

# HEALTH POLICY

Courses offered by the Center for Health Policy (CHP) are listed under the subject code HRP on the (<http://explorecourses.stanford.edu/CourseSearch/search/?view=catalog&catalog=&page=0&q=HRP&filter-catalognumber=HRP=on>) Stanford Bulletin's (<http://explorecourses.stanford.edu/CourseSearch/search/?view=catalog&catalog=&page=0&q=HRP&filter-catalognumber=HRP=on>) ExploreCourses web site (<http://explorecourses.stanford.edu/CourseSearch/search/?view=catalog&catalog=&page=0&q=HRP&filter-catalognumber=HRP=on>).

*Effective October 1, 2019, the former Department of Health Research and Policy was reorganized. CHP/PCOR is the new joint working name of the Center for Health Policy (CHP) and the Center for Primary Care and Outcomes Research (PCOR). Epidemiology moved from the Department of Health Research and Policy to become an independent department in the School of Medicine, the new Department of Epidemiology and Population Health (<http://exploreddegrees.stanford.edu/schoolofmedicine/eph/>).*

The Center for Health Policy (CHP) conducts rigorous research that lays the foundation for better domestic and international health policy and health care. Drawing upon our multidisciplinary research, CHP/PCOR offers innovative educational programs from the undergraduate to the graduate level.

Located in the heart of Stanford's campus, CHP/PCOR is run under the auspices of the Freeman Spogli Institute for International Studies (CHP) and the Stanford University School of Medicine (PCOR). The jointly operated centers were founded in 1998 to engage faculty, staff and students from across Stanford—including medicine, economics, statistics, business, law, engineering and psychology—in research on health policy and clinical practice.

Health Policy/Health Services Research is concerned with many aspects of health policy analysis in the public and private sectors.

For additional information, send email to [hrpadmissions@stanford.edu](mailto:hrpadmissions@stanford.edu).

## Master of Science in Health Policy

University requirements for the M.S. degree are described in the "Graduate Degrees (<http://exploreddegrees.stanford.edu/graduatedegrees/>)" section of this bulletin.

The master's degree program in Health Policy seeks to train students in the quantitative analysis of issues in health and medical care. The program is based upon an individual development plan, and includes both course work and completion of a master's project under the direction of a program core faculty member. The typical student in the program is a physician who has completed residency training and is preparing for a research career; the program also admits Stanford medical students and others with a strong background in health policy analysis. The core faculty interests include outcomes research, health economics, health care organization, health care access, implementation science, quality of care, decision analysis, clinical guidelines, and assessment of patient preferences and quality of life.

## Admission

*Application deadline:* February 23, 2021.

For additional information on course requirements and admissions process, see the program website (<https://healthpolicy.fsi.stanford.edu/content/ms-health-policy/>). Please address inquiries to the HRP Education Program Manager at [hrpadmissions@stanford.edu](mailto:hrpadmissions@stanford.edu).

Submit an application through the Stanford Graduate Admissions website (<https://gradadmissions.stanford.edu/applying/>) by clicking on "Apply Now."

Applications are evaluated based on the applicant's commitment to and aptitude for a career in health policy research as demonstrated via transcripts, statement of purpose, relevant work and research experience, and letters of recommendation. The Graduate Record Examination (GRE) is optional in the 2020-2021 application cycle, but is still highly encouraged and may be waived for applicants with an M.D. or similar degree. Applicants from non-English speaking countries should provide evidence of competence in English on the Test of English as a Foreign Language (TOEFL). See Stanford University GRE and TOEFL policies and requirements on the Graduate Admissions (<https://gradadmissions.stanford.edu/applying/starting-your-application/required-exams/>) website.

## Required Supporting Documents

To be submitted in the Stanford Graduate Admissions Application:

- Statement of Purpose that includes area(s) of interest
- Three letters of recommendation
- Official GRE General Test scores (optional in 2020-2021 application cycle)
- Official TOEFL scores (if applicable)
- Unofficial transcripts for all college/university degrees
- CV with relevant work and research experience

## Advisors and Mentors

Each student proposes a thesis committee, to be approved by the Program Director, comprised of at least two faculty members associated with the master's degree program, one of whom must be a core faculty member. The chair of the thesis committee is the student's faculty advisor, and a member of the core faculty. In addition to serving as a mentor for the student's thesis, the faculty advisor is responsible for advising the student on curriculum-related issues and ensuring that the student is progressing sufficiently toward completion of the program.

## Thesis

Each student must submit a 1-2 page thesis proposal by the end of the first year in the program. The proposal should describe the research project which will fulfill the requirement for the master's thesis including identifying the research question and describing the data sources and methods to be used. For collaborative projects, the student should identify the collaborators and describe in detail their role on the project. For projects using secondary data, the student should provide evidence that the data will be available for the proposed research and describe how they will access the data. In the proposal, the student should identify the members of the thesis committee.

All committee members must read and approve the final thesis. Depending on the topic of the project, additional faculty members may serve as mentors either as a committee member or in a less formal arrangement. Other faculty members may be added to the thesis to serve as content experts for projects concerned with specific diseases or medical treatments.

