

# COMMUNITY HEALTH & PREVENTION RESEARCH

Courses offered by the Stanford Prevention Research Center within the Department of Medicine are listed under the subject code CHPR (<https://explorecourses.stanford.edu/search/?q=CHPR&view=catalog&page=0&academicYear=&filter-term-Autumn=on&filter-term-Winter=on&filter-term-Spring=on&filter-term-Summer=on&collapse=&filter-catalognumber-CHPR=on&filter-departmentcode-CHPR=on&filter-coursestatus-Active=on&filter-catalognumber-CHPR=on>) on the Stanford Bulletin's ExploreCourses website.

The Master of Science (M.S.) in Community Health and Prevention Research (CHPR) covers the study and treatment of leading risk behaviors (e.g., poor diet, physical inactivity, tobacco use, stress, distress) to prevent the prevailing causes of morbidity and mortality (e.g., cardiovascular disease, cancer, diabetes, lung disease, mental illness) with a focus on engaging and advancing health in diverse communities.

Community health and prevention research are complementary fields increasingly integrated to promote health and prevent chronic diseases in individuals, families, local communities, states, and countries, globally. Community health refers to the scientific discipline of safeguarding and enhancing the well-being of diverse communities and populations through education, the promotion of healthy lifestyle habits, and the extensive study of disease and disease determinants. Prevention research is a multidisciplinary scientific field that aims to enhance the health of populations through the study of genetic, behavioral, lifestyle, environmental, and policy factors that lead to disease or vitality.

The M.S. in CHPR is designed for students pursuing health-related careers focusing on chronic disease prevention, health and wellness promotion, and the pursuit of health equity. We anticipate the M.S. in CHPR will be attractive to Stanford's current (coterminal) undergraduates and graduate students, students in the health professions (e.g., medical students), health care providers seeking a second degree, and individuals who will later seek advanced degrees in medicine, nursing, or health/science-related doctoral programs.

The M.S. in CHPR is available to:

1. Current Stanford undergraduates (who must complete the M.S. as a coterminal master's program)
2. Current Stanford graduate students (i.e., master's, doctoral, and medical students)
3. External applicants.

All students in the program must complete the M.S.'s core curriculum and program requirements.

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

## Master of Science in Community Health and Prevention Research

The Stanford Prevention Research Center within the Department of Medicine offers a Master of Science (M.S.) in Community Health and Prevention Research (CHPR). The M.S. in CHPR is available to external applicants, to current undergraduates via the coterminal master's program, and to graduate students at Stanford.

The purpose of the M.S. in CHPR is to:

- engage students from a range of backgrounds in didactic and experiential learning opportunities with the goal of gaining an in-depth understanding of community health and prevention research applications in diverse practice settings
- prepare future public health professionals to responsibly and effectively address health challenges faced by diverse communities across the life course.

In the M.S. in CHPR, students:

- study patterns of chronic diseases in diverse communities and settings and examine how prevention can optimize health and promote health equity at the individual, family, community, and population level
- critically interpret and evaluate research on community health and prevention
- become involved in research teams that encourage health equity promotion and social responsibility
- gain and hone methodological skills including research study design, study implementation, and data analysis related to community health and prevention research
- utilize course work and implementation science in a community-based research internship with the expectation that they design, implement, and assess health and wellness solutions addressing preventable community health challenges
- complete a master's thesis.

## Admission

### Admission for External Applicants

Applications for the 2021-22 academic year are due on January 12, 2021. Knight-Hennessy program applicants: applications are due December 8, 2020.

- **Knight-Hennessy Scholars**
  - The Knight-Hennessy Scholars program (<https://knight-hennessy.stanford.edu/>) awards up to 100 high-achieving students every year with full funding to pursue a graduate education at Stanford, including the M.S. in CHPR. To be considered, you must apply to Knight-Hennessy Scholars by that program's deadline and separately apply to the CHPR program by December 8, 2020.

All applicants (not including coterminal applicants) must submit the following required application materials as part of their application. Instructions on how to submit these application materials can be found on Stanford's Graduate Admissions website (<https://gradadmissions.stanford.edu/applying/>).

- 3 letters of recommendation
  - At least one letter of recommendation should be from a faculty member at the last school you attended as a full-time student (unless you have been out of school for more than five years).
- GRE test scores are not required for applicants for academic year 2021-22 due to challenges posed by the COVID pandemic.
- TOEFL scores (if necessary)
- Resume or curriculum vitae (CV)
- Statement of purpose
  - The statement of purpose should describe succinctly your reasons for applying to the proposed program at Stanford, your preparation for this field of study, research interests, future career plans, and other aspects of your background and interests which may aid the admissions committee in evaluating your aptitude and motivation for graduate study.

- Official transcript(s) from all postsecondary institutions you have attended as a full-time student for one year (i.e., three quarters or two semesters) or longer.
  - You must upload one scanned version of your official transcript(s) in the online application and direct your institution(s) to send one official copy (email is preferred) to the Stanford Prevention Research Center within the Department of Medicine.
- \$125 application fee
  - This application fee is assessed regardless of admission decision.

## Admission for Coterminal Applicants

Applications for the 2021-22 academic year are due on January 12, 2021.

