HEALTH OUTCOMES RESEARCH, PH.D.

Health outcomes research is a rapidly expanding, interdisciplinary field that provides evidence and guidance for understanding the endpoints of treatments, interventions and health care practices, be they clinical, functional, quality of life or economic. Saint Louis University’s Doctor of Philosophy (Ph.D.) in Health Outcomes Research is a program that trains researchers in the areas of health outcomes research, health services research and health data science to meet the changing needs of the health care system.

The goal of the program is to prepare robust clinical and health outcomes researchers. Students receive a solid foundation in:

- Research methodology
- Data management
- Statistical analysis
- Data science
- Scientific writing and presentation

In addition to coursework, students work collaboratively with their mentor, research and clinical faculty and other students to produce high-quality research throughout their program.

Curriculum Overview

The program requires a total of 48 credits for completion; 36 credits of coursework and 12 dissertation credits. Additionally, students must pass a written comprehensive exam, an oral examination/proposal of the dissertation and a public presentation and defense of the dissertation.

Fieldwork and Research Opportunities

The department partners with clinical faculty in the SLU School of Medicine (https://www.slu.edu/medicine/) and conducts research in numerous clinical areas, including diabetes, oncology, pediatrics, otolaryngology, infectious disease and health care quality. Additionally, our faculty have expertise in health data science, research methodology, biostatistics, epidemiology, survey design and outcomes measurement. Students have the opportunity to work with their primary mentor, our faculty and clinical faculty on both short- and long-term research projects.

Careers

Graduates are prepared to work as academics and researchers at universities, medical centers, government and non-government health agencies, hospital systems, insurance and other areas of the health industry.

Admission Requirements

Applicants should have a master’s degree from an accredited college or university in social science, biomedical science, public health, or related discipline. Successful candidates will have maintained a minimum 3.5 GPA in graduate coursework and scored at least at the 50th percentile for GRE verbal and quantitative reasoning. Students must also demonstrate evidence of interest in an area of research and identify a willing and suitable faculty mentor.

Application Requirements

Begin your application for this program at www.slu.edu/apply (http://www.slu.edu/apply.php).

- Application form and fee
- Transcripts from most recent degree(s)
- Professional statement
- Résumé or curriculum vitae
- Three letters of recommendation

Requirements for International Students

Along with the general admission requirements above, the following must be provided by prospective international students:

- Demonstration of English Language Proficiency (https://catalog.slu.edu/academic-policies/office-admission/graduate/english-language-proficiency/).
- Proof of financial support that must include:
  - A letter of financial support from the person(s) or sponsoring agency funding the time at Saint Louis University.
  - A letter from the sponsor’s bank verifying that the funds are available and will be so for the duration of study at the University.
- Academic records, in English translation, for postsecondary studies outside the United States. These must include the courses taken and/or lectures attended, practical laboratory work, the maximum and minimum grades attainable, the grades earned or the results of all end-of-term examinations, and any honors or degrees received. WES and ECE transcripts are accepted.

Application Deadline

Applications to the program are considered on a rolling basis.

Apply Now (http://www.slu.edu/apply.php)

Tuition

<table>
<thead>
<tr>
<th>Tuition</th>
<th>Cost Per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Tuition</td>
<td>$1,310</td>
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</tbody>
</table>

Additional charges may apply. Other resources are listed below:


Information on Tuition and Fees (https://catalog.slu.edu/academic-policies/student-financial-services/tuition/)

Miscellaneous Fees (https://catalog.slu.edu/academic-policies/student-financial-services/fees/)

Information on Summer Tuition (https://catalog.slu.edu/academic-policies/student-financial-services/tuition-summer/)

Scholarships and Financial Aid

For priority consideration for graduate assistantship, apply by Feb. 1.

For more information, visit the student financial services office online at https://www.slu.edu/financial-aid/index.php (https://www.slu.edu/financial-aid/).

Learning Outcomes
• Graduates will be able to effectively review, summarize and synthesize literature related to clinical aspects of health outcomes.
• Graduates will be able to apply appropriate data management strategies related to clinical aspects of health outcomes.
• Graduates will be able to critically evaluate clinical aspects and healthcare-specific methodological designs.
• Graduates will be able to demonstrate a thorough and ethical approach to conducting academic research.
• Graduates will be able to effectively communicate study results related to clinical aspects of health outcomes.

Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORES 5010</td>
<td>Introduction to Biostatistics for Health Outcomes</td>
<td>3</td>
</tr>
<tr>
<td>or HDS 5310</td>
<td>Analytics and Statistical Programming</td>
<td></td>
</tr>
<tr>
<td>ORES 5160</td>
<td>Data Management</td>
<td>3</td>
</tr>
<tr>
<td>ORES 5300</td>
<td>Foundations of Outcomes Research I</td>
<td>3</td>
</tr>
<tr>
<td>ORES 5320</td>
<td>Scientific Writing and Communication</td>
<td>3</td>
</tr>
<tr>
<td>ORES 5430</td>
<td>Health Outcomes Measurement</td>
<td>3</td>
</tr>
<tr>
<td>ORES 5150</td>
<td>Multivariate Analysis for Health Outcomes Research</td>
<td>3-4</td>
</tr>
<tr>
<td>or HDS 5320</td>
<td>Inferential Modeling</td>
<td></td>
</tr>
<tr>
<td>ORES 6990</td>
<td>Dissertation Research (taken over multiple semesters, 12hrs total)</td>
<td>0-6</td>
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</table>

Program Elective Courses

Select six courses from the following: 18

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>HDS 5210</td>
<td>Programming for Health Data Scientists</td>
</tr>
<tr>
<td>HDS 5230</td>
<td>High Performance Computing</td>
</tr>
<tr>
<td>HDS 5330</td>
<td>Predictive Modeling and Machine Learning</td>
</tr>
<tr>
<td>HMP 5000</td>
<td>Health Care Organization</td>
</tr>
<tr>
<td>ORES 5210</td>
<td>Foundations of Medical Diagnosis and Treatment</td>
</tr>
<tr>
<td>ORES 5400</td>
<td>Pharmacoeconomics</td>
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<tr>
<td>ORES 5410</td>
<td>Evaluation Sciences</td>
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<td>ORES 5560</td>
<td>R Programming</td>
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<tr>
<td>ORES 5550</td>
<td>SAS Programming I</td>
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<tr>
<td>ORES 5260</td>
<td>Pharmacoepidemiology</td>
</tr>
<tr>
<td>ORES 5440</td>
<td>Comparative Effectiveness Research</td>
</tr>
<tr>
<td>ORES 6980</td>
<td>Advanced Graduate Readings in Outcomes Research</td>
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Total Credits 48-49

Continuation Standards

Students must maintain a cumulative grade point average (GPA) of 3.00 in all graduate/professional courses.

Roadmap

Roadmaps are recommended semester-by-semester plans of study for programs and assume full-time enrollment unless otherwise noted.

Courses and milestones designated as critical (marked with !) must be completed in the semester listed to ensure a timely graduation. Transfer credit may change the roadmap.

This roadmap should not be used in the place of regular academic advising appointments. All students are encouraged to meet with their advisor/mentor each semester. Requirements, course availability and sequencing are subject to change.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Year One</td>
<td></td>
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<tr>
<td>Fall</td>
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<tr>
<td>ORES 5010</td>
<td>Introduction to Biostatistics for Health Outcomes</td>
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</tr>
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<tr>
<td>ORES 5300</td>
<td>Foundations of Outcomes Research I</td>
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<tr>
<td>ORES 5320</td>
<td>Scientific Writing and Communication</td>
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Credits 9

Spring

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ORES 5160</td>
<td>Data Management</td>
<td>3</td>
</tr>
<tr>
<td>ORES 5210</td>
<td>Foundations of Medical Diagnosis and Treatment (Program Elective #1)</td>
<td>3</td>
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<tr>
<td>HDS 5210</td>
<td>Programming for Health Data Scientists (Program Elective #2)</td>
<td>3</td>
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Credits 9

Summer

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>HDS 5320</td>
<td>Inferential Modeling (Can substitute for ORES 5150 or be used as an elective)</td>
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Credits 3

Year Two

<table>
<thead>
<tr>
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<td>Fall</td>
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<tr>
<td>ORES 5430</td>
<td>Health Outcomes Measurement</td>
<td>3</td>
</tr>
<tr>
<td>Program Elective #3</td>
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<td>3</td>
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<tr>
<td>Program Elective #4</td>
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Credits 9

Spring

<table>
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<td>Program Elective #6</td>
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Credits 6

Year Three

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>Fall</td>
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</tr>
<tr>
<td>ORES 6990</td>
<td>Dissertation Research</td>
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Credits 6

Spring

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<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>ORES 6990</td>
<td>Dissertation Research</td>
<td>6</td>
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</table>

Credits 6

Total Credits 48