## Degree Requirements

To receive the degree, students are expected to demonstrate knowledge of issues in health policy and the quantitative skills necessary for research in this area. Students must take at least 45 units of course work and write a University thesis. The course work requirements are:

## Course Requirements

		Units
<b>Required Courses</b>		
HRP 392	Analysis of Costs, Risks, and Benefits of Health Care	4
EPI 261	Intermediate Biostatistics: Analysis of Discrete Data	3
EPI 262	Intermediate Biostatistics: Regression, Prediction, Survival Analysis	3
HRP 201A	Health Policy Graduate Student Tutorial I	1-2
HRP 201B	Health Policy Graduate Student Tutorial II	1-2
HRP 201C	Health Policy Graduate Student Tutorial III	1-2
Required for students funded by NIH training grants:		
MED 255	The Responsible Conduct of Research	1
or MED 255C	The Responsible Conduct of Research for Clinical and Community Researchers	
<b>Concentration Requirements</b>		
Choose one of the following Concentration Courses		
HRP 218	Methods for Health Care Delivery Innovation, Implementation and Evaluation	2
HRP 263	Advanced Decision Science Methods and Modeling in Health	3
HRP 391	Health Law: Finance and Insurance	3
HRP 252	Outcomes Analysis	4
EPI 292	Advanced Statistical Methods for Observational Studies	2-3
HRP 256	Economics of Health and Medical Care	5
HRP 249	Topics in Health Economics I	2-5
<b>Thesis Units</b>		
A total of 12 units of thesis units		
HRP 399	Graduate Research	12
<b>Electives</b>		
Additional approved elective courses to complete the program total of at least 45 units		
<b>Total Units</b>		<b>45</b>

## Pre-approved electives

Other electives, consistent with the student's individual development plan, may be approved by the student's faculty advisor and the program director.

		Units
BIOMEDIN 215	Data Science for Medicine	3
EPI 202	R Fundamentals for Health Research	1-2
EPI 206	Meta-research: Appraising Research Findings, Bias, and Meta-analysis	3
EPI 214	Scientific Writing	2-3
EPI 219	Evaluating Technologies for Diagnosis, Prediction and Screening	3
EPI 223	Introduction to Data Management and Analysis in SAS	2
EPI 251	Design and Conduct of Clinical Trials	3
EPI 259	Introduction to Probability and Statistics for Epidemiology	3
EPI 264	Foundations of Statistical and Scientific Inference	1
EPI 292	Advanced Statistical Methods for Observational Studies	2-3
HRP 224	Social Entrepreneurship and Innovation Lab (SE Lab) - Human & Planetary Health	3-4

HRP 249	Topics in Health Economics I	2-5
HRP 254	Quality & Safety in U.S. Healthcare	3
HRP 257	Advanced Topics in the Economics of Health and Medical Care	2
HRP 285	Global Leaders and Innovators in Human and Planetary Health	1-2
GSBGEN 551	Innovation and Management in Health Care	2
MED 273	Biodesign for Digital Health	3
PEDS 202A	Practical Applications for Qualitative Data Analysis	3
PEDS 202B	Practical Applications for Qualitative Data Analysis	3
STATS 216	Introduction to Statistical Learning	3
STATS 266	Advanced Statistical Methods for Observational Studies	2-3

## Ph.D. in Health Policy

University requirements for the Ph.D. are described in the "Graduate Degrees (<http://exploreddegrees.stanford.edu/graduatedegrees/>)" section of this bulletin.

Stanford Health Policy, through the Department of Medicine at the Stanford University School of Medicine, offers a Ph.D. program which promises to educate students to be scholarly leaders in the field of health policy, and to be highly knowledgeable about the theoretical and empirical approaches that can be applied in the development of improvements in health policy and the health care system. The curriculum offers courses across a wide range of health policy areas including health economics, health insurance and government program operation, health financing, international health policy and economic development, cost-effectiveness analysis and the evaluation of new technologies, relevant statistical and methodological approaches, and health policy issues related to public health concerns such as obesity and chronic disease.

## Admission

The program welcomes applicants with diverse backgrounds. Applications and supporting documents (see below) must be submitted through Stanford's Office of Graduate Admissions (<http://studentaffairs.stanford.edu/gradadmissions/>) by December 1, 2020. This is the final deadline. All applications and all reference letters should be received electronically in the application no later than 11:59 pm on December 1, 2020.

Applications are evaluated based on the applicant's commitment to and aptitude for a career in health policy research as demonstrated via transcripts, and described in a statement of purpose, relevant work and research experience, and letters of recommendation. The Graduate Record Examination (GRE) is NOT required (submitting scores is optional) for the 2020-21 application cycle. Please note that this may change in future years. Applicants from non-English speaking countries should provide evidence of competence in English on the Test of English as a Foreign Language (TOEFL). For further information on Stanford University TOEFL requirements and exemptions, see the Graduate Admissions website (<https://gradadmissions.stanford.edu/about/frequently-asked-questions/gre-and-toefl/>).

See the program's website (<https://healthpolicy.fsi.stanford.edu/content/phd-health-policy/>) for additional information on degree requirements, advising, program milestones, and admissions processes. Address inquiries to the HRP Education Program Manager at [hrpadmissions@stanford.edu](mailto:hrpadmissions@stanford.edu).

