense of the dissertation.

DEFENSE OF THE DISSERTATION

When the dissertation has been completed, the student should submit an unbound copy to each member of the research committee as the initial step in scheduling the defense of the dissertation. All members of the research committee will be expected to read the dissertation in its entirety before attending the defense. At this stage both the student and the committee members must extend certain courtesies to each other. It is the responsibility of the student to give the committee members sufficient time to read the dissertation without making unreasonable requests of them based upon University Graduate School time limitations, immediate job possibilities, contract renewal or some other reason. Similarly, committee members should not keep a student's work for inordinate periods of time because of the press of other duties. Once a faculty member assumes membership in a research committee, it becomes another part of his or her teaching assignment, comparable to conducting regularly scheduled classes.

After the committee members have read the dissertation, there should be direct communication (either in writing or orally) between the student's dissertation research committee chairperson and the other committee members about its readiness for defense. Readiness for defense, however, is not tantamount to acceptance of the dissertation; it means that the committee is ready to make a decision. The decision to hold a doctoral defense, moreover, is not entirely up to the research committee. If a student insists upon the right to a defense before the committee believes the dissertation is ready, that student does have the right to due process (i.e., to an oral defense) but exercises it at some risk.

Thirty days prior to the scheduled defense of the dissertation, the candidate must submit to the University Graduate School a one-page announcement of the final examination. This announcement must follow a format available in the University Graduate School's *Preparing Theses and*

Defense of the Dissertation, continued

Dissertations, <http://graduate.iupui.edu/theses-dissertations/index.shtml> . The announcement contains, among other things, a summary of the dissertation (not less than 150 words), which is informative and contains a brief statement of the principal results and conclusions. The announcement must bear the signature of the research committee chair person. If the candidate has published any scholarly articles relevant to the topic of the dissertation, bibliographic references should be included in the summary. A copy of such announcements will be sent to other members of the graduate faculty in the Fairbanks School of Public Health and other schools who might like to attend.

Once the dissertation defense has been scheduled, the announced time and place of the defense must not be changed without the approval of the Dean of the Graduate School. Any member of the graduate faculty who wishes to attend the final examination is encouraged to do so; it is requested, however, that the faculty member notify the chairperson of the research committee in advance so that adequate space can be arranged. With the approval of the research committee and the consent of the candidate, other graduate students may attend the defense of the dissertation; normally such students will act as observers, not participants.

At the end of the oral defense of the candidate's research, the research committee must vote on the outcome of the defense. Four options are available to the committee: 1) pass, 2) conditional pass, 3) deferred decision, and 4) failure.

Further details about processes following the defense are presented in the Graduate School bulletin. Also, to prepare their dissertation for submission, the Fairbanks School of Public Health requires Epidemiology PhD students to follow the guidelines detailed in the University Graduate School's online guide, [Preparing Theses and Dissertations](#).

Adapted from the Indiana University Graduate Bulletin

REQUIRED FORMS

For electronic copies of Epidemiology PhD forms, please contact Shawne Mathis snmathis@iu.edu.

FSPH PhD Forms

- Transfer of Credit
- Leave of Absence
- EPI PhD Readings Course (E751)
- EPI Doctoral Level Research Course (E752)

IU Graduate School Forms:

- Course Revalidation
- Advisory Committee
- Request for Change of Advisory Committee Members(s)
- PhD Minor
- Nomination to Candidacy
- Research Committee
- Request for Change of Research Committee Members(s)

IU Fairbanks School of Public Health

EPIDEMIOLOGY PHD PROGRAM COMPETENCIES

1. Design investigations of acute and chronic conditions as well as other adverse health outcomes in targeted populations.
2. Analyze and evaluate data from epidemiologic investigations and surveillance systems.
3. Differentiate special populations by race, ethnicity; culture; societal, educational, and professional backgrounds; age; sex; religion; disability; and sexual orientation.
4. Critically evaluate results of epidemiologic studies, including analyses, interpretation and conclusions.
5. Use current knowledge of causes of disease to guide epidemiologic practice.
6. Prepare written and oral reports and presentations to effectively communicate necessary information to professional audiences, policy-makers and the general public.
7. Develop community partnerships to support epidemiologic investigations.
8. Prepare proposals for extramural peer-reviewed funding.
9. Promote and model ethical conduct in epidemiologic practice.
10. Bring epidemiologic perspectives to the development and analysis of public health policies.