Stanford undergraduates may apply to the M.S. program once the following conditions have been met:

- Applicants must have earned 120 units toward graduation (UTG) as shown on the undergraduate unofficial transcript. This includes allowable Advanced Placement (AP) and transfer credit.
- Applicants must have a major(s) declared.
- Applicants must have completed six non-Summer quarters at Stanford (or two non-Summer quarters at Stanford for transfer students).
- Note that the GRE is not required for coterminal applicants.

As part of their program application, applicants must submit the following required application materials. Instructions on how to submit these application materials can be found on the Current Stanford Students (<https://gradadmissions.stanford.edu/applying/current-stanford-students/>) page of the Graduate Admissions web site.

- Application for admission to coterminal master's program
- Statement of purpose
  - The statement of purpose should describe succinctly your reasons for applying to the proposed program at Stanford, your preparation for this field of study, research interests, future career plans, and other aspects of your background and interests which may aid the admissions committee in evaluating your aptitude and motivation for graduate study.
- Resume or curriculum vitae (CV)
- Preliminary program proposal
- Two letters of recommendation from Stanford professors
- 1 copy of your Stanford transcript (unofficial transcripts are acceptable)
- \$125 application fee (assessed by the Registrar's Office only if accepted and matriculated into the program).

## University Coterminal Requirements

Coterminal master's degree candidates are expected to complete all master's degree requirements as described in this bulletin. University requirements for the coterminal master's degree are described in the "Coterminal Master's Program (<http://exploreddegrees.stanford.edu/cotermdegrees/>)" section. University requirements for the master's degree are described in the "Graduate Degrees (<http://exploreddegrees.stanford.edu/graduatedegrees/#masterstext>)" section of this bulletin.

After accepting admission to this coterminal master's degree program, students may request transfer of courses from the undergraduate to the graduate career to satisfy requirements for the master's degree. Transfer of courses to the graduate career requires review and approval of both the undergraduate and graduate programs on a case by case basis.

In this master's program, courses taken three quarters prior to the first graduate quarter, or later, are eligible for consideration for transfer to

the graduate career. No courses taken prior to the first quarter of the sophomore year may be used to meet master's degree requirements.

Course transfers are not possible after the bachelor's degree has been conferred.

The University requires that the graduate advisor be assigned in the student's first graduate quarter even though the undergraduate career may still be open. The University also requires that the Master's Degree Program Proposal be completed by the student and approved by the department by the end of the student's first graduate quarter.

## Admission for Current Students in Other Stanford Graduate Programs and Professional Schools

- Current Stanford graduate students include master's, doctoral, and medical students who are currently enrolled in a graduate degree program at Stanford. Current Stanford postdoctoral scholars must apply as external applicants.
- Applications for the 2021-22 academic year are due May 1, 2021 for Autumn 2021 start.

*Required Application Materials:* Instructions on how to submit these application materials can be found on the CHPR website (<http://chpr.stanford.edu>). (<http://prevention.stanford.edu/education/chpr.html/>)

- Completed Current Graduate Student Online Application Form ([https://stanfordmedicine.qualtrics.com/SE/?SID=SV\\_eIIAYRZnPUqkPGJ](https://stanfordmedicine.qualtrics.com/SE/?SID=SV_eIIAYRZnPUqkPGJ))
- Resume/CV
- Transcript (unofficial transcripts are acceptable)
- Valid GRE, MCAT, or GMAT scores (i.e., the test scores students submitted to their original graduate program at Stanford)
- Statement of Purpose
  - The Statement of Purpose should describe succinctly the reasons for applying to the proposed program at Stanford, preparation for this field of study, research interests, future career plans, and other aspects of the applicant's background and interests which may aid the admissions committee in evaluating aptitude and motivation for graduate study.
- 2 letters of recommendation from Stanford professors
- \$125 application fee (assessed by the Registrar's Office only if accepted and matriculated into the program).

## Degree Requirements

### Core Curriculum and Program Requirements (45 units)

To complete the M.S. in CHPR, students must complete a minimum of 45 units, conduct a two-quarter community-based research internship, and write a master's thesis. All students in the M.S. in CHPR must also fulfill the course requirements below. Students are advised to check the prerequisites for all CHPR courses, especially the Biostatistics and Research Methods courses.

		Units
<b>CHPR Foundation Core</b>		
CHPR 200	SPRC/GMD Research Seminar (Two quarters required, 3 recommended, 2-3 units total; Autumn, Winter, Spring)	1
CHPR 201	Introduction to Science of Healthy Living (Required for students who have not taken HUMBIO 126/CHPR 226. Autumn.)	1
CHPR 220	Responsible Conduct of Research in the Community (Required. Autumn)	1

CHPR 227	The Science of Community Engagement in Health Research (Not required, but strongly encouraged. Winter)	3
CHPR 228	Theoretical Foundations and Design of Behavioral Intervention Trials (Required. Autumn)	3
CHPR 240	Prevention Research: the Science of Healthy Living (Required. Autumn)	3
CHPR 250	Prevention Across Medical Disciplines: Evidence-based Guidelines (Either CHPR 250 or CHPR 270 is required; both are encouraged. Winter)	3
CHPR 270	Prevention Across Surgical and Other Medical Disciplines (Either CHPR 250 or CHPR 270 is required; both are encouraged. Spring)	3

### Biostatistics and Research Methods

A minimum of 9 units from this section is required. Students may take any combination of the courses listed here, except for the following: students may take either EPI 258 or EPI 259, but not both; and students may take either CHPR 247 or PEDS 202C, but not both.

