<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Grade Mode</th>
<th>Schedule Type</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPI 50013</td>
<td>CLINICAL EPIDEMIOLOGY BASICS</td>
<td>3</td>
<td>Contact Hours: 3</td>
<td>Lecture</td>
<td>BST 52019 and EPI 52017 and Graduate standing.</td>
</tr>
<tr>
<td>EPI 50014</td>
<td>CLINICAL TRIALS MANAGEMENT</td>
<td>3</td>
<td>Contact Hours: 3</td>
<td>Lecture</td>
<td>BST 52019, EPI 52017 and EPI 63019; and Graduate standing.</td>
</tr>
<tr>
<td>EPI 50015</td>
<td>SCIENTIFIC WRITING FOR CLINICAL RESEARCH</td>
<td>3</td>
<td>Contact Hours: 3</td>
<td>Lecture</td>
<td>Graduate standing.</td>
</tr>
<tr>
<td>EPI 50017</td>
<td>PHARMACOEPIDEMIOLOGY</td>
<td>3</td>
<td>Contact Hours: 3</td>
<td>Lecture</td>
<td>BST 52019 and EPI 52017 and Graduate standing.</td>
</tr>
<tr>
<td>EPI 50018</td>
<td>REGULATORY AFFAIRS IN CLINICAL RESEARCH</td>
<td>3</td>
<td>Contact Hours: 3</td>
<td>Lecture</td>
<td>EPI 52017.</td>
</tr>
<tr>
<td>EPI 50019</td>
<td>INDIVIDUAL INVESTIGATION IN EPIDEMIOLOGY</td>
<td>1-3</td>
<td>Contact Hours: 1-3</td>
<td>Lecture</td>
<td>BST 52019.</td>
</tr>
<tr>
<td>EPI 52013</td>
<td>FUNDAMENTALS OF PUBLIC HEALTH EPIDEMIOLOGY</td>
<td>3</td>
<td>Contact Hours: 3</td>
<td>Lecture</td>
<td>Graduate standing and special approval.</td>
</tr>
<tr>
<td>EPI 52028</td>
<td>METHODS OF EVIDENCE BASED PUBLIC HEALTH EPIDEMIOLOGY</td>
<td>3</td>
<td>Contact Hours: 3</td>
<td>Lecture</td>
<td>Graduate standing.</td>
</tr>
<tr>
<td>EPI 60191</td>
<td>VARIABLE CONTENT SEMINAR IN EPIDEMIOLOGY</td>
<td>1-3</td>
<td>Contact Hours: 1-3</td>
<td>Seminar</td>
<td>Graduate standing.</td>
</tr>
</tbody>
</table>

**Epidemiology (EPI)**

EPI 50017 PHARMACOEPIDEMIOLOGY 3 Credit Hours
(Cross-listed with PH 40017) This course is an introduction to the field of pharmacoepidemiology. Pharmacoepidemiology uses epidemiology methods to understand medication use and distribution at the population level. The class will examine risk-benefit and epidemiology approaches to examining medication use and therapeutic trials. Drug and device manufacturing to market will be explored.

Prerequisite: BST 52019 and EPI 52017 and Graduate standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
EPI 60192  PRACTICUM EXPERIENCE IN EPIDEMIOLOGY  1-6 Credit Hours
Observational and participation in public health activities of a public health agency, hospital or other approved organization. The student completes the field experience with joint supervision from the university and approved organization or agency.
Prerequisite: Graduate standing and special approval.
Schedule Type: Practicum or Internship
Contact Hours: 20 other
Grade Mode: Satisfactory/Unsatisfactory-IP

EPI 60195  SPECIAL TOPICS IN EPIDEMIOLOGY  1-3 Credit Hours
(Repeatable for a maximum 6 credit hours) (Slashed with EPI 80195) Special topics to sample new offerings on topics in epidemiology.
Prerequisite: Graduate standing.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