IU Fairbanks School of Public Health Epidemiology PhD Program

PLAN OF STUDY

The Epidemiology PhD program consists of ninety (90) credit hours and can be completed on a full-time or part-time basis. Students must complete the PhD courses within seven (7) years of matriculation into the program. After finishing their course work, students have up to seven (7) additional years to complete their dissertation. However, students must complete their coursework and dissertation within a ten year period. Those who do not complete the entire program within ten years must re-apply.

The Epidemiology PhD curriculum requirements consist of the following:

- **Required Core Courses (30 credit hours):** Students must complete a core of 30 credit hours of required courses.
- **Methods Courses (9 credit hours):** Students are required to take 9 credit hours of methods courses in epidemiology and biostatistics.
- **Elective Courses (15 credit hours):** Students must take 15 credit hours of substantive elective courses.
- **Minor Area (12 credit hours):** Students must complete a PhD minor in an area related to a health and life science. The minor typically contains a minimum of four graduate level courses (12 credit hours) in the chosen area and complies with the minor requirements of the respective department/unit.
- **Doctoral Research Seminars (3 credit hours):** Students will enroll in 3 doctoral research seminars; each seminar is 1 credit for a total of 3 credits.
- **Dissertation (21 credit hours):** The remaining hours will be guided research dissertation hours.

Many students admitted to the Epidemiology PhD program will have recently completed an MPH program in epidemiology or related area. These individuals will likely already have a solid academic preparation in epidemiology and biostatistics and may not need to repeat some of those foundation courses, thus reducing their curriculum requirements. If those accepted into the program do not have this background, the foundation courses in epidemiology and biostatistics, will be required resulting in a 90 credit curriculum.

EPIDEMIOLOGY PHD PROGRAM CURRICULUM REQUIREMENTS

Course	Course Number	Credit Hours
Required Core Courses = 30 credit hours		
Fundamentals of Epidemiology	PBHL E517	3
Advanced Epidemiology	PBHL E601	3
Molecular and Genetic Epidemiology	PBHL E730	3
Patient-Reported Health Outcomes	PBHL H620	3
Biostatistics for Public Health I	PBHL B551	3
Biostatistics for Public Health II	PBHL B652	3
Advanced Public Health Survey Methods	PBHL E710	3
Design and Implementation of Observational Studies	PBHL E715	3
Analysis and Interpretation of Observational Studies	PBHL E720	3
Applied Multivariate Analysis in Public Health	PBHL B653	3
Choose 3 Courses from the Following List of Methods Elective Courses = 9 credit hours*		
Epidemiologic Surveillance Systems	PBHL E760	3
Categorical Data Analysis	STATS 523	3
Survival Data Analysis	STATS 536	3
Applied Spatial Statistics	GEOG G588	3
Clinical Trials	GRAD G661	3
Qualitative Inquiry and Research Methods	NURS R610	3
Culture and Qualitative Methods	PBHL S615	3
Choose 5 Courses from the Following List of Substantive Elective Courses = 15 credit hours*		
Nutritional Epidemiology	PBHL E765	3
Occupational Epidemiology	PBHL E770	3
Fundamentals of Injury Epidemiology	PBHL E675	3
Pharmaco-Epidemiology	PBHL E780	3
Design and Analysis of Genetic Association Studies	PHBL E731	3
Environmental Epidemiology	PBHL E617	3
Cardiovascular Epidemiology	PBHL E795	3
Grant Writing for Public Health	PBHL E606	3
Infectious Disease Epidemiology	PBHL E609	3
Chronic Disease Epidemiology	PBHL E610	3
Cancer Epidemiology	PBHL E618	3
Foundations of Public Health Informatics	PBHL E635	3
Social Aspects of Mental Health & Illness	SOC R585	3
Doctoral Topics in Epidemiology	PBHL E750	Variable 1-3
Doctoral Readings in Epidemiology	PBHL E751	Variable 1-3
Doctoral Level Directed Research	PBHL E752	3
Minor = 12 credit hours		12
Doctoral Research Seminars = 3 credit hours (3 semesters of seminar @ 1 cr. hr. each = 3 cr. hrs.)		3
Dissertation Research = 21 credit hours		21
Total Number of Credit Hours		90

*Students may take methods and substantive electives offered by other IUPUI departments with advisor approval.