## Required Supporting Documents

To be submitted to Stanford's central application form:

- Statement of Purpose that includes the specialization track (Decision Sciences or Health Economics) and policy area(s) of interest
- Three letters of recommendation
- Official GRE General Test scores (optional in the 2020-2021 application cycle)
- Official TOEFL scores (if necessary) (Stanford Graduate Admissions TOEFL policy (<https://gradadmissions.stanford.edu/about/frequently-asked-questions/gre-and-toefl/>))
- Unofficial transcripts for all college/university degrees and courses
- CV with relevant work and research experience

For the 2020-2021 application cycle, the GRE is not required (it is optional to submit scores). The program may revert to requiring the GRE in subsequent years.

While not required, it is strongly encouraged that applicants have, or plan to have at the time of matriculation, mathematical skill at the level at the level of multivariate calculus, and one course each in linear algebra, analysis, probability, and statistics.

### Interviews

Applicant interviews, if offered, are held in early to mid February.

### Advising

Academic advising by program faculty is a critical component of the program's graduate students' education. All matriculating students are assigned a faculty advisor from the group of core faculty to help them design their academic program. Before or shortly after the time that they advance to candidacy for the degree, students are expected to identify a group of at least three thesis advisors (also known as the dissertation reading committee), including a primary thesis advisor. The thesis advisors are selected by the student on the basis of expertise relevant to the thesis project, and may or may not include the originally assigned faculty advisor.

Advisors meet with students within the first quarter of each year to discuss students' Individual Development Plan(s) (IDPs). Additionally, students meet with their advisor(s) on a regular basis throughout each year to discuss course selection, development of research projects, progress through the program, and career plans.

Academic progress and student completion of program requirements and milestones are monitored by the program staff and directors and also discussed at quarterly meetings of all Ph.D. advisors.

Requirements and milestones, as well as more detailed descriptions of the program's expectations of advisors and students, are listed in the Student Handbook, found on the program's website (<https://healthpolicy.fsi.stanford.edu/content/phd-health-policy/>).

The program adheres to the advising guidelines and responsibilities listed by the Office of the Vice Provost for Graduate Education (<https://vpge.stanford.edu/academic-guidance/advising-mentoring/>) and in the Graduate Academic Policies and Procedures (<https://gap.stanford.edu/handbooks/gap-handbook/chapter-3/subchapter-3/page-3-3-1/>) manual.

See the "Graduate Advising (<http://exploreddegrees.stanford.edu/schoolofmedicine/eph/#graduateadvisingtext>)" tab of this section of this bulletin for additional information on advising expectations for student and faculty.

## Degree Requirements

See the program's website (<https://healthpolicy.fsi.stanford.edu/content/phd-health-policy/>) for additional information on degree requirements, advising, and program milestone.

In addition to taking a set of core courses, students are expected to complete course work in one of two tracks:

- *Health Economics*: including the economic behavior of individuals, providers, insurers, and governments and how their actions affect health and medical care.
- *Decision Sciences*: with quantitative techniques to assess the effectiveness and value of medical treatments and for decision making about medical care at the individual and/or collective level.

Stanford Health Policy may offer a third track in the 2021-2022 academic year that will offer expertise in other areas of health policy research. The track is under development and additional information will be published here and on the department website once the track requirements are determined.

### Requirements

- Completion of course work (see below) with minimum grades of 'B-' and an overall/average GPA of a B (3.0).
- Individual development plan (IDP) meeting with primary advisor within the first quarter of each year.
- Meeting with advisor(s) on a regular basis.
- Completion of progress assessment/milestone meeting with primary advisor each year (during Spring quarters).
- Completion of course work in the responsible conduct of research.
- Final course work (for both first and second year) must total at least 75 units for both core and track specific courses.
- Taking and passing the Written Qualifying Exam.
- Taking and passing the Oral Exam.
- Students must develop, write and present a Ph.D. dissertation that is the result of independent investigation and that constitutes a contribution to knowledge in health services research and health policy.
- A final presentation is required for graduation - the final presentation is a summary of the work accomplished on the Ph.D. research and should occur while the student is still matriculated, during the regular academic quarter.

### Course Requirements

The minimum number of units required for a Ph.D. degree at Stanford (satisfied both through coursework and research units) is 135.

Ph.D. students complete work in one of the following two tracks.

### Health Economics Track

		Units
<b>Statistical Data Analysis, Econometrics, and Causal Inference</b>		
Required - one year sequence in econometrics:		
ECON 270	Intermediate Econometrics I	2-5
ECON 271	Intermediate Econometrics II	2-5
ECON 272	Intermediate Econometrics III	3-5
OR		
MGTECON 603	Econometric Methods I	4
MGTECON 604	Econometric Methods II	4
MGTECON 605	Econometric Methods III	3
<b>Micro-Economics</b>		
Required - one year sequence in microeconomics:		
ECON 202	Microeconomics I	2-5
ECON 203	Microeconomics II	2-5
ECON 204	Microeconomics III	3-5

Or equivalent: GSBGEN 675 or MGTECON 600 can be substituted for ECON 202 and/or MGTECON 601 can be substituted for ECON 203.

