

Beginning in Fall 2023, HILS PhD students may choose to add a concentration in implementation science or informatics, or a concentration of their own design.

Implementation Science Concentration

Required courses

- LHS 621, Implementation Science in Health I, 3 credit hours (HILS Core Course)
- LHS 641, Quality Improvement in Healthcare Systems, 3 credit hours
- LHS 721, Implementation Science in Health II, 3 credit hours

Choose two (2) cognate/elective courses

- HBEHED 592, Health Program Evaluation, 3 credit hours
- HBEHED 638, Qualitative methods in Public Health, 3 credit hours
- HBEHED 662, Risk Communication: Theory, Techniques, and Applications in Health, 3 cr hrs
- HBEHED 733, Community-Based Participatory Research (CBPR), 3 credit hours
- HMP 640, Program Evaluation in Public Health, 3 credit hours
- HMP 655, Decision Making Models in Health Care, 3 credit hours
- HS 889 Intervention Research, 3 credit hours
- MO 899, Doctoral Seminar in Organizational Behavior & Human Resource Mgmt, 3 cr hrs
- SW 678, Program Evaluation and Applied Research, 3 credit hours
- SW 833, Grant Writing for Extramural Research Funding, 3 credit hours
- SW 861 Mixed Methods Research, 3 credit hours
- SW 867, Participatory Research Strategies to Maximize Community Impact, 3 cr hrs
- Courses in Design Science as approved by faculty advisor
- Additional courses as approved by faculty advisor

Choose two (2) advanced methods courses

- EPID 514, Social Epidemiology, 3 credit hours
- EPID 617, Social Epidemiology II: Social & Econ Determinants of Population Health, 3 cr hrs
- EPID 637, Systems Modeling of Behavior, Social Processes and Chronic Disease, 3 cr hrs
- EPID 638, Computer Modeling of Complex Systems, 3 credit hours
- EPID 706, Mixed Methods in Epidemiologic Research, 1 credit hour
- HBEHED 638, Qualitative Methods in Public Health, 3 credit hours
- HBEHED 639, Mixed Methods Research Designs and Applications, 3 credit hours
- HBEHED 700, Advanced Quantitative Methods in Health Behavior, 3 credit hours
- HMP 622, Qualitative Methods for Health Policy Research, 3 credit hours
- HMP 663, Introduction to Economic Evaluation Using Cost-Effectiveness, 1 credit hour
- Additional courses as approved by faculty advisor

Informatics

Required courses

- BIOSTAT 521, Applied Biostats, 3 credit hours or LHS 665 Applied Biostatistics for Health Researchers (HILS Core Course), 4 credit hours; consult faculty advisor
- BIOSTAT 522, Biostatistical Analysis of Health-Related Studies, 3 credit hours
- LHS 610, Exploratory Data Analysis for Health, 3 credit hours (HILS Core Course)
- LHS 668/HMP 668/SI 542/BIOINF 668, Introduction to Health Informatics, 3 credit hours

Choose two (2) cognate/elective courses

- BIOINF 527, Introduction to Bioinformatics & Computational Biology, 4 credit hours
- BIOINF 529, Bioinformatics Concepts and Algorithms, 3 credit hours
- HMP 611, Population Health Informatics, 3 credit hours
- LHS 611, Knowledge Representation and Management in Health, 3 credit hours
- LHS 641, Quality Improvement in Healthcare Systems, 3 credit hours
- LHS 660, Evaluation & Research Methods for Health Informatics & Learning Systems, 3 cr hrs
- SI 537, Crisis Informatics, 3 credit hours
- SI 554, Consumer Health Informatics, 3 credit hours
- Additional courses as approved by faculty advisor

Choose two (2) advanced methods courses

- BIOINF 545, High Throughput Molecular Genomic & Epigenomic Data Analysis, 3 credit hours
- BIOINF 551, Proteome and Metabolome Informatics, 3 credit hours
- BIOINF 580, Intro to Signal Processing & Machine Learning in Biomedical Sciences, 3 cr hrs
- BIOINF 590, Imaging Processing and Adv ML for Cancer (580 is pre-req), 3 credit hours
- EECS 487, Interactive Computer Graphics, 4 credit hours (pre-req is EECS 281)
- EECS 545, Machine Learning, 3 credit hours
- EECS 592, Foundations of Artificial Intelligence, 4 credit hours
- HS 807, Management and Analysis of Large US Health Data, 4 credit hours
- LHS 712, Natural Language Processing on Health Data, 3 credit hours
- SI 650, Information Retrieval, 3 credit hours
- Additional courses as approved by faculty advisor