Epidemiology PhD Program

COURSE DESCRIPTIONS

- PBHL
E517** **Fundamentals of Epidemiology (3 hrs)**
This course will introduce students to basic epidemiologic concepts including determinants of health and patterns of disease in populations, population health descriptive techniques, use of health indicators and secondary data sources. Students will gain an understanding of the role of epidemiology in developing prevention strategies and policy. Among the topics to be covered are measures of mortality and morbidity, design and analysis of observational studies, community health assessment and program evaluation.
- STAT
523** **Categorical Data Analysis (3hrs)**
P: STAT 52800. Models generating binary and categorical response data, two-way classification tables, measures of association and agreement, goodness-of-fit tests, testing independence, large sample properties. General linear models, logistic regression, and probit and extreme value models. Loglinear models in two and higher dimensions; maximum likelihood estimation, testing goodness-of-fit, partitioning chi-square, and models for ordinal data. Model building, selection, and diagnostics. Other related topics as time permits. Computer applications using existing statistical software.
- STAT
536** **Survival Data Analysis (3hrs)**
P: STAT 51700. Deals with modern statistical methods for analyzing time-to-event data. Background theory is provided, but the emphasis is on the applications and the interpretations of results. Provides coverage of survivorship functions and censoring patterns; parametric models and likelihood methods, special life-time distributions; nonparametric inference, life-tables, estimation of cumulative hazard functions, and the Kaplan-Meier estimator; one- and two-sample nonparametric tests for censored data; and semi-parametric proportional hazards regression, Cox Regression, parameters' estimation, stratification, model fitting strategies, and model interpretations. Requires heavy use of statistical software such as Splus and SAS.
- PBHL
B551** **Biostatistics for Public Health (3 hrs)**
This course introduces the basic principles and methods of data analysis in public health biostatistics. Emphasis is placed on public health examples as they relate to concepts such as sampling, study design, descriptive statistics, probability, statistical distributions, estimation, hypothesis testing, chi-square tests, t-tests, analysis of variance, linear regression and correlation.
- SOC
R585** **Social Aspects of Mental Health and Mental Illness (3 cr.)**
P: graduate standing or consent of instructor. This is a graduate-level course on the sociology of mental illness and mental health. Provides a thorough grounding in the research issues and traditions that have characterized scholarly inquiry into mental illness in the past. Students will become familiar with public policy as it has had an impact on the treatment of mental illness and on the mentally ill themselves.