CHPR 202	R Fundamentals for Health Research (Winter)	1-2
CHPR 205	Understanding Evidence-Based Medicine: Hands-on experience (Winter)	3-4
CHPR 206	Meta-research: Appraising Research Findings, Bias, and Meta-analysis (Winter)	3
CHPR 247	Methods in Community Assessment, Evaluation, and Research (Spring)	3
CHPR 266	Advanced Statistical Methods for Observational Studies (CHPR students must enroll for 3 units; pre-reqs: HRP 261 & HRP 262, or HRP 239. Spring)	2-3
HRP 216	(Spring)	2-3
HRP 258	(Spring)	3
HRP 259	(Autumn)	
HRP 261	(Pre-req: HRP 258; Winter)	3
HRP 262	(Spring Pre-req: HRP 258; Spring)	3
EDUC 430C	Using Data to Describe the World: Descriptive Social Science Research Techniques (Spring)	3-5
PEDS 202C	Qualitative Research Methods and Study Design (Spring)	2-3

### Curricular Practical Training and Research Internship

Take for 2 consecutive quarters, 6 total units.

CHPR 290	Curricular Practical Training and Internship (Autumn, Winter, Spring, Summer)	3
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### Master's Thesis

Take for 2 quarters, 6 total units. CHPR 299 (Directed Reading) recommended if additional research is required for thesis writing.

CHPR 399	Community Health and Prevention Research Master's Thesis Writing (Autumn, Winter, Spring, Summer)	3
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## Curricular Practical Training and Research Internship

Students must complete a consecutive two-quarter long community-based research internship under the supervision of an SPRC mentor. Students will receive 6 total units for their internships, which are all unpaid positions. The primary learning goal of these internships is for students to apply their coursework and implementation science in a community or lab setting by engaging community members and

faculty to create innovative, research-based, chronic disease prevention solutions addressing community health challenges.

1. Students must fulfill the following requirements in order to enroll in CHPR 290 Curricular Practical Training and Internship:
  - a. Complete or be enrolled in:
    - i. CHPR 228 Theoretical Foundations and Design of Behavioral Intervention Trials and
    - ii. at least 1 approved Biostatistics and Research Methods course.
2. The earliest that incoming students may begin their community-based research internships is in the Winter Quarter of their first year.

## Master's Thesis

Students are required to complete a master's thesis. The master's thesis allows students to demonstrate knowledge, application, and thoughtful scholarly communication of theoretical principles central to community health interventions, study design, research and analytic methods, as well as depth in a substantive area of community health and prevention research. The thesis is intended to be 30 pages in length (i.e., article-length), double-spaced, including supporting tables, figures, and references. The thesis can take one of the following forms:

1. Analysis of original data collected via a student's internship
2. Comprehensive literature review with meta-analysis of data or critical reanalysis of data
3. Evaluation of a methodological problem using data
4. Comprehensive literature review with a grant proposal (NIH-style format) for a new study to bridge a gap in existing knowledge
5. Organizational health improvement and evaluation plan written for a student's internship organization
6. CHPR mentor approved, independently designed thesis.

The program encourages students to use extant data sets for their projects. Students are not limited to quantitative data sets; many SPRC faculty possess qualitative data sets that may be analyzed for an M.S. thesis project. Students also have the option of collecting original data, for example, through the use of surveys. Students are encouraged to develop their thesis into a manuscript for publication or a credible research grant application, and mentorship is provided to do so.

## 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

The Master of Science (M.S.) in Community Health and Prevention Research (CHPR) 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.

Grades of 'CR' or 'S' will satisfy graduate program degree requirements that otherwise require a letter grade.

## Graduate Advising Expectations

The Master of Science in Community Health and Prevention Research (CHPR) program 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 adviser and the advisee.

All CHPR students are matched with a mentor before the start of their internship. The mentor, with support from the CHPR administrative and faculty directors, evaluates the student's academic and research background, provides guidance in developing a thesis project and topic, and helps the student select thesis readers.

Mentors are expected to meet with graduate students several times during internship and thesis quarters to discuss and help develop the students' internship, thesis deliverables, and their professional aspirations. Additionally, students should meet with the CHPR administrative director on a quarterly basis to discuss the student's professional development in key areas such as selecting elective courses, designing and conducting research, navigating policies and degree requirements, and exploring academic opportunities and professional pathways.

Graduate students are active contributors to the advising relationship. They should actively seek academic and professional guidance and take on the responsibility of informing themselves of policies and degree requirements for the CHPR MS program.

As a best practice, advising expectations should be periodically discussed and reviewed to ensure mutual understanding. Both the mentor and the student are expected to maintain professionalism and integrity. If challenges arise in this relationship, the CHPR administrative director is brought in to assist.

Academic progress and student completion of program requirements and milestones are monitored by the CHPR office.

Additionally, 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/>) (VPGE) and in the Graduate Academic Policies (<https://gap.stanford.edu/handbooks/gap-handbook/chapter-3/subchapter-3/page-3-3-1/>) (GAP).