EPI 63014  EPIDEMIOLOGY OF CHRONIC DISEASES  3 Credit Hours
(Slashed with EPI 83014) With a life course approach to chronic disease epidemiology, this course focuses on cardiovascular, respiratory, cerebrovascular diseases and cancer. Health and disease are addressed from a multicausal perspective which includes individual behaviors, psychosocial issues, and sociodemographic, biological, and physiological factors. Time points for prevention and intervention are identified.
Prerequisite: EPI 52017 and Graduate standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 63015  EPIDEMIOLOGY OF INFECTIOUS DISEASES  3 Credit Hours
(Slashed with EPI 83015) Surveys the history, principles, methods and practice of infectious disease epidemiology, by (1) defining and understanding infectious disease epidemiology surveys, (2) collecting and measuring surveillance data, (3) interpreting epidemiology data and (4) predicting evidence-based outcomes. Primarily a course in epidemiology. Students learn some infectious disease microbiology as well. Prerequisite EPI 52017 and Graduate standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 63016  PRINCIPLES OF EPIDEMIOLOGIC RESEARCH  3 Credit Hours
(Slashed with EPI 83016) Builds on the fundamental epidemiology course to explore deeper the concepts and methods in epidemiologic research. Reviews the measures of disease frequency, association and impact, and epidemiologic reasoning and causal inference, and covers methods and techniques for designing, implementing, analyzing, and interpreting various epidemiologic study designs. Discusses advantages and limitations of various study designs and explores threats to validity, precision, and generalizability of epidemiologic studies.
Prerequisite: BST 52019 and EPI 52017 and Graduate standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 63017  EPIDEMIOLOGICAL ANALYSIS  3 Credit Hours
(Slashed with EPI 83017) Provides practical instruction in the analysis and interpretation of data from various epidemiologic study designs including cross-sectional, case-control and cohort studies. Reviews statistical concepts and epidemiologic studies designs, outlines a strategy for data analysis and reviews relevant methodologic issues and applies stratified analysis methods and multivariable regression models to the studies. Develops an understanding of the underlying principles and assumptions, practical application, and correct interpretation of the epidemiologic results. Provides hands on experience on the application of epidemiologic analysis methods and presentation of the results.
Prerequisite: BST 52019 and BST 63014; and EPI 52017 and 63016; and Graduate standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 63018  OBSERVATIONAL DESIGNS FOR CLINICAL RESEARCH  3 Credit Hours
(Slashed with EPI 83018) This class provides students the skill to design, conduct, and perform clinical epidemiology studies using an observational design. Students will understand major concepts of clinical research, develop clinical research questions, and solve clinical research problems. Topics will include: Study design, risk, causation, exposures, bias, measurement and validity, and disease prognosis.
Prerequisite: EPI 52017 and BST 52019 and Graduate standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 63019  EXPERIMENTAL DESIGNS FOR CLINICAL RESEARCH  3 Credit Hours
(Slashed with EPI 83019) Principles of experimental designs as they apply to clinical research and clinical trials will be presented at an intermediate level. Students will understand randomized control trial designs and alternative designs. Study methodology including randomization and blinding techniques will be covered. Topics will include: Evidence-based medicine, risk prediction and risk scores, instruments and measurement, data issues, and recruitment, retention, and adherence.
Prerequisite: EPI 63018 and Graduate standings.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 63020  ADVANCED EPIDEMIOLOGICAL AND CLINICAL RESEARCH METHODS  3 Credit Hours
(Slashed with EPI 83020) This advanced class will focus on why particular methods, study designs, or approaches are used in particular investigative scenarios in clinical research. Students will develop and advanced understanding and application of epidemiology methods in clinical research.
Prerequisite: EPI 63018 and EPI 63019 and Graduate standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
EPI 63021 EThICAL ISSUES IN PUBLIC HEALTH AND CLINICAL RESEARCH 3 Credit Hours
(Slashed with EPI 83021) Introduces students to historical and contemporary ethical issues that arise during public health and clinical or biomedical research studies. Broadly covers human subjects research, the responsible conduct of research, and the Good Clinical Practice Guidelines.
Prerequisite: EPI 52017 and Graduate standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 63034 LONGITUDINAL DATA ANALYSIS 3 Credit Hours
(Slashed with EPI 73034) Statistical techniques for analyzing longitudinal, or repeated measures, data. Focuses primarily on application of the various statistical models covered, with direct application illustrated using standard statistical software. Topics covered include univariate and multivariate analysis of variance for repeated measures, mixed-effects models (HLM or multilevel models), covariance pattern models, generalized estimating equations (GEE), mixed-effects logistic regression models and missing data in longitudinal studies.
Prerequisite: BST 52019 and 63014 and Graduate standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 63018 and EPI 63019 and Graduate standing.