- GEOG
G588** **Applied Spatial Statistics (3 cr.)**
P: 6 credits in geography or consent of instructor. Extension of traditional statistical analysis of spatial data. Spatial means and spatial variances, the examination of differences in samples over space, spatial autocorrelation, nearest neighbor analysis, map comparison techniques. Emphasis on practical applications with GIS technologies.
- PBHL
E601** **Advanced Epidemiology (3 hrs)**
P: E517 & B551. This course provides students with an in-depth understanding of advanced epidemiologic concepts introduced in other courses as well as a fundamental understanding of epidemiologic techniques not covered in other classes. Topics included will represent cutting edge techniques, philosophical issues and insights to appropriately conduct and interpret the findings of epidemiological studies. Students will gain an understanding of these concepts and issues through discussions with expert epidemiologists and hands-on exercises.
- PBHL
E606** **Grant Writing for Public Health (3hrs)**
Students will learn each component of a successful proposal for research or community projects by a Federal or private agency. Current funding opportunities from these agencies will be used as templates for preparation and review of proposals. Skills needed to review proposals also will be taught.
- PBHL
E609** **Infectious Disease Epidemiology (3 hrs)**
P: E517. This course is designed to provide a basic overview of the infectious disease process, including disease agents, transmission routes, immunity and public health significance. The course introduces principles of infectious disease epidemiology, including outbreak investigation and surveillance, using case studies as examples. Concepts on globalization of disease, microbial ecology, and disease eradication also are discussed.
- PBHL
E610** **Chronic Disease Epidemiology (3 hrs)**
P: E517. This course examines chronic health conditions from an epidemiological perspective. Concepts include geographical distribution, risk factors, person-related determinants, time trends, indicators of control, measures of severity, surveillance measures, and outcome measures. Research methods, assessment strategies and screening tests will also be presented.
- NURS
R610** **Qualitative Inquiry and Research Methods (3 hrs)**
P: R500, R603, or consent of faculty. This course introduces students to the philosophical and methodological foundations of qualitative research in nursing. Students develop skills in understanding and critiquing health sciences research using qualitative designs and methods. Students acquire beginning skills in planning and conducting research in the qualitative paradigm.

**PBHL
S615**

Culture and Qualitative Methods (3hrs)

This course provides learning opportunities for public health graduate students to develop an understanding of culture and of how qualitative methods – windshield surveys, observations, focus groups, and in-depth interview research -- can be used to develop sensitivity to and an understanding of cultural practices. Such cultural sensitivities and competencies are of fundamental importance to the design of strong research studies, as well as effective program planning, implementation, service delivery, program evaluation, and policy development. This class will provide important knowledge and opportunities related to public health practice in a community setting comprised of a multicultural population with differing health beliefs, values, behaviors and health care needs. By the end of the semester, the student will be able to define and distinguish the concepts of culture and traditions, acculturation and enculturation, traditionalism and modernism and will be able to begin to identify how to build on cultural practices to develop interventions aimed at influencing health behaviors. Further, the student will have active experience in conducting qualitative research in a community setting.

**PBHL
E617**

Environmental Epidemiology (3 hrs)

P: E517 & B551. This course covers the practice of Environmental Epidemiology. Building on the skills learned during Introduction to Epidemiology and Biostatistics I, we will continue to study the types of observational studies used to assess the impact of environmental exposures on disease incidence and prevalence. We will take a more in depth look at the types of study designs used to study environmental toxicants, learn techniques on how to best present data to lay and peer audiences, and how to best perform risk communication and risk management techniques. We will also learn how to conduct public health assessments and risk assessments at sites where there is the potential for individuals/communities to be harmed from environmental exposures to a variety of agents..

**PBHL
E618**

Cancer Epidemiology (3 hrs)

P: E517. This course is designed to provide an overview of the epidemiology of common cancers, as well as methodologic issues in etiologic research and cancer screening. Emphasis will be placed on risk factors that can be modified for cancer control and prevention.

**PBHL
H620**

Patient-Reported Health Outcomes (3 hrs)

P: E517 & B551. This web-based course is evidence-based and focused on health outcomes research in contemporary health care. The different types of health outcomes assessment tools and their application in determining patient health status, changes in health status, and the effectiveness of health care interventions will be addressed. The course will focus on generic and specific health related outcomes assessment tools, looking at such issues as disease specific outcomes and patient satisfaction.

**PBHL
E675**

Fundamentals of Injury Epidemiology (3 hrs)

P: E517, B551. This course will introduce students to basic epidemiologic concepts of injury, both intentional and unintentional. We will discuss the burden of injury and its effect on public health, patterns of injury in populations, the use of descriptive techniques, and secondary data sources. Students will gain an understanding of the role of Injury Epidemiology in developing prevention strategies and policy. Among the topics to be covered are measures of mortality and morbidity, design and analysis of observational studies, community health assessment and program evaluation.