#### Discipline-Specific Courses

Required:

HRP 249	Topics in Health Economics I	3-5
HRP 257	Advanced Topics in the Economics of Health and Medical Care	2

Choose 4 courses in the following 4 fields in economics:

Development Economics

Public Finance

Labor Economics

Industrial Organization

#### Health Policy

Required:

HRP 252	Outcomes Analysis	4
HRP 256	Economics of Health and Medical Care	5
HRP 392	Analysis of Costs, Risks, and Benefits of Health Care	4

Choose at least 8 units of additional health-policy-related courses such as:

EASTASN 217	Health and Healthcare Systems in East Asia	3-5
HRP 209	Health Law: The FDA	2-3
HRP 391	Health Law: Finance and Insurance	3
LAW 3002	Health Law: Quality and Safety of Care	3
LAW 3009	Health Law: Improving Public Health	3
MED 238	Leading and Managing Health Care Organizations: Innovation and Collaboration in High Stakes Settings	3

#### Practice of Research

Required:

First-year core tutorial (HRP 201A, HRP 201B, and HRP 201C)

Second-year core tutorial (HRP 800) - 3 quarters (Aut, Win & Spr)

Health Economics Seminar

Research in Progress Seminar

MED 255	The Responsible Conduct of Research	1
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### Decision Science Track

Units

#### Statistical Data Analysis, Econometrics, and Causal Inference

Required: at least two quarters of one of the two following sequences:

ECON 270	Intermediate Econometrics I	2-5
ECON 271	Intermediate Econometrics II	2-5
ECON 272	Intermediate Econometrics III	3-5

Or

MGTECON 603	Econometric Methods I	4
MGTECON 604	Econometric Methods II	4
MGTECON 605	Econometric Methods III	3

#### Micro-Economics

Required, at least one quarter:

GSBGEN 675	Microeconomic Theory	3
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Or

MGTECON 600	Microeconomic Analysis I	3
MGTECON 601	Microeconomic Analysis II	3

Or

ECON 202N	Microeconomics I For Non-Economics PhDs students	2-5
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Or		
ECON 202	Microeconomics I	2-5
ECON 203	Microeconomics II	2-5

#### Discipline-Specific Courses

Required:

HRP 263	Advanced Decision Science Methods and Modeling in Health	3
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Choose 4 methods courses such as:

MS&E 201	Dynamic Systems	3
MS&E 211X	Introduction to Optimization (Accelerated)	3-4
MS&E 221	Stochastic Modeling	3
MS&E 223	Simulation	3
MS&E 226	Fundamentals of Data Science: Prediction, Inference, Causality	3
MS&E 263	Healthcare Operations Management	3
MS&E 463	Healthcare Systems Design	3-4

#### Health Policy

Required:

HRP 252	Outcomes Analysis	4
HRP 256	Economics of Health and Medical Care	5
HRP 392	Analysis of Costs, Risks, and Benefits of Health Care	4

Choose at least 8 units of additional health-policy-related courses such as:

EASTASN 217	Health and Healthcare Systems in East Asia	3-5
HRP 209	Health Law: The FDA	2-3
HRP 391	Health Law: Finance and Insurance	3
LAW 3002	Health Law: Quality and Safety of Care	3
LAW 3009	Health Law: Improving Public Health	3
MED 238	Leading and Managing Health Care Organizations: Innovation and Collaboration in High Stakes Settings	3

#### Practice of Research

Required:

First-year core tutorial (HRP 201A, HRP 201B, HRP 201C)

Second-year core tutorial (HRP 800) - 3 quarters (Aut, Win & Spr)

Research in Progress Seminar

MED 255	The Responsible Conduct of Research	1
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### New Track, 2021-22

Stanford Health Policy may offer a third track in the 2021-22 academic year that will offer expertise in other areas of health policy research. The track is under development and additional information will be published here and on the department website once the track requirements are determined.

### COVID-19 Policies

On July 30, the Academic Senate adopted grading policies effective for all undergraduate and graduate programs, excepting the professional Graduate School of Business, School of Law, and the School of Medicine M.D. Program. For a complete list of those and other academic policies relating to the pandemic, see the "COVID-19 and Academic Continuity (<http://exploreddegrees.stanford.edu/covid-19-policy-changes/#tempdeptemplatetabtext>)" section of this bulletin.



The Senate decided that all undergraduate and graduate courses offered for a letter grade must also offer students the option of taking the course for a “credit” or “no credit” grade and recommended that deans, departments, and programs consider adopting local policies to count courses taken for a “credit” or “satisfactory” grade toward the fulfillment of degree-program requirements and/or alter program requirements as appropriate.

## Graduate Degree Requirements

### Grading

Stanford Health Policy counts all courses taken in academic year 2020-21 with a grade of 'CR' (credit) or 'S' (satisfactory) towards satisfaction of graduate degree requirements that otherwise require a letter grade.

## Graduate Advising Expectations

The Center for Health Policy (CHP) and the Center for Primary Care and Outcomes Research (PCOR) is committed to providing academic advising in support of graduate student scholarly and professional development. When most effective, this advising relationship entails collaborative and sustained engagement by both the advisor and the advisee. As a best practice, advising expectations should be periodically discussed and reviewed to ensure mutual understanding. Both the advisor and the advisee are expected to maintain professionalism and integrity.