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

## Core Faculty and Academic Staff

*Director of the Stanford Prevention Research Center:* David Maron

*Professors:* John Ioannidis, Marcia Stefanick, Christopher Gardner

*Associate Professor:* Judith J. Prochaska (Program Faculty Director)

*Senior Research Scientist:* Michaela Kiernan

*Instructors:* Jennifer Robinson, Sandra Winter (Adjunct)

*Program Director:* Jennifer Robinson

*Assistant Director, Operations and Student Services:* T.O. Preising

## Courses

### **CHPR 113. Healthy/Sustainable Food Systems: Maximum Sustainability across Health, Economics, and Environment. 4 Units.**

Focus on problems with and systems-based solutions to food system issues. Four particular settings are addressed: University, worksite, hospital, and school food. Traditional vs. disruptive food system models compared and contrasted. The goal is to determine how best to maximize sustainability across several dimensions, including health, economics, and the environment. Underlying class themes include social justice and the potential for changing social norms around food production and consumption. Discussion-based seminar. Prerequisite: Human Biology Core or Biology Foundations or consent of instructor. Same as: HUMBIO 113S

### **CHPR 130. Human Nutrition. 4 Units.**

(HUMBIO students must enroll in HUMBIO 130. CHPR master's students must enroll in CHRP 130.) The study of food, and the nutrients and substances therein. Their action, interaction, and balance in relation to health and disease. Emphasis is on the biological, chemical, and physiological processes by which humans ingest, digest, absorb, transport, utilize, and excrete food. Dietary composition and individual choices are discussed in relationship to the food supply, and to population and cultural, race, ethnic, religious, and social economic diversity. The relationships between nutrition and disease; ethnic diets; vegetarianism; nutritional deficiencies; nutritional supplementation; phytochemicals. CHPR master's students must enroll for a letter grade. Enrollment limited to students with sophomore academic standing or above. Prerequisites: Human Biology Core or Biology Foundations or consent of instructor. Same as: HUMBIO 130

### **CHPR 166. Food and Society: Exploring Eating Behaviors in Social, Environmental, and Policy Context. 4 Units.**

(HUMBIO students must enroll in HUMBIO 166. Med/Graduate students must enroll in CHRP 166.) The material in this course is an introduction to the field and the target audience is undergraduates. It may be of interest to graduate students unfamiliar with the field. The class examines the array of forces that affect the foods human beings eat, and when, where, and how we eat them, including human labor, agriculture, environmental sustainability, politics, animal rights/welfare, ethics, policy, culture, economics, business, law, trade, and ideology, and psychology. The class addresses the impact of current policies and actions that might be taken to improve human nutrition and health; macro-scale influences on food, nutrition, and eating behavior. Enrollment limited to students with sophomore academic standing or above. Undergraduate Prerequisites: Human Biology Core or Biology Foundations or consent of instructor. Same as: HUMBIO 166

### **CHPR 199. Undergraduate Research. 1-18 Unit.**

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

### **CHPR 200. SPRC/GMD Research Seminar. 1 Unit.**

Focus is on research on prevention of chronic disease and related topics. Guest speakers present material. May be repeat for credit.

### **CHPR 201. Introduction to Science of Healthy Living. 1 Unit.**

This introduction to the science of healthy living (primarily U.S.) highlights preventable causes of mortality, i.e. modifiable risk factors, national lifestyle recommendations and behavioral change principles for reducing chronic disease risk. A life course perspective is presented as a trajectory from fetal/neonatal to childhood and adolescence to young, middle-ages and older adults, with recognition of the importance of social determinants of health. Sex & gender differences are also presented. Unless otherwise noted, all lectures are presented by Course Director, Marcia Stefanick, Ph.D. Priority for enrollment given to CHPR masters students, who must take the course for a letter grade.

**CHPR 202. R Fundamentals for Health Research. 1-2 Unit.**

This introductory course is a practicum in which students will learn the basics of R and use the programming language to analyze health datasets by application of classical statistical methods. A familiarity with basic descriptive and inferential statistics is required. It is assumed that students will have no (or very little) prior experience with R. Class sessions will include some lecture content and hands-on coding by each student on their own computers. Students will practice using R with open-source and simulated datasets. The primary goal of the course is to equip students with a basic and fundamental understanding of R's capabilities, experience using R with practice datasets, and the ability to extend their facility with R as their needs dictate. Students enrolled for 2 units will have additional weekly practice problems assigned. Priority for enrollment given to CHPR masters students, who must take the course for a letter grade.

Same as: EPI 202

**CHPR 205. Understanding Evidence-Based Medicine: Hands-on experience. 3-4 Units.**

How can one practice evidence-based medicine and make evidence-based decisions for clinical practice and policy making? Using pivotal papers published in the recent scientific literature addressing important clinical questions on diverse medical topics, we will probe a wide range of types of studies, types of targeted therapeutic or preventive interventions, and types of studied outcomes (effectiveness and/or safety), including RCTs, observational studies, epidemiologic surveillance studies, systematic reviews-umbrella reviews-meta-analyses-meta-analyses of individual patient data, studies on the evaluation of diagnostic tests and prognostic models, economic analyses studies, and guidelines. Students enrolled for 4 units will complete an additional project or other engagement approved by the instructor. MD studies enroll for +/- GR students enroll for Letter grade.

