OUTCOMES RESEARCH (ORES)

ORES 2300 - Survey of Epidemiology in Health Services Research
Credit(s): 3 Credits
This course introduces methods and interpretations of measures of frequency, association, error, bias and health impact. Epidemiological methods are presented within the context of assessing cost, quality, and access of the health care system. Employing mix of lecture, discussion, and computer-based laboratory assignments, students will explore the relationships between policy, medical care practices, and scientific understanding via epidemiology.

ORES 2310 - Introduction to Clinical Medicine
Credit(s): 3 Credits
This course addresses the fundamentals of diagnosis and treatment related to the practice of medicine for leading diseases. Students will be introduced to the basic science concepts of medicine, including anatomy, physiology, microbiology, and genetics in the context of evidence-based screening and treatment guidelines used by medical subspecialties. Class sessions, taught by medical school faculty, employ a mix of lecture, discussion, hands-on demonstrations, and care simulation. Student assignments include analysis of diagnostic criteria and treatment options available to clinicians and development of patient-directed communications about medication use.

ORES 2320 - Interprofessional Health Outcomes Research
Credit(s): 2 Credits
Offered by the Department of Health and Clinical Outcomes Research (HCOR) within the School of Medicine, this course will provide students the skills vital to developing a measurable research question, investigating the current literature, and incorporating a study design that best answers their research questions. Furthermore, this course will encourage students to look at healthcare research from the scope of social determinants and socio-cultural contexts to better understand health disparities and inequities.
Attributes: UUC:Dignity, Ethics & Just Soc, UUC:Social & Behavioral Sci

ORES 2930 - Special Topics
Credit(s): 3 Credits (Repeatable for credit)

ORES 2980 - Independent Study
Credit(s): 1 or 3 Credits (Repeatable for credit)

ORES 4310 - Epidemics and Pandemics
Credit(s): 3 Credits
Offered by the Saint Louis University School of Medicine, Department of Health and Clinical Outcomes Research, this course provides an overview of the epidemiological/medical/public health, policy and legal dimensions of preparedness and response to epidemic and pandemic events. This year, the course places an additional emphasis on COVID-19. The course employs a mix of lecture, discussion, and class assignments. The overarching goal of the course is to gain a basic understanding of the different regimes influencing preparedness and response to epidemics and pandemics from the pre-outbreak period through policy implications. (Offered in Spring) Cross-listed with PLS 2800.

ORES 4930 - Special Topics
Credit(s): 3 Credits (Repeatable for credit)

ORES 4980 - Undergraduate Readings in Outcome Research
Credit(s): 1-3 Credits (Repeatable for credit)
This class is for undergraduates wanting to do independent projects such as special problems or special topics with SLUCOR faculty members.

ORES 5010 - Introduction to Biostatistics for Health Outcomes
Credit(s): 3 Credits
This course is designed to introduce basic principles of descriptive and inferential statistics. The course will cover fundamental concepts and techniques of descriptive and inferential statistics with application to health outcomes research. This course contributes to the First Dimension by preparing students for advanced study in areas related to Outcomes Research and contributes to the Second Dimension by teaching students tools and methods of research.

ORES 5011 - Special Skills Lab
Credit(s): 1 Credit (Repeatable for credit)
This Special Skills Lab course indicates that a student will be taking the lab course the semester they are registered for ORES 5010 Introduction to Biostatistics.

ORES 5100 - Research Methods in Health & Medicine
Credit(s): 3 Credits
This online course is designed to provide an introduction to the techniques, methods, and tools used for research in the health sciences. Students will obtain an understanding of the research process and scientific method, specific study designs, methods for data collection and analysis. This is a very applied and hands-on course and is focused entirely on the unique aspects of research in the health sciences.
This course will utilize Blackboard for all lectures, online discussions, assignment submission, and examinations.
Attributes: Aviation Elective (Graduate), Aviation Research (Graduate)

ORES 5150 - Multivariate Analysis for Health Outcomes Research
Credit(s): 4 Credits
The purpose of this course is to introduce the basic principles and methods of multivariate statistics, providing students with a toolbox of statistical methods and the knowledge of when to apply the methods. This course covers advanced concepts and techniques of descriptive and inferential statistics with applications in the medical and public health fields. Multivariate methods including multiple linear regression, logistic regression, MANOVA, survival analysis, and principal components analysis are presented.