Faculty advisors guide students in key areas such as selecting courses, designing and conducting research, developing teaching pedagogy, navigating policies and degree requirements, and exploring academic opportunities and professional pathways.

Graduate students are active contributors to the advising relationship, proactively seeking academic and professional guidance and taking responsibility for informing themselves of policies and degree requirements for their graduate program.

CHP/PCOR programs adhere to the advising guidelines and responsibilities listed by the Office of the Vice Provost for Graduate Education (<https://vpge.stanford.edu/academic-guidance/advising-mentoring/>) and in the Graduate Academic Policies and Procedures (<https://gap.stanford.edu/handbooks/gap-handbook/chapter-3/subchapter-3/page-3-3-1/>) manual.

For a statement of University policy on graduate advising, see the "Graduate Advising (<http://exploreddegrees.stanford.edu/graduatedegrees/#advisingandcredentialstext>)" section of this bulletin.

## Health Policy

Director of Graduate Studies and Director of Ph.D. Health Policy: Laurence Baker

Director of M.S. Health Policy: Kate Bundorf

Director of Education, Ph.D. Health Policy: Corinna Haberland

Core Faculty and Academic Teaching Staff:

Steven Asch (Professor, Medicine), Laurence Baker (Professor, Medicine), Eran Bendavid (Associate Professor, Medicine), Jay Bhattacharya (Professor, Medicine), Kate Bundorf (Associate Professor, Medicine), David Chan (Assistant Professor, Medicine), Jeremy Goldhaber-Fiebert (Associate Professor, Medicine), Mary Goldstein (Professor, Medicine), Corinna Haberland (Lecturer, Medicine), Mark Hlatky (Professor, Medicine), Michelle Mello (Professor, Law, and Medicine), Grant Miller (Associate Professor, Medicine), Arden Morris, (Professor, Surgery), Doug Owens (Professor, Medicine), Maria Polyakova (Assistant Professor, Medicine), Maya Rossin-Slater (Assistant Professor, Medicine), Joshua Salomon (Professor, Medicine), Lee Sanders (Associate Professor,

Pediatrics), Sara Singer (Professor, Medicine), David Studdert (Professor, Law, and Medicine), Jason Wang (Associate Professor, Pediatrics), Paul Wise (Professor, Pediatrics), Donna Zulman (Assistant Professor, Medicine)

*Affiliated Faculty and Staff by Department:*

Anesthesiology, Perioperative, and Pain Medicine: Alex Macario (Professor), Eric Sun (Assistant Professor)  
Biomedical Data Science: Bradley Efron (Professor), Philip Lavori (Professor), Robert Tibshirani (Professor)  
Economics: Mark Duggan (Professor), Victor Fuchs (Professor)  
Emergency Medicine: James Quinn (Professor)  
Epidemiology & Population Health: Steven Goodman (Professor), Kristin Sainani (Associate Professor)  
Graduate School of Business: Alain Enthoven (Professor)  
Law: Daniel Kessler (Professor), Henry T. Greely (Professor)  
Management Science & Engineering: Margaret Brandeau (Professor)  
Medicine: Mark R. Cullen (Professor), Paul Heidenreich (Professor), Tina Hernandez-Boussard (Associate Professor), Stephen Luby (Professor), Nigam Shah (Associate Professor)  
Ophthalmology: Suzann Pershing (Assistant Professor)  
Pediatrics: Ciaran Phibbs (Associate Professor)  
Surgery: Todd Wagner (Associate Professor)

## Courses

**HRP 89Q. Introduction to Cross Cultural Issues in Medicine. 3 Units.**

Preference to sophomores. Introduction to social factors that impact health care delivery, such as ethnicity, immigration, language barriers, and patient service expectations. Focus is on developing a framework to understand culturally unique and non-English speaking populations in the health care system.

**HRP 199. Undergraduate Research. 1-18 Unit.**

Students undertake investigations sponsored by individual faculty members. Prerequisite: consent of instructor.

**HRP 201A. Health Policy Graduate Student Tutorial I. 1-2 Unit.**

Seminar series is the core tutorial for first-year Health Policy PhD students and all MS Health Policy students. Major themes in fields of study including health insurance, healthcare financing and delivery, health systems and reform and disparities in the US and globally, health and economic development, health law and policy, resource allocation, efficiency and equity, healthcare quality, measurement and the efficacy and effectiveness of interventions. Blocks of session led by Stanford expert faculty in particular fields of study. 2 unit registration requires written responses to assigned reading questions. Same as: MED 215A

**HRP 201B. Health Policy Graduate Student Tutorial II. 1-2 Unit.**

Second in a three-quarter seminar series, the core tutorial is for first-year Health Policy PhD students and all MS Health Policy students. Major themes in fields of study including health insurance, healthcare financing and delivery, health systems and reform and disparities in the US and globally, health and economic development, health law and policy, resource allocation, efficiency and equity, healthcare quality, measurement and the efficacy and effectiveness of interventions. Blocks of session led by Stanford expert faculty in particular fields of study. Same as: MED 215B