Same as: EPI 250, MED 250

**CHPR 206. Meta-research: Appraising Research Findings, Bias, and Meta-analysis. 3 Units.**

Open to graduate, medical, and undergraduate students. Appraisal of the quality and credibility of research findings; evaluation of sources of bias. Meta-analysis as a quantitative (statistical) method for combining results of independent studies. Examples from medicine, epidemiology, genomics, ecology, social/behavioral sciences, education. Collaborative analyses. Project involving generation of a meta-research project or reworking and evaluation of an existing published meta-analysis.

Prerequisite: knowledge of basic statistics.

Same as: EPI 206, MED 206, STATS 211

**CHPR 212. 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: HRP 218, MED 212

**CHPR 220. Responsible Conduct of Research in the Community. 1 Unit.**

This course will engage CHPR students pursuing community-based participatory research in discussions regarding ethical and practical issues to prepare them for their CHPR program, including course planning, internship, and thesis. Discussions will address specifics of conducting research at Stanford as well as issues that may arise in the community at large and in their careers to follow. Course limited to current CHPR master's students.

**CHPR 222. CHPR Professional Development and Career Planning. 1 Unit.**

This interactive seminar will give graduate or professional students some tangible skills as they embark on a career in community-based participatory research (CBPR). Topics and assignments are designed to develop the following skills: poster and slide presentations; thesis or manuscript preparation; portfolio development (resume or CV); peer mentoring; peer-to-peer role playing; networking; informational interviews; defining self-fulfilling work. Course will also include panel discussions from alumni, faculty, and community partners. Final assignment will culminate in a poster or slide presentation to a larger department group. This course is required for all CHPR Master's Students (who must take the class for a grade). Students in other graduate programs or professional schools may take the class S/NC or +/- with instructor's consent. Please contact the CHPR Office for a permission code.

**CHPR 226. Promoting Health Over the Life Course: the Science of Healthy Living. 3 Units.**

(HUMBIO students must enroll in HUMBIO 126. Med/Graduate students must enroll in CHPR 226.) Disease prevention and health promotion topics pertinent at different stages of the life span emphasizing healthy lifestyle and reducing risk factors in both individuals and communities. Focus is on the application of behavioral science to risk reduction strategies, and the importance of health promotion as a social and economic imperative. Public and community health are emphasized. Topics include: epidemiology of chronic diseases; social determinants of health, behavior change; physical activity, nutrition, obesity and stress reduction; children, young adult, mid-life and aging health issues; health care delivery and public health system; workplace wellness; and other additional issues. Students enrolled in CHPR 226 for a letter grade must complete additional assignments appropriate for its Masters level listing. Enrollment limited to students with sophomore academic standing or above. Undergraduate prerequisites: Human Biology Core or equivalent or consent of instructor.

Same as: HUMBIO 126

**CHPR 227. The Science of Community Engagement in Health Research. 3 Units.**

The Science of Community Engagement in Health Research course will focus on how the science of community engagement can be applied to diverse health-related research topics across the translational spectrum with the ultimate goal of high quality research that transforms human health and addresses health disparities. The course will provide historical context, theoretical frameworks, foundational skills in diverse community engagement methodologies, and tools for examining the effectiveness of various engagement strategies aimed. Specifically, the course will cover: 1) Historical context for community engagement in health-related research; 2) Evolution of community engagement as a science; 3) Theoretical frameworks for various community engagement approaches; 4) Community-Based Participatory Research (CBPR); 5) Community engagement strategies for different stages of translational research; and 6) Evaluation of various engagement strategies; and 7) Ethics of community engagement. Students will gain practical experience in various community engagement tools and strategies to help guide the development of a community engagement plan responsive to community needs. Challenges and benefits of establishing community partnerships will be highlighted by real-world examples. The course will include lectures; interactive student-led presentations and guided exercises; class discussions among invited speakers, students and instructors; individual and group assignments; and organized small-group and experiential activities. Course readings will demonstrate the need and opportunity for interdisciplinary community engagement approaches and will illustrate how to conduct innovative community-engaged research. The Science of Community Engagement course is intended to reach students with diverse research interests, including clinical research, community health, health research and policy, epidemiology, prevention research, environmental health, etc.

Same as: EPI 272

**CHPR 228. Theoretical Foundations and Design of Behavioral Intervention Trials. 3 Units.**

Focuses on the knowledge and skills, respect and thoughtful practice of designing health promotion interventions that are relevant, theoretically-informed, have broad impacts, and can endure. Provides an in-depth review of intervention approaches for health promotion and disease prevention and covers the leading theories of behavior change. Follows an integrative model to demonstrate similarities and differences between the theoretical approaches, seeking what is useful and worthwhile in each theoretical model rather than looking primarily for what is most easily criticized. Practical in nature with emphasis on the specifics of needs assessments and intervention development and delivery and how these may vary across community settings, with diverse populations, addressing different behaviors, and leveraging traditional and emerging delivery channels. Explores intervention creation, delivery, effectiveness, and sustainability to identify and better understand the resources and other practical considerations necessary to produce, deliver, monitor, and disseminate an intervention with demonstrated effectiveness. Examples drawn from across the behavioral spectrum and include tobacco control, physical activity, healthy diet, stress and distress, as well as consideration of the complexities of extending interventions to target multiple risk behaviors. Students develop a foundational understanding of behavior change theory, rigorous research methods, and creative design strategies to advance the health of individuals and communities. Students taking 2 units only will complete all 4 homework assignments, attend 8 of 10 class sessions, and complete an abbreviated final abstract plus figures/tables instead of a final paper. The grading, in this instance, will be the medical school option of credit/no credit. CHPR master's students must enroll for 3 units and a letter grade.