EPI 63192 RESEARCH PRACTICUM IN CLINICAL EPIDEMIOLOGY 1-6 Credit Hours
Research practicum allows students to gain hands on experience conducting research in a clinical setting such as a hospital or other approved organization. The student completes the experience under the supervision of a field preceptor and faculty member.
Prerequisite: EPI 63018 and EPI 63019 and Graduate standing.
Schedule Type: Practicum or Internship
Contact Hours: 3-18 other
Grade Mode: Satisfactory/Unsatisfactory-IP

EPI 63199 THESIS I 2-6 Credit Hours
Student must register for a total of 6 credit hours in the program. Student may register for 2 to 6 hours in a single semester.
Prerequisite: Graduate standing.
Schedule Type: Masters Thesis
Contact Hours: 2-6 other
Grade Mode: Satisfactory/Unsatisfactory-IP

EPI 63299 THESIS II 2 Credit Hours
Thesis students must continue registration in Thesis II each semester until all degree requirements are met.
Prerequisite: EPI 63199 and Graduate standing.
Schedule Type: Masters Thesis
Contact Hours: 2 other
Grade Mode: Satisfactory/Unsatisfactory-IP

EPI 72017 FUNDAMENTALS OF PUBLIC HEALTH EPIDEMIOLOGY 3 Credit Hours
(Slashed with EPI 52017) Introduces principles, methods, and application of epidemiology. Covers the history of epidemiology, concepts of disease causation and prevention, measures of disease frequency and excessive risk, epidemiologic study designs, causal inference, outbreak investigation and screening. Provides experience with calculation of rate standardization, measures of disease frequency, association, and impact, and sensitivity and specificity of screening tests. Highlights applications of epidemiology to understanding of disease etiology, transmission, pathogenesis, and prevention, evaluation and public policy development.
Prerequisite: Graduate standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 72028 METHODS OF EVIDENCE BASED PUBLIC HEALTH 3 Credit Hours
(Slashed with EPI 52058) Explores tools and techniques used to quantitatively determine the effectiveness of public health interventions in the social sciences.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 73024 EMERGING ISSUES IN CHRONIC DISEASE EPIDEMIOLOGY 3 Credit Hours
Covers emerging chronic disease issues on a global level and students understand the life course approach to chronic disease epidemiology. Putative factors and infectious agents are examined as causes of chronic disease and chronic syndromes. Issues related to screening and surveillance will be understood. Students appreciate issues pertaining to study design, modeling, and data analysis in life course epidemiology of chronic disease.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 73025 EMERGING ISSUES IN INFECTIOUS DISEASE EPIDEMIOLOGY 3 Credit Hours
Investigates global emerging and reemerging infectious diseases. Students evaluate root causes of infectious disease emergence and predict outcomes. Data from primary literature is used to predict alternate outcomes. Specific disease models are used to evaluate and compare prevention, treatment and eradication strategies.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 73026 DESIGN AND IMPLEMENTATION OF HEALTH SURVEYS 3 Credit Hours
Covers survey design, variable construction, survey administration and data collection methods, variable coding and manipulation, and data analysis. Students will understand sampling methods, and sample size. Large health surveys are discussed. Students gain practical experience through design and implementation of a health survey which can be used to facilitate dissertation research or a publication.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
EPI 73027  BIOLOGICAL BASIS OF PUBLIC HEALTH  3 Credit Hours
Integrates the sciences of biology and molecular biology into the
principles and practice of public health. Implicit in this course are
learning objectives that establish the ecology of infectious disease, the
impact of vaccines in disease prevention, and the role of environmental
toxins on human health and disease. Additionally, students propose
policy, regulations and legislation designed to protect human health
within the realm of personalized medicine.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 73029  PUBLIC HEALTH SURVEILLANCE SYSTEMS  3 Credit Hours
Introduces students to surveillance systems of both infectious and
non-infectious diseases as well as intentional and non-intentional
injury. Students are exposed to the theory and practice of surveillance
illustrated with examples existing systems from around the world.
Culminates in a project where the student creates and evaluates a
surveillance system of their own design.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 73033  ENVIRONMENTAL EPIDEMIOLOGY  3 Credit Hours
Comprehensive course on concepts in environmental epidemiology and
statistical methods in environmental epidemiology including causal
inference models.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 73034  LONGITUDINAL DATA ANALYSIS  3 Credit Hours
(Slashed with EPI 63034) Statistical techniques for analyzing
longitudinal, or repeated measures, data. Focuses primarily on
application of the various statistical models covered, with direct
application illustrated using standard statistical software. Topics covered
include univariate and multivariate analysis of variance for repeated
measures, mixed-effects models (HLM or multilevel models), covariance
pattern models, generalized estimating equations (GEE), mixed-effects
logistic regression models and missing data in longitudinal studies.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EPI 80195  SPECIAL TOPICS IN EPIDEMIOLOGY  1-3 Credit Hours
(Repeatable for a maximum of 6 credit hours) (Cross-listed with
EPI 60195) Special topics to sample new offerings on topics in
epidemiology.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter

EPI 80196  INDIVIDUAL INVESTIGATION IN EPIDEMIOLOGY  1-3
Credit Hours
Individual graduate investigation or research in areas related to
epidemiology.
Prerequisite: Doctoral Standing and special approval.
Schedule Type: Individual Investigation
Grade Mode: Standard Letter-IP

EPI 80198  DIRECTED RESEARCH IN EPIDEMIOLOGY  1-15 Credit
Hours
(Repeatable for credit) Directed research or individual investigation
for doctoral students in Epidemiology concentration. Satisfactory/
unsatisfactory (S/U) graded; in-progress (IP) mark permissible.
Prerequisite: Doctoral standing and special approval from department.
Schedule Type: Individual Investigation, Research
Contact Hours: 1-15 other
Grade Mode: Satisfactory/Unsatisfactory-IP

EPI 80199  DISSERTATION I  15 Credit Hours
(Repeatable for credit) Registration for two semesters required, first
semester dissertation work begins and continues until completion of
Dissertation II and 30 hours of total dissertation work.
Prerequisite: Doctoral standing and special approval.
Schedule Type: Dissertation
Contact Hours: 15 other
Grade Mode: Satisfactory/Unsatisfactory-IP

EPI 80299  DISSERTATION II  15 Credit Hours
(Repeatable for credit) Second course of dissertation sequence
completing requirement of with 30 total hours of dissertation work.
Prerequisite: EPI 80199 and Doctoral standing and special approval.
Schedule Type: Dissertation
Contact Hours: 15 other
Grade Mode: Satisfactory/Unsatisfactory-IP

EPI 83014  EPIDEMIOLOGY OF CHRONIC DISEASES  3 Credit Hours
(Slashed with EPI 63014) With a life course approach to chronic disease
epidemiology, this course focuses on cardiovascular, respiratory,
cerebrovascular diseases and cancer. Health and disease are addressed
from a multicausal perspective which includes individual behaviors,
psychosocial issues, and sociodemographic, biological, and physiological
factors. Time points for prevention and intervention are identified.
Prerequisite: EPI 52017 and Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
EPI 83015  EPIDEMIOLOGY OF INFECTIOUS DISEASES  3 Credit Hours  
(Slashed with EPI 63015) Surveys the history, principles, methods and practice of infectious disease epidemiology, by (1) defining and understanding infectious disease epidemiology surveys, (2) collecting and measuring surveillance data, (3) interpreting epidemiology data and (4) predicting evidence-based outcomes. Primarily a course in epidemiology. Students learn some infectious disease microbiology as well.  
Prerequisite: EPI 52017 and Doctoral standing.  
Schedule Type: Lecture  
Contact Hours: 3 lecture  
Grade Mode: Standard Letter