**HRP 201C. Health Policy Graduate Student Tutorial III. 1-2 Unit.**

Third in a three-quarter seminar series, the core tutorial is for first-year Health Policy PhD students and all MS Health Policy students. Major themes in fields of study including health insurance, healthcare financing and delivery, health systems and reform and disparities in the US and globally, health and economic development, health law and policy, resource allocation, efficiency and equity, healthcare quality, measurement and the efficacy and effectiveness of interventions. Blocks of session led by Stanford expert faculty in particular fields of study. Same as: MED 215C

**HRP 204. Models for Understanding and Controlling Global Infectious Diseases. 3-4 Units.**

(HUMBIO students must enroll in HUMBIO 154D. Med/Graduate students must enroll in HRP 204.) This course introduces students to the dynamics of infectious diseases of global health importance, focusing on the use of mathematical models to characterize their transmission in populations. Relevant case examples of pathogens with differing natural history and transmission routes include tuberculosis, HIV, malaria, typhoid, and cholera, as well emerging infectious diseases such as Ebola and the 2019 novel coronavirus. Lectures will emphasize the theoretical basis underlying infectious disease dynamics and link them to in-class workshops and problem sets that will emphasize public health applications and will provide students with hands-on experience in creating and coding models. Students will learn the mathematical underpinnings of key topics in infectious disease transmission including herd immunity, the basic reproductive number, vaccine effects, social contact structure, host heterogeneities, and pathogen fitness. The course will teach students how to approach new questions in infectious disease transmission, from model selection, tradeoffs in model complexity or parsimony, parameterization, sensitivity and uncertainty analyses. Students will practice building models, evaluating the influence of model parameters, making predictions about disease trajectories, and projecting the impact of public health interventions. Prerequisites: HUMBIO 88 or 89 or STATS 141 or BIOSCI 141.

Same as: HUMBIO 154D

**HRP 207. Introduction to Concepts and Methods in Health Services and Policy Research I. 2 Units.**

Primarily for medical students in the Health Services and Policy Research scholarly concentration. Topics include health economics, statistics, decision analysis, study design, quality measurement, cost benefit and effectiveness analysis, and evidence based guidelines.

**HRP 208. Introduction to Concepts and Methods in Health Services and Policy Research II. 2 Units.**

Primarily for medical students in the Health Services and Policy Research scholarly concentration; continuation of 207. Topics include health economics, statistics, decision analysis, study design, quality measurement, cost benefit and effectiveness analysis, and evidence based guidelines. Recommended: 207.

**HRP 209. Health Law: The FDA. 2-3 Units.**

(Same as LAW 3003) Open to law and medical students; other graduate students by consent of instructor. The FDA's regulatory authority over drugs, biologics, medical devices, and dietary supplements. The nature of the pharmaceutical, biotech, medical device, and nutritional supplement industries.

**HRP 211. Law and Biosciences: Neuroscience. 3 Units.**

(Same as LAW 3006) Legal, social, and ethical issues arising from advances in neuroscience, including effects upon law and society through improvements in predicting illnesses and behaviors, reading minds through neuroimaging, understanding responsibility and consciousness, treating criminal behavior, and cognitive enhancement.

**HRP 213. Writing in the Sciences. 2-3 Units.**

Primarily for medical students in the Clinical Research Scholarly concentration; open to graduate students except Epidemiology graduate students. Development of research questions and plans for statistical analysis. Study design, sample size and power calculations, and statistical analysis of study data. Analytic methods to carry out statistical power and sample size calculations. Prerequisites: 225, and 258 or 259, or consent of instructor.

**HRP 218. Methods for Health Care Delivery Innovation, Implementation and Evaluation. 2 Units.**

Preference given to postgraduate fellows and graduate students. Focus is on implementation science and evaluation of health care delivery innovations. Topics include implementation science theory, frameworks, and measurement principles; qualitative and quantitative approaches to designing and evaluating new health care models; hybrid design trials that simultaneously evaluate implementation and effectiveness; distinction between quality improvement and research, and implications for regulatory requirements and publication; and grant-writing strategies for implementation science and evaluation. Students will develop a mock (or actual) grant proposal to conduct a needs assessment or evaluate a Stanford/VA/community intervention, incorporating concepts, frameworks, and methods discussed in class. Priority for enrollment for CHPR 212 will be given to CHPR master's students.

Same as: CHPR 212, MED 212

**HRP 221. Law and the Biosciences: Genetics. 3 Units.**

(Same as LAW 3004) Open to all law or medical students; other graduate students by consent of the instructor. Focus is on ethical, legal, and social issues arising from advances in our knowledge of human genetics. Includes forensic uses of genetics, genetic testing, widespread whole genome sequencing, the consequences of genetics for human reproduction, and the ethics of genomic biobanks for research. Research paper required.