**CHPR 230. Sexual Function and Diversity in Medical Disciplines. 2-3 Units.**

This course is a coordinated seminar series that presents evidence-based health promotion and disease prevention guidelines by clinical and translational research and population health science faculty of clinical departments other than Medicine (the focus of CHPR 260) of the Stanford School of Medicine, including; Anesthesiology & Perioperative, & Pain Medicine, Cardiothoracic gy, Emergency Medicine, Neurology & Neurological Sciences, Neurosurgery, Obstetrics & Gynecology, Ophthalmology, Orthopaedic Surgery, Otolaryngology, Pathology, Pediatrics, Psychiatry & Behavioral Sciences, Radiation Oncology, Radiology, Surgery and Urology. CHPR master's program students must enroll in CHPR 230 for a letter grade and priority for enrollment will be given to current CHPR students. For third unit, graduate students attend INDE 215 Queer Health & Medicine and complete assignments for that section. For third unit and WAYS, undergrads enroll in SOMGEN 130. Prerequisites: CHPR 201 or HUMBIO 126/CHPR 226 or equivalent or consent of instructor.

Same as: FEMGEN 230, SOMGEN 230

**CHPR 232. Social and Structural Determinants of Health: Achieving Health Equity. 1 Unit.**

This course examines the theoretical basis and societal context of the social determinants of health, racial-ethnic health disparities, and health equity. Each session focuses on a social determinant of health addressed by Michael Marmot, including the social gradient, stress, racism, early life, social exclusion, work, unemployment, social support, addiction, food and transportation. Students will be encouraged to think beyond the individual-level to consider multi-level and policy-level interventions to promote health equity.

**CHPR 233. Contemplative Science: The Power of the Pause for Resilience, Relationships, and Resolve. 1-3 Unit.**

Advances in contemplative science reveal ways of caring for ourselves and others that promote health and well-being for individuals and communities. Study of diverse, evidence-based contemplative practices identifies why, how, and when specific practices are beneficial for health, well-being, focus, learning, self-compassion, positive emotions, empathy, communication, compassionate action, and burnout prevention. This course progresses through: 1) awareness-based self-care; 2) compassion-based interpersonal connections; and 3) purpose-based meaningful work and service. A unifying course framework facilitates insights regarding healthy processes for fulfilling fundamental human needs for safety/calm/peace, connection/compassion/love, and satisfaction/competence/joy. While the course focuses on factors that cultivate and sustain health, obstructions and impediments such as oppression and trauma are discussed. The course combines investigation of research with direct experience in an immersive, transformative learning retreat format rooted in the rhythm of contemplative ways of being, discovery, and expression. Multimodal activities include embodiment practices, meditation, breathwork, journaling, dyad listening, reflections on poetry and non-fiction, research critiques, iterative behavioral action plans, and creation of multimedia narratives. These activities provide a foundation for a lifetime of whole-person integrated ways of living, exploring, thinking, and serving. The course equips students with a body of knowledge and skills to flourish personally and professionally, develop innovative solutions to complex problems, and sustain research and service dedicated to improving health and well-being for everyone. Offered for 1-3 units via 3 weekend retreats (1-unit each) taught on the 2nd, 5th and 8th weekends of the quarter. The curriculum builds upon previous retreat topics: #1 Resilience, #2 Relationships, #3 Resolve. Register for your preferred number of units. (Retreat #1 = 1-unit; Retreats #1 + #2 = 2-units; or Retreats #1 + #2 + #3 = 3 units).

**CHPR 234. Applying Contemplative Practices. 3 Units.**

Knowledge and skills for applying contemplative practices to promote individual and community health and well-being in a variety of settings (e.g., clinics, hospitals, non-profit and for-profit organizations, schools, government agencies, secular and spiritual communities, etc.) is the focus of this course. In-depth exploration is provided through: 1) scholarly articles on contemplative neuroscience, biopsychosocial research, theoretical models, and interventions, and 2) experiential learning in which students are guided in doing diverse contemplative practices, including silence, centering, meditation, labyrinth walking, yoga, qigong, self-compassion, deep listening, storytelling, journaling, lectio divina, prayer, ritual, and compassionate action. Multi-modal learning activities include videos, field experiences, guest speakers, ancient and modern texts, class discussions, and personal reflections. In-depth understanding of contemplative practices is developed through consideration of contemplative practices with respect to behavioral science, ethics, social justice, inclusion and diversity, qualitative and quantitative research, motivational interviewing, compassionate communication, design thinking and relationship-based care, including deep listening, open-minded observation, empathic need-finding, pattern recognition, and creative confidence. The course culminates with students' presentations of their original design for a research-based health and well-being program or policy incorporating contemplative practices.