**PBHL
E635**

Foundations of Public Health Informatics

This course will introduce the application of Informatics in the Public Health field. The course will include a brief review of core public health functions, describe the current policies defining the use of informatics in public health, and outline the history of the application of informatics principles in both public health and clinical health systems. This material will be expanded through an increased understanding of public health surveillance through the interaction with the clinical health care system including automated electronic reporting of notifiable lab results, clinical and public health standards, near real-time syndromic surveillance systems, a review of paper-based public health business practices, and electronic alerting systems and decision support mechanisms required to support these tools. The decision support overview will include points to consider in the design of the database, data mining, and an introduction to knowledge management principles.

This course will also review the potential impact of these systems on Registry systems such as Vital Records, Immunizations, New Born Screening, and Cancer. These points will lead to discussions of the data sources required for public health, how the data from the various data sources will be matched, the competencies required for these new workforce requirements, and a better understanding of the clinical/public health partnership in this environment. The course will conclude with a review of the policy implications in public health informatics including privacy, security, and data transparency, strategic planning, and patient safety and medical errors.

**PBHL
E651**

Public Health Surveillance (3 cr.)

P: E517 and B551, or instructor permission. This course will focus on the recognized value of Public Health Surveillance as well as the development and utility of Surveillance Systems. Included are the historical development of surveillance systems, data sources, informatics of surveillance, data management, and evaluation of surveillance systems. In addition, descriptive epidemiology techniques, identification of outbreaks and community needs. Trend analysis based on the data collected from the surveillance system will be covered, along with related ethical and legal issues. The course discusses how surveillance is conducted in low to middle income countries and the future of public health surveillance.

**PBHL
B652**

Biostatistics for Public Health II (3 hrs)

P: B551. This course introduces the advanced principles and methods of data analysis in public health biostatistics. Emphasis is placed on public health examples as they relate to concepts such as: Multiple regression, analysis of variance and covariance, logistic regression, nonparametric statistics, survival analysis, statistics used in epidemiology, and repeated measures analysis.

**PBHL
B653**

Applied Multivariate Statistical Methods (3 hrs)

P: B551, B652. This is an applied course designed specifically for graduate students with a PhD major in epidemiology (or advanced masters epidemiology students) and PhD students in other medical sciences and health care professionals. Students are expected to have taken two previous courses in statistics (introductory and intermediate) covering up through t-test, ANOVA, ANCOVA and linear regression.

This course builds on the material taught in the two prerequisite public health statistics courses, PBHL P551 and PBHL P652. The overall objective of the course is to use public health examples while introducing classic multivariate statistical techniques. The course will focus on applications to real data which will be analyzed by the professor and the students using the SAS software. The course will cover the following classic multivariate techniques: canonical correlation, MANOVA, MANCOVA, discriminant analysis, principal components analysis, exploratory factor analysis, confirmatory factor analysis, and structural equation modeling.

**GRAD
G661**

Clinical Trials (3 hrs)

This course covers core topics in conducting clinical trials, including design, recruitment, informed consent, randomization, blinding, data collection and analysis, safety monitoring, study closeout, and alternative designs such as cross-over and nonrandomized trials. Also, regulatory and special topics are covered including drug trials phase I through IV, patenting and other legal issues, institutional review boards, cancer trials, cells and human tissue, and trials involving special populations.

**PBHL
E710**

Advanced Public Health Research Methods (3 hrs)

This course provides an intensive focus on the formative phases of health survey research. Topics covered will include sampling methodologies, questionnaire development, testing, revision, and administration, as well as topical discussion related to research ethics and real world challenges of research. Active learning will be emphasized through several exercises, as well as a research proposal based on students' own research interests.

**PBHL
E715**

Design & Implementation of Observational Studies (3 hrs)

P: E517. This course examines fundamental aspects of designing and implementing observational epidemiology studies. The focus is on developing strategies to increase the validity of the study results by using techniques to control for possible confounding factors and biases. Topics include sampling methods, sensitivity, data weighting, standardization, selection of cases and controls, matching, data collection and project management.

**PBHL
E720**

Analysis and Interpretation of Observational Studies

P: E715. This course examines fundamental aspects of analyzing data generated by observational epidemiology studies. The focus is on developing a solid understanding of contemporary analytical techniques to increase the validity of the study and control for possible confounding factors and biases.