**HRP 224. Social Entrepreneurship and Innovation Lab (SE Lab) - Human & Planetary Health. 3-4 Units.**

Social Entrepreneurship and Innovation Lab (SE Lab) - Global & Planetary Health is a Collaboratory workshop for students/fellows to design and develop innovative social ventures addressing key challenges in health and the environment, especially in support of the UN Sustainable Development Goals (SDGs 2030). Your mandate in identifying problems and designing solutions is broad and flexible! SE Lab is open to students and fellows across Stanford and combines design thinking exercises, short lectures & case studies, workshops, small group teamwork, presentations, guest speakers, and faculty, practitioner and peer feedback to support you and your team in generating and developing ideas and projects that will change the world! Join SE Lab with an idea or simply the desire to join a team. Enrollment limited to 30.

Same as: MED 224, PUBLPOL 224

**HRP 232. Measurement for Health Policy. 3 Units.**

Conceptual, technical and empirical basis for measurement essential to health policy. Principles and good practice for designing measures fit for purpose. Practical application of measurement concepts and methods. Main emphasis on measuring levels of health in individuals and populations, combining mortality/longevity and quality of life/functioning. Additional topics include measurement of inequalities and health care quality. Examples and applications include high income and low/middle-income settings.

Same as: MED 251

**HRP 243. Health Policy Seminar: Population Health. 1 Unit.**

This seminar course is intended to introduce students to the role of policy in public health in the United States. In addition to speakers from the law school, SIEPR, HRP, and School of Medicine, we will be bringing in speakers from outside organizations in the Bay Area with expertise in a variety of issues in public health. There are no assignments and lunch will be provided.

**HRP 246. Seminar in Healthcare Quality and Safety. 1 Unit.**

Primarily for medical students in the Quality and Safety Scholarly Concentration. Almost everyone will be a patient at some point in their lives. It is estimated that over 98,000 patients die in US hospitals each year due to medical errors and recent articles suggest that medical errors are the third leading cause of death in the US. Patient safety is the foundation of high-quality health care, which has become a critical issue in health policy discussions. This course will provide an overview of the quality & patient safety movement, the array of measurement techniques and issues, and perspectives of quality improvement efforts under the current policy landscape. Lunch will be provided for enrolled students. Same as: BIOMEDIN 246

**HRP 249. Topics in Health Economics I. 3-5 Units.**

Course will cover various topics in health economics, from theoretical and empirical perspectives. Topics will include public financing and public policy in health care and health insurance; demand and supply of health insurance and healthcare; physicians' incentives; patient decision-making; competition policy in healthcare markets, intellectual property in the context of pharmaceutical drugs and medical technology; other aspects of interaction between public and private sectors in healthcare and health insurance markets. Key emphasis on recent work and empirical methods and modelling. Prerequisites: Micro and Econometrics first year sequences (or equivalent). Curricular prerequisites (if applicable): First year graduate Microeconomics and Econometrics sequences (or equivalent). Same as: ECON 249, MED 249

**HRP 252. Outcomes Analysis. 4 Units.**

Methods of conducting empirical studies which use large existing medical, survey, and other databases to ask both clinical and policy questions. Econometric and statistical models used to conduct medical outcomes research. How research is conducted on medical and health economics questions when a randomized trial is impossible. Problem sets emphasize hands-on data analysis and application of methods, including re-analyses of well-known studies. Prerequisites: one or more courses in probability, and statistics or biostatistics. Same as: BIOMEDIN 251, MED 252

**HRP 254. Quality & Safety in U.S. Healthcare. 3 Units.**

The course will provide an in-depth examination of the quality & patient safety movement in the US healthcare system, the array of quality measurement techniques and issues, and perspectives of quality and safety improvement efforts under the current policy landscape. Same as: BIOMEDIN 254

**HRP 256. Economics of Health and Medical Care. 5 Units.**

Institutional, theoretical, and empirical analysis of the problems of health and medical care. Topics: demand for medical care and medical insurance; institutions in the health sector; economics of information applied to the market for health insurance and for health care; measurement and valuation of health; competition in health care delivery. Graduate students with research interests should take ECON 249. Prerequisites: ECON 50 and either ECON 102A or STATS 116 or the equivalent. Recommended: ECON 51. Same as: BIOMEDIN 156, BIOMEDIN 256, ECON 126

**HRP 257. Advanced Topics in the Economics of Health and Medical Care. 2 Units.**

Emphasis is on research studies in health economics. Seminar style course focuses on health economics. Complimentary with HRP 256. Students will be expected to read and present papers to the group and discuss concepts with faculty. Restricted to second year or beyond PhD students in economics & economics-related disciplines. Same as: MED 265

**HRP 263. Advanced Decision Science Methods and Modeling in Health. 3 Units.**

Advanced methods currently used in published model-based cost-effectiveness analyses in medicine and public health, both theory and technical applications. Topics include: Markov and microsimulation models, model calibration and evaluation, and probabilistic sensitivity analyses. Prerequisites: a course in probability, a course in statistics or biostatistics, a course on cost-effectiveness such as HRP 392, a course in economics, and familiarity with decision modeling software such as TreeAge.