EPI 83016  PRINCIPLES OF EPIDEMIOLOGIC RESEARCH  3 Credit Hours  
(Slashed with EPI 63016) Builds on the fundamental epidemiology course to explore deeper the concepts and methods in epidemiologic research. Reviews the measures of disease frequency, association and impact, and epidemiologic reasoning and causal inference, and covers methods and techniques for designing, implementing, analyzing, and interpreting various epidemiologic study designs. Discusses advantages and limitations of various study designs and explores threats to validity, precision, and generalizability of epidemiologic studies.  
Prerequisite: BST 52019 and EPI 52017; and Doctoral standing.  
Schedule Type: Lecture  
Contact Hours: 3 lecture  
Grade Mode: Standard Letter

EPI 83017  EPIDEMIOLOGICAL ANALYSIS  3 Credit Hours  
(Slashed with EPI 63017) Provides practical instruction in the analysis and interpretation of data from various epidemiologic study designs including cross-sectional, case-control and cohort studies. Reviews statistical concepts and epidemiologic studies designs, outlines a strategy for data analysis and reviews relevant methodologic issues and applies stratified analysis methods and multivariable regression models to the studies. Develops an understanding of the underlying principles and assumptions, practical application, and correct interpretation of the epidemiologic results. Provides hands-on experience on the application of epidemiologic analysis methods and presentation of the results.  
Prerequisite: EPI 63016 and BST 83014 and Doctoral standing.  
Schedule Type: Lecture  
Contact Hours: 3 lecture  
Grade Mode: Standard Letter

EPI 83018  OBSERVATIONAL DESIGNS FOR CLINICAL RESEARCH  3 Credit Hours  
(Slashed with EPI 63018) This class provides students the skill to design, conduct, and perform clinical epidemiology studies using an observational design. Students will understand major concepts of clinical research, develop clinical research questions, and solve clinical research problems. Topics will include: Study design, risk causation, exposures, bias, measurement and validity, and disease prognosis.  
Prerequisite: EPI 52017 and BST 52019; Doctoral standing; and special approval.  
Schedule Type: Lecture  
Contact Hours: 3 lecture  
Grade Mode: Standard Letter

EPI 83019  EXPERIMENTAL DESIGNS FOR CLINICAL RESEARCH  3 Credit Hours  
(Slashed with EPI 63019) Principles of experimental designs as they apply to clinical research and clinical trials will be presented at an intermediate level. Students will understand randomized control trial designs and alternative designs. Study methodology including randomization and blinding techniques will be covered. Topics will include: Evidence-based medicine, risk prediction and risk scores, instruments and measurement, data issues, and recruitment, retention, and adherence.  
Prerequisite: EPI 52017 and BST 52019 and Doctoral standing and special approval.  
Schedule Type: Lecture  
Contact Hours: 3 lecture  
Grade Mode: Standard Letter

EPI 83020  ADVANCED EPIDEMIOLOGY AND CLINICAL RESEARCH METHODS  3 Credit Hours  
(Slashed with EPI 63020) This advanced class will focus on why particular methods, study designs, or approaches are used in particular investigative scenarios in clinical research. Students will develop and advanced understanding and application of epidemiology methods in clinical research.  
Prerequisite: EPI 83018 and EPI 83019; Doctoral standing and special approval.  
Schedule Type: Lecture  
Contact Hours: 3 lecture  
Grade Mode: Standard Letter

EPI 83021  EThICAL ISSUES IN PUBLICH HEALTH AND CLINICAL RESEARCH  3 Credit Hours  
(Slashed with EPI 63021) Introduces students to historical and contemporary ethical issues that arise during public health and clinical or biomedical research studies. Broadly covers human subjects research, the responsible conduct of research, and the Good Clinical Practice Guidelines.  
Prerequisite: EPI 52017 and Doctoral standing.  
Schedule Type: Lecture  
Contact Hours: 3 lecture, 3 lab  
Grade Mode: Standard Letter