ORES 5160 - Data Management
Credit(s): 3 Credits
This course will cover the basic skills necessary for maintaining databases as well as ensuring data quality and manipulating data. The course will also introduce an experiential component in data base design and management. The course is designed for health outcomes research masters students and doctoral level students in public health. This course contributes to the First Dimension by preparing students for advanced study in areas related to Outcomes Research and contributes to the Second Dimension by teaching students tools and methods of research.
Attributes: MPH-Epidemiology, MPH-Global Health, MPH-Health Management & Policy, Social Work PhD Specilization

ORES 5210 - Foundations of Medical Diagnosis and Treatment
Credit(s): 3 Credits
Taught by medical school faculty, this course in an introduction to clinical medicine for graduate students. Basic science concepts include anatomy, physiology, microbiology/hematology, infectious diseases, genetics, immunology, endocrinology and metabolic pathways. Primary organ systems and their associated diseases will also be covered, with special emphasis on their diagnosis and treatment.

ORES 5260 - Pharmacoepidemiology
Credit(s): 3 Credits
This course is an introduction to pharmacoepidemiology - the use and effects of drugs in human populations. It provides an overview of the principles of pharmacoepidemiology, sources of pharmacoepidemiology data, and special issues in pharmacoepidemiology methodology. It reviews commonly used study designs, special topics and advanced methodologies for pharmacoepidemiologic studies.
Attributes: MPH-Maternal & Child Health

ORES 5300 - Foundations of Outcomes Research I
Credit(s): 3 Credits
This course will assist students in understanding outcomes research and provide a background in the basic tools used in outcomes studies. The course will enable students to 1) conceptually define the meaning and purpose of outcomes research, 2) understand the role of epidemiology, biostatistics, health economics, and database and information technology in conducting outcomes research, 3) evaluate the usefulness and utility of outcomes measures, 4) recognize the different types of measures used in outcomes research, including clinical, health status, quality-of-life, health care utilization, and patient satisfaction, 5) obtain a basic appreciation of statistical analyses appropriate for outcomes research, and 6) interpret the results of health outcomes research.
Attributes: Social Work PhD Specilization

ORES 5320 - Scientific Writing and Communication
Credit(s): 3 Credits
The purpose of this course is to take students step-by-step through the process of writing a journal article appropriate for publication in a scientific journal. We will focus on each section of the article for several weeks as students complete assignments related to successfully writing the section and receive feedback on weekly assignments. The last part of the course will focus on taking the research findings presented in the journal article and preparing a poster that could be presented at a research conference. Overall, students will improve their ability to communicate complex research findings in writing to their peers via publication in the peer-reviewed literature and to the broader scientific community through presentation of a poster.
Attributes: MPH-Behavior Sci & Health Equi, MPH-Epidemiology, MPH-Biostatistics

ORES 5400 - Pharmacoeconomics
Credit(s): 3 Credits
Pharmacoeconomics is one of the cornerstones of Health Outcomes Research. This course is designed to teach clinicians and new researchers how to incorporate pharmacoeconomics into study design and data analysis. Participants will learn how to collect and calculate the costs of different alternatives, determine the economic impact of clinical outcomes, and how to identify, track and assign costs to different types of health care resources used. This is a required course for the MS in Outcomes Research and Evaluation Sciences but may also be of interest to students in Public Health and Health Administration. This course contributes to the First Dimension by providing students with advanced skills in highly valued research area and contributes to the Second Dimension by developing students' ability to effectively communication complex information.

ORES 5410 - Evaluation Sciences
Credit(s): 3 Credits
This course will examine methods for evaluation of health programs in both organizational and community contexts. Topics include formative research, process evaluation, impact assessment, cost analysis, monitoring outcomes, and evaluation implementation. Strengths and weaknesses of evaluation designs will be discussed. This is a required course for the MS in Outcomes Research and Evaluation Sciences Program but may also be of interest to students in Public Health, Health Administration, and Allied Health. This course contributes to the First Dimension by providing students with advanced skills in the evaluation sciences and contributes to the Second Dimension by developing students' ability to effectively communicate complex statistical information.