**CHPR 235. Covid-19 Case Investigation and Contact Tracing. 3-6 Units.**

In this service-learning course students will learn how to identify people who have COVID-19 and those who have been exposed to people with COVID-19. Students will learn basics about the biology and health effects of SARS-CoV-2 and the epidemiology of COVID-19. Students will be taught important skills in healthcare communication including motivational interviewing, health education, and health coaching. Students will work as volunteers together with Santa Clara County staff to interrupt the chains of transmission of COVID-19 as they apply skills they have learned to help people with the illness and those who have been exposed understand the importance of isolation, quarantine, and other critical aspects of public health needed to control and manage this disease. Students will need to be willing to commit 20 hours per week to this course for 10 weeks over 2 quarters. Requires application and instructor approval. Please contact Course Director, Lars Osterberg MD, MPH for an application form and approval for enrollment. Same as: MED 164, MED 264

**CHPR 236. Citizen Science Theory to Practice: Advancing Community-Driven Solutions for Health. 2-3 Units.**

Harnessing and activating the insights of community members and patients is essential to achieving health equity from the bottom up. Students will 1) learn and apply a novel data-driven, technology-enabled approach to improving community health through systematic documentation of lived experience and application of collective data to inform local change; 2) examine global project case studies targeting physical activity, food access, transportation, affordable housing, gender-based violence, and age-friendly environments; and 3) complete assessments of their local built environments using a Stanford-developed app and web platform, then use their data to develop and explore feasible strategies to improve community health. (Cardinal Course certified by the Haas Center). Same as: MED 243

**CHPR 238. Social Media, Health, and Well-Being. 1 Unit.**

Focus is on how social media affects well-being, how and why information spreads, effects of social media on young people and other vulnerable populations, and how social media can be used to improve health behaviors and wellbeing. The synchronous class sessions on Zoom consist of brief lectures, guest speakers, and class discussions. Assignments will include reading, submitting written reflections, participating in class discussions, and a final project. Priority for enrollment given to current CHPR masters students, who must enroll for a letter grade.

**CHPR 240. Prevention Research: the Science of Healthy Living. 3 Units.**

Features the research of faculty in the Stanford Prevention Research Center and focuses on key health issues over the life course (prenatal through childhood, young to middle-aged, older and elderly adults). Topics include chronic disease (global and U.S.) epidemiology; application of behavioral science to risk reduction; nutrition; weight management; physical activity; stopping smoking; public health; community health and community-based prevention; national prevention strategy; applying communication technology to health promotion. Prerequisite: HumBio 126 or concurrent enrollment in CHPR 201.

**CHPR 247. Methods in Community Assessment, Evaluation, and Research. 3 Units.**

Development of pragmatic skills for design, implementation, and analysis of structured interviews, focus groups, survey questionnaires, and field observations. Topics include: principles of community-based participatory research, including importance of dissemination; strengths and limitations of different study designs; validity and reliability; construction of interview and focus group questions; techniques for moderating focus groups; content analysis of qualitative data; survey questionnaire design; and interpretation of commonly-used statistical analyses. Same as: MED 147, MED 247

**CHPR 250. Prevention Across Medical Disciplines: Evidence-based Guidelines. 3 Units.**

Coordinated seminar series presenting evidence-based health promotion and disease prevention guidelines by research and clinical faculty of multiple divisions of Stanford's Department of Medicine, including cardiovascular medicine, oncology, nephrology, immunology and rheumatology, infectious diseases, endocrinology, gerontology and metabolism, gastroenterology and hepatology, hematology, blood and marrow transplantation, pulmonary and critical care medicine, general medical disciplines (including family medicine). Key prevention issues addressed in primary care and outcomes research, biomedical informatics research and the Stanford Prevention Research Center also presented. Enrollment priority given to CHPR Master's students. CHPR students must enroll for letter grade. Prerequisite: CHPR 201 or HUMBIO 126/CHPR 226 or equivalent or consent of instructor.

**CHPR 266. Advanced Statistical Methods for Observational Studies. 2-3 Units.**

Design principles and statistical methods for observational studies. Topics include: matching methods, sensitivity analysis, and instrumental variables. 3 unit registration requires a small project and presentation. Computing is in R. Pre-requisites: EPI 261 and 262 or STATS 209 (EPI 239), or equivalent. See <http://rogosateaching.com/somgen290/>. Same as: EDUC 260B, EPI 292, STATS 266

**CHPR 270. Prevention Across Surgical and Other Medical Disciplines. 3 Units.**

This course is coordinated seminar series that presents evidence-based health promotion and disease prevention guidelines by clinical and translational research and population health science faculty of clinical departments other than Medicine (the focus of CHPR 260) of the Stanford School of Medicine, including; Anesthesiology & Perioperative, & Pain Medicine, Cardiothoracic Surgery, Dermatology, Emergency Medicine, Neurology & Neurological Sciences, Neurosurgery, Obstetrics & Gynecology, Ophthalmology, Orthopaedic Surgery, Otolaryngology, Pathology, Pediatrics, Psychiatry & Behavioral Sciences, Radiation Oncology, Radiology, Surgery and Urology, CHPR master's program students must enroll for a letter grade and priority for enrollment will be given to current CHPR students. Prerequisites: CHPR 201 or HUMBIO 126/CHPR 226 or equivalent or consent of instructor.

**CHPR 271. Human Molecular Genetics. 3 Units.**

For genetic counseling students, graduate students in genetics, medical students, residents, and postdoctoral fellows interested in the practice of medical genetics and genomics. Gene structure and function; the impact of mutation and polymorphism as they relate to developmental pathways and human disease; mitochondrial genetics; approaches to the study of complex genetic conditions; GWAS and genome sequencing technologies; variant interpretation; gene therapy, stem cell biology, and pharmacogenetics. Undergraduates require consent of instructor and a basic genetics course. Non-GC students: Please contact the instructor when you enroll.

