COMPUTATIONAL PRECISION HEALTH (COMP HLTH)

COMP HLTH 200A Computational Precision Health Cornerstone (3 Units)

Offered In: Fall

Instructor(s): Adam Yala
Prerequisite(s): N/A

Restrictions: First-year CPH graduate students are given priority.

Activities: Lecture, Project

CPH students will develop skills and expertise in both the computational sciences and health sciences. In this three-part course series, students learn to integrate core foundations of computational precision health in small multidisciplinary teams using a Problem Based Learning pedagogical approach. Students will learn core computational foundations including in machine learning and causal inference and they will obtain deep exposure to multiple clinical areas including cancer and cardiology.

School: Graduate Division
Department: Computational Precision Health Program
May the student choose the instructor for this course? No
Does enrollment in this course require instructor approval? No
Course Grading Convention: Letter Grade
Graduate Division course: Yes
Is this a web-based online course? No
Is this an Interprofessional Education (IPE) course? No
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes
Repeat course for credit? No

COMP HLTH 200B Computational Precision Health Cornerstone (3 Units)

Offered In: Winter

Instructor(s): Ahmed Alaa
Prerequisite(s): COMP HLTH 200A

Restrictions: CPH first-year graduate students are given priority

Activities: Lecture, Project

CPH students will develop skills and expertise in both the computational sciences and health sciences. In this three-part course series, students learn to integrate core foundations of computational precision health in small multidisciplinary teams using a Problem-Based Learning pedagogical approach. Students will learn core computational foundations including in machine learning and causal inference and they will obtain deep exposure to multiple clinical areas including cancer and cardiology.

School: Graduate Division
Department: Computational Precision Health Program
May the student choose the instructor for this course? No
Does enrollment in this course require instructor approval? No
Course Grading Convention: Letter Grade
Graduate Division course: Yes
Is this a web-based online course? No
Is this an Interprofessional Education (IPE) course? No
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes
Repeat course for credit? No

COMP HLTH 200C Computational Precision Health Cornerstone (3 Units)

Offered In: Spring

Instructor(s): Irene Chen
Prerequisite(s): COMP HLTH 200A, COMP HLTH 200B

Restrictions: First-year CPH graduate students are given priority

Activities: Lecture, Project

In part 3 of the three-part course series, students will focus on diabetes and ethical machine learning. The students will first learn about modeling chronic diseases including working with time-series data, treatment management, and sequential decision making. Along the way, we'll examine questions of equity and fairness within these questions including access to healthcare, social determinants of health, and trust in the healthcare system.

School: Graduate Division
Department: Computational Precision Health Program
May the student choose the instructor for this course? No
Does enrollment in this course require instructor approval? No
Course Grading Convention: Letter Grade
Graduate Division course: Yes
Is this a web-based online course? No
Is this an Interprofessional Education (IPE) course? No
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes
Repeat course for credit? No

COMP HLTH 201A CPH Practicum (3 Units)

Offered In: Fall

Instructor(s): Ida Sim
Prerequisite(s): COMP HLTH 200A, COMP HLTH 200B, COMP HLTH 200C, or permission of the instructor.

Restrictions: Only CPH students in their 2nd year, or with instructor permission.

Activities: Seminar, Clinical, Lab skills

CPH 201a provides the foundations for understanding and engaging with inpatient and outpatient clinical care. Student will gain deep and continuing exposure to the clinical and public health contexts in which CPH advances are to be deployed. Students will have in-depth real world exposure relevant to problem area(s) covered in the problem-based learning core, including clinical, research, and operational work in inpatient, outpatient, community health, and/or public health settings.

School: Graduate Division
Department: Computational Precision Health Program
May the student choose the instructor for this course? No
Does enrollment in this course require instructor approval? Yes
Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)
Graduate Division course: Yes
Is this a web-based online course? No
Is this an Interprofessional Education (IPE) course? No
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? No
Repeat course for credit? No

COMP HLTH 201B CPH Practicum (3 Units)

Offered In: Winter

Instructor(s): Irene Chen
Prerequisite(s): COMP HLTH 200A, COMP HLTH 200B, COMP HLTH 200C, COMP HLTH 201A, or permission of the Instructor

Restrictions: CPH students in their 2nd year, or by permission.

Activities: Seminar, Clinical, Lab skills

A 2-semester course series taken during the second year of Computational Precision Health, augmenting the Cornerstone course to provide deep and continuing exposure to the clinical and public health contexts in which CPH advances are to be deployed. Students will have in-depth real world exposure relevant to problem area(s) covered in the problem-based learning core, including clinical, research, and operational work in inpatient, outpatient, community health, and/or public health settings.

School: Graduate Division
Department: Computational Precision Health Program
May the student choose the instructor for this course? No
Does enrollment in this course require instructor approval? No
Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)
Graduate Division course: Yes
Is this a web-based online course? No
Is this an Interprofessional Education (IPE) course? No
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? No
Repeat course for credit? No

COMP HLTH 215 Lab Rotation (2-8 Units)

Offered In: Fall, Winter, Spring, Summer

Instructor(s): Staff
Prerequisite(s): Instruction permission.

Restrictions: For first year graduate students in the Joint UCSF/UC Berkeley CPH PhD program.

Activities: Independent Study, Lab science

For first-year CPH graduate students, this course will provide an introduction to experimental methods and research approaches in the different areas of Computational Precision Health. Ten week laboratory rotations spread out over the fall and spring quarters, summer on a needed basis. Research is conducted under the direction of an individual faculty member.

School: Graduate Division
Department: Computational Precision Health Program
May the student choose the instructor for this course? Yes
Does enrollment in this course require instructor approval? Yes
Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)
Graduate Division course: Yes
Is this a web-based online course? No
Is this an Interprofessional Education (IPE) course? No
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes
Repeat course for credit? Yes

COMP HLTH 250 Independent Research (1-9 Units)

Offered In: Fall, Winter, Spring, Summer

Instructor(s): Staff
Prerequisite(s): Students working on dissertation research only

Restrictions: Restricted to Computational Precision Health students

Individual research under the supervision of a faculty member.

School: Graduate Division
Department: Computational Precision Health Program
May the student choose the instructor for this course? Yes
Does enrollment in this course require instructor approval? Yes
Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)
Graduate Division course: Yes
Is this a web-based online course? No
Is this an Interprofessional Education (IPE) course? No
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes
Repeat course for credit? Yes

COMP HLTH 270 Computational Precision Health Seminar (3 Units)

Offered In: Fall, Winter

Instructor(s): Ahmed Alaa, Irene Chen, Adam Yala
Prerequisite(s): None.

Restrictions: Enrollment is limited to students with standing in the Computational Precision Health PhD, accepted students in the Designated Emphasis in Computational Precision Health, or by consent of the instructor.

Activities: Seminar, Discussion

Computational precision health is a rapidly evolving field at the intersection of computational (computer science, data science, statistics) and health sciences (clinical medicine, population health, clinical research). The seminar consists of discussion of recent literature in CPH, guest speakers from across the programs faculty and beyond, presentations by second-year students on work completed during lab rotations, and presentations by third-year students on active dissertation research.

School: Graduate Division
Department: Computational Precision Health Program
May the student choose the instructor for this course? No
Does enrollment in this course require instructor approval? Yes
Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/ Unsatisfactory)
Graduate Division course: Yes
Is this a web-based online course? No
Is this an Interprofessional Education (IPE) course? No
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes
Repeat course for credit? Yes