ORES 5430 - Health Outcomes Measurement
Credit(s): 3 Credits
This course is designed to introduce students to the principles of health outcomes measurement. Specifically, students will be introduced to the most common measures seen in health outcomes and health services research as well as measure development and assessment of psychometric properties. Topics will include generic vs. disease specific measures, instrument design, scaling, reliability and validity, addressing measurement error, Classical Test Theory, and Item Response Theory. This course contributes to the First Dimension by providing students with advanced skills in a highly valued research area and contributes to the Second Dimension by developing students' ability to effectively communicate complex statistical information.
Attributes: MPH-Behavior Sci & Health Equi, MPH-Epidemiology, MPH-Global Health, MPH-Health Management & Policy, MPH-Maternal & Child Health, MPH-Biostatistics, Social Work PhD Specilization

ORES 5440 - Comparative Effectiveness Research
Credit(s): 3 Credits
This course is designed to introduce students to the principles of comparative effectiveness research. Specifically, students will be introduced to the concept of comparative effectiveness research, common research methods and statistical analyses, and translation and dissemination. This course contributes to the First Dimension by providing students with advanced skills in a highly valued research area and contributes to the Second Dimension by developing students' ability to effectively communicate complex statistical information.

ORES 5550 - SAS Programming I
Credit(s): 3 Credits
In the era of big data and outcomes research, skilled scientists can organize, manipulate, and analyze using many different tools. Programming in SAS is an essential skill. This course introduces the SAS environment and programming language. Students will learn data management, descriptive analysis, and statistical inference testing using a hands-on approach. By the end of the course, students will be able to import, organize, and analyze data as well as interpret the results.
Prerequisite(s): (ORES 5010, BST 5000, or BST 5020)

ORES 5560 - R Programming
Credit(s): 3 Credits
This course will teach students how to use the R statistical programming language to perform data analytics. We will start with an overview of the environment and an introduction to how data is represented in R (vectors and dataframes). We will then quickly move into actual data analysis. We will cover importing data from different source files. We will then go over typical initial data management tasks and exploratory data analysis, including both numerical and visual approaches. We will cover more complex operations on dataframes, including aggregation by clusters and various data merges. In the second half of the course, we will cover the implementation of various statistical techniques in R, including group comparisons (typical scientific table one), linear regression, and the creation of reproducible reports in R. (Offered in summer.)

ORES 5930 - Special Topics
Credit(s): 3 Credits (Repeatable for credit)

ORES 5960 - Health Outcomes Research Capstone
Credit(s): 3 Credits
This course is designed to allow students to integrate the knowledge and skills developed over the course of the MS in Health Outcomes Research and Evaluation Sciences Program. Students will design and complete an outcomes study or program evaluation over the course of the semester culminating in a formal presentation of the study and results. The overarching goal is to incorporate and utilize research skills in a real-world setting. This course contributes to the First Dimension by providing students with advanced skills in a highly valued research area and contributes to the Second Dimension by developing students' ability to effectively communicate complex statistical information.

ORES 5970 - Research Topics in Outcomes Research
Credit(s): 0-3 Credits (Repeatable for credit)

ORES 5980 - Graduate Readings in Outcomes Research
Credit(s): 0-3 Credits (Repeatable up to 6 credits)

ORES 6930 - Special Topics
Credit(s): 3 Credits (Repeatable for credit)

ORES 6950 - Special Study for Exams
Credit(s): 0 Credits (Repeatable for credit)
This Special Study for Exams course indicates that a student will be taking the exams the semester they are registered for.

ORES 6970 - Advanced Research Topics in Outcomes Research
Credit(s): 1-3 Credits

ORES 6980 - Advanced Graduate Readings in Outcomes Research
Credit(s): 0-3 Credits

ORES 6990 - Dissertation Research
Credit(s): 0-6 Credits (Repeatable for credit)