Same as: GENE 271

**CHPR 272. Introduction to Medical Genetics. 2-3 Units.**

For genetic counseling students, graduate students in human genetics, medical students, residents, and fellows; undergraduates with consent of instructor. Principles of medical genetics practice, including taking a family history, modes of inheritance and risk assessment, and mathematical principles of medical genetics (Bayes theorem, population genetics). An additional problem set is required for 3 units.

Same as: GENE 272

**CHPR 274A. A Case Based Approach to Clinical Genetics. 2 Units.**

For genetic counseling students and medical genetics residents and fellows. Case-based scenarios and guest expert lectures. Students learn skills in case preparation, management, and presentation, as well as content around common genetic disorders.

Same as: GENE 274A

**CHPR 274B. A Case Based Approach to Clinical Genetics. 2 Units.**

For genetic counseling students and medical genetics residents and fellows. Case-based scenarios and guest expert lectures. Students learn skills in case preparation, management, and presentation, as well as content around common genetic disorders. This course is a continuation of GENE 274A, but may be taken individually with instructor permission.

Same as: GENE 274B

**CHPR 278. Prenatal Genetic Counseling. 1 Unit.**

Online course for genetic counseling students, graduate students in genetics, medical students, residents, fellows, and nurses interested in prenatal genetics. Genetic counseling students should take this course in conjunction with their initial prenatal genetics rotation. Topics include: prenatal screening and diagnostic testing, ultrasound, genetic carrier screening, teratology, fetal treatment and intervention, perinatal loss, termination, and infertility. Non-GC students: Please contact the instructor when you enroll.

Same as: GENE 278

**CHPR 279. Pediatric and Adult Genetic Counseling. 1 Unit.**

Internet based course for genetic counseling students, graduate students in genetics, medical students, residents, and fellows; genetic counseling students should take this course in conjunction with their initial general genetics rotation. Topics include: clinical reasoning in medical genetics, techniques to prepare for the medical genetics visit, assessment of child development and medical history in the context of a genetic workup, dysmorphology, development of a differential diagnosis, and resources for case management and family support. Non-GC students: Please contact the instructor when you enroll.

Same as: GENE 279

**CHPR 280. Metabolic Genetic Counseling. 1 Unit.**

Internet based course for genetic counseling students, graduate students in genetics, medical students, residents, and fellows. Genetic counseling students should take this course in conjunction with their metabolic genetics rotation. Topics include: overview of metabolic diseases; common pathways; diagnosis, management, and treatment of metabolic disorders; and newborn screening. Non-GC students: Please contact the instructor when you enroll.

Same as: GENE 280

**CHPR 281. Cancer Genetic Counseling. 1 Unit.**

Internet based course for genetic counseling students, graduate students in genetics, medical students, residents, and fellows; genetic counseling students should take this course in conjunction with their initial cancer genetics rotation. Topics include: cancer biology and cytogenetics; diagnosis and management of common cancer genetic syndromes; predictive testing; psychology of cancer genetic counseling; and topics recommended by ASCO guidelines. Non-GC students: Please contact the instructor when you enroll.

Same as: GENE 281

**CHPR 284. Medical Genetics Seminar. 1 Unit.**

Presentation of clinical and research topics in human genetics, followed by case presentations from the medical genetics and biochemical genetics services. Course may be completed online or in-person. Non-GC students: Please contact the instructor when you enroll.

Same as: GENE 284

**CHPR 287. CARDIOVASCULAR GENETICS. 1 Unit.**

Online course for genetic counseling students, graduate students in genetics, medical students, residents, fellows, and nurses interested in inherited cardiovascular conditions. Genetic counseling students should take this course in conjunction with their cardiovascular genetics rotation. Topics include: Basic cardiology principles, including relevant anatomy and physiology; diagnosis, management and genetic testing as it relates to common inherited cardiovascular conditions in both the pediatric and adult setting; predictive genetic testing issues specific to inherited cardiovascular conditions; psychological issues related to sudden death conditions. Non-GC students: Please contact the instructor when you enroll.

Same as: GENE 287

**CHPR 290. Curricular Practical Training and Internship. 1-18 Unit.**

CHPR masters students enroll for a letter grade in your mentor's section. Before the end of the second week of the quarter, enrolled students must submit a description of the expected learning outcomes and deliverables for each unit to the CHPR office. One unit= three hours of work per week (30 hours for the quarter). CHPR 290 is also the CPT Course required for international students completing degree requirements.

**CHPR 299. Directed Reading. 1-18 Unit.**

Prerequisite: consent of instructor. Before the end of the second week of the quarter, enrolled students must submit a description of the expected learning outcomes and deliverables for each unit to the CHPR office. One unit= three hours of work per week (10 hours for the quarter).

**CHPR 399. Community Health and Prevention Research Master's Thesis Writing. 1-18 Unit.**

Thesis writing for Community Health and Prevention Research Program. Students enroll in thesis advisor's section. Non-medical students enroll for a letter grade. Before the end of the second week of the quarter, enrolled students must submit a description of the expected learning outcomes and deliverables for each unit to the CHPR office. One unit= three hours of work per week (30 hours for the quarter).

**CHPR 801. TGR Project. 0 Units.**