| 課程資訊 Course Information | | | | |
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| 課程名稱<br>Course title<br>（中/英文） | 中文名稱：疾病負擔測量：從方法到應用<br>English: Measuring burden of disease: methods and applications | | | |
| 課程編號<br>Curriculum Number | MGH5001<br>853 U0150 | 班次<br>Class | | 學分數<br>Credits | 2 |
| 全/半年<br>Full/Half Yr. | 半年<br>Half Yr. | | 必/選修<br>Required/Elective | 選修<br>Elective |
| <mark>授課教師</mark><br><mark>Instructor</mark> | 林先和（主授）<br>張書森、楊銘欽、鄭守夏（合授） | | 開課系所<br>Designated for | 全球衛生碩士學位學程 MGH |
| 上課時間<br>Time | (二)6,7 | | 上課地點<br>Venue | 公衛 210 |
| 備註<br>Remarks | 本課程以英語授課；全球衛生碩士學位學程選修；總人數上限 20 人。 | | | |
| 課程大綱（中/英文）Course Syllabus | | | | |
| 為確保您我的權利,請尊重智慧財產權及不得非法影印<br>Please respect the intellectual property rights of others and do not copy any of the course information without permission | | | | |
| 課程概述<br>Course Description | The measurement and quantification of population health could assist health policy making and priority setting. In the past few years there have been major advancements in burden of disease research, mainly led and stimulated by the Global Burden of Disease Study (GBD). This course will give an overview on the concepts and methods used to quantify the burden of disease at the national and global level. The GBD will be a main focus of this course, but other alternative approaches will also be reviewed. The course consists of lectures, computer labs, a hands-on group-based project, and a field visit to the Ministry of Health and Welfare. | | | |
| 課程目標<br>Course Objective | At the end of the course the students are expected to:<br>1. Understand the key concepts and elements in burden of disease studies<br>2. Comment on the strengths and limitations of burden of disease studies<br>3. Understand the estimating procedures of the GBD study<br>4. Be familiar with and be able to use the major databases of GBD while acknowledging their limitations | | | |
| 課程要求<br>Course Requirement | The course will be offered in English. Basic understanding of key concepts of epidemiology and biostatistics will be helpful but is not absolutely required. | | | |

| 關鍵字<br>Keywords | Global health; burden of disease; disability-adjusted life years; health-adjusted life expectancy |
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| Office Hours | By appointment |
| 指定閱讀<br>Designated reading | |
| 參考書目<br>References | 1. Lopez AD, Mathers CD, Ezzati M, Jamison DT, Murray CJL (Eds.). Global Burden of Disease and Risk Factors. Washington, DC: Oxford University Press and Word Bank, 2006<br>2. Smith JN. Epic