**PBHL
E730**

Molecular and Genetic Epidemiology (3 hrs)

P: E601, B652. This course presents fundamental concepts and methods in molecular and genetic epidemiologic research, and explains different study designs commonly used in genetic epidemiology to identify the genetic basis of common, complex disease. Students will learn about available common molecular and genetic measures, different study design searching for disease-causing genes, and their interaction with environmental factors, ethical issues and genetic testing.

**PBHL
E731** **Design and Analysis of Genetic Association (3 hrs)**
P: E730. This course introduces the conceptual and practical tools needed for population-based genetic association studies among unrelated subjects. Lectures and selected readings present key issues (such as linkage disequilibrium, "tagging SNPs," haplotypes, population stratification and epistasis) and appropriate statistical methods. Students will be required to present selected papers in class. Students will gain hands-on experience with a range of analytic tools and software packages as part of a class project which gives them the opportunity to design and analyze an association study. This project will require students to work on real-world problems such as marker selection, potential multiple comparisons issues due to multiple markers and multiple outcomes, and missing data.

**PBHL
E751** **Doctoral Readings in Public Health (1-4 hrs)**
This course is designed to expose a PhD student to published material on a specific topic or technique related to their field of study in Epidemiology. The material to be studied will be determined primarily by the PhD student under the direction of a faculty member with input from the student's concentration advisor. The PhD student is expected to work closely with the faculty member to develop a strategy to identify the material to study, plan a time frame for completion of the study and to determine the nature of the study product. Generally the product will be a summary and interpretation of the material studied in a literature review format. The PhD student and faculty member will complete a written agreement, which outlines the scope of work for the semester. The concentration advisor will also sign this agreement.

**PBHL
E752** **Doctoral Level Directed Research in Epidemiology (3hrs)**
This course is designed to allow PhD students the opportunity to explore research questions by collecting data or using existing data related to their field of study in epidemiology. The study topic will be determined primarily by the PhD student under the direction of a faculty member with input from the student's concentration advisor. The PhD student is expected to work closely with the faculty member to develop the study protocol, obtain IRB approval if necessary, obtain the data and collect the planned data analysis. The time frame for completion and the nature of the study product will be determined by the PhD student, faculty member and advisor. Generally the product will be a manuscript for submission to an appropriate journal. The PhD student and faculty member will complete a written agreement, which outlines the scope of work for the semester. The concentration advisor will also approve and sign this agreement.

**PBHL
E765** **Nutritional Epidemiology (3 hrs)**
P: E517, B551. This course provides students with an overview of fundamental concepts and methods of nutritional epidemiology (e.g., variation in diet, dietary assessment and validation, biochemical indicators of nutrients) and the current state of knowledge on well-studied associations between diet and chronic diseases. Emphasis will be placed on the design, conduct, analysis, and interpretation of nutritional epidemiologic studies.

**PBHL
E775**

Doctoral Research Seminar (1 hr)

This course is designed to expose PhD students to a wide range of specific research topics and issues in public health. The seminar topics will be chosen by the Director of the PhD program with input from other faculty members. The PhD students are expected to attend each seminar session, read assigned material, and participate in the seminar discussions. The PhD students may be asked to present their research projects during the seminar to obtain feedback and recommendations from the faculty and other students.

**PBHL
E780**

Pharmaco-epidemiology (3hrs)

P: E517. This is an introductory pharmaco-epidemiology course. Students will learn how principles of modern epidemiologic methods are used to evaluate the safety, effectiveness, and utilization patterns of medical products (drugs, vaccines, and medical devices) in human populations, with a focus on observational studies. Related topics, including therapeutic risk management, data sources and ethical principles will be discussed. Advanced methodology, such as that utilized to address confounding by indication and misclassification will be introduced.

**PBHL
E795**

Cardiovascular Epidemiology (3hrs)

P: E517, E601. An advanced graduate course that discusses the topics related to the epidemiology and prevention of cardiovascular diseases. The purpose is to give students an overview of the major cardiovascular diseases and their risk factors.