Same as: MED 263

**HRP 276. Introduction to Law and the Biosciences. 3 Units.**

(SAME AS LAW 3012) This course will provide an introduction to the legal, ethical, and policy areas important to understanding Law and the Biosciences. Each topic will include both discussion of the relevant legal rules and ethical principles and their application to a specific case study. Topics to be covered include the structure and regulation of the biopharma industry and biosciences research, intellectual property relevant to the biosciences, federal regulation of bioscience products through the FDA and otherwise, the health care financing system, human subjects research, genetic technologies, reproductive technologies, neuroscience technologies, criminal law applications of bioscience technologies, and more. The course will prepare students for more advanced courses in these areas, as well as for working with or in the bioscience world. Special Instructions: The class is open to all law students and graduate or professional students from other parts of the University. Some undergraduates may be admitted with consent of the instructor. Substantial class attendance is required; in addition, the quality of class participation will play a small role in grading. Elements used in grading: Attendance, class participation, and final exam (In-school, open book). Cross listed with Health Research and Policy (HRP - TBA).

**HRP 281. Spanish for Medical Students. 2 Units.**

Second quarter of three-quarter series. Goal is a practical and culturally appropriate command of spoken Spanish. Emphasis is on performing a physical examination. Topics include anatomy, general hospital procedures, reproductive health, emergency medicine, and essential doctor-patient phrases when dealing with Spanish-speaking patients. Series can be taken independently, depending on the level of prior knowledge. Undergraduates are welcome to enroll. Same as: SPANLANG 122M

**HRP 282. Spanish for Medical Students. 2 Units.**

Third quarter of three-quarter series. Goal is a practical and culturally appropriate command of spoken Spanish. Emphasis is on different specialties and medical conditions. Topics include anatomy, diagnostic procedures, HIV, diabetes, hypertension, and essential doctor-patient phrases when dealing with Spanish-speaking patients. Series can be taken independently, depending on the level of prior knowledge. Undergraduates are welcome to enroll. Same as: SPANLANG 123M

**HRP 283. Health Services Research Core Seminar. 1 Unit.**

Presentation of research in progress and tutorials in the field of health services research.

**HRP 285. Global Leaders and Innovators in Human and Planetary Health.****1-2 Unit.**

Are you interested in innovative ideas and strategies for addressing urgent challenges in human and planetary health? This 7 session lecture series features a selection of noteworthy leaders, innovators and experts across diverse sectors in health and the environment such as: healthcare/medical innovation, environmental sustainability, foundations/venture capital, biotechnology/pharmaceuticals, social innovation/entrepreneurship, tech/media and artificial intelligence (AI), human rights, global poverty/development, sustainable agriculture/hunger/nutrition, public policy/systems change. Co-convened by faculty, fellows and students collaborating across several Stanford centers/departments/schools, the course invites the discussion of global problems, interdisciplinary perspectives and solutions in the fields of health and the environment. nSpecial themes for AY 2020-2021 include: 1) US and Global Responses in Combatting the Coronavirus Pandemic; 2) Climate Crisis, Wildfires, Extreme Weather and Environmental Sustainability; 3) Systemic Racism, Gender Inequality, Health Inequity and Community Well Being; 4) Democracy Under Siege, Political Landscape of Electoral, Judicial, Legislative Turmoil; 5) Partnership/Collaboration, Models of Leadership, Innovation, Sustainable Social Change; and Other Topics TBD by students/fellows. Students from all backgrounds are encouraged to enroll - registration open to all Stanford students and fellows. May be repeated for credit.

Same as: MED 285

**HRP 299. Directed Reading in Health Research and Policy. 1-18 Unit.**

Epidemiology, health services research, preventive medicine, medical genetics, public health, economics of medical care, occupational or environmental medicine, international health, or related fields. May be repeated for credit. Prerequisite: consent of instructor.

**HRP 370. Medical Scholars Research. 4-18 Units.**

Provides an opportunity for student and faculty interaction, as well as academic credit and financial support, to medical students who undertake original research. Enrollment is limited to students with approved projects.

**HRP 391. Health Law: Finance and Insurance. 3 Units.**

(SAME AS LAW 3001, MGTECON 331) This course provides the legal, institutional, and economic background necessary to understand the financing and production of health services in the U.S. We will discuss the Affordable Care Act, health insurance (Medicare and Medicaid, employer-sponsored insurance, the uninsured), the approval process and IP protection for pharmaceuticals, and antitrust policy. We may discuss obesity and wellness, regulation of fraud and abuse, and medical malpractice. The syllabus for this course can be found at <https://syllabus.stanford.edu>. Elements used in grading: Participation, attendance, class presentation, and final exam.

Same as: PUBLPOL 231

**HRP 392. Analysis of Costs, Risks, and Benefits of Health Care. 4 Units.**

For graduate students. How to do cost/benefit analysis when the output is difficult or impossible to measure. Literature on the principles of cost/benefit analysis applied to health care. Critical review of actual studies. Emphasis is on the art of practical application.

Same as: BIOMEDIN 432

**HRP 399. Graduate Research. 1-18 Unit.**

Investigations sponsored by individual faculty members. Prerequisite: consent of instructor.

**HRP 800. Second Year Health Policy PHD Tutorial. 1-3 Unit.**

The goal of the second year tutorial is to provide PHD students with advanced training in health policy research and to assist them in successfully developing research proposals.

**HRP 801. TGR Project. 0 Units.**

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**HRP 802. TGR Dissertation. 0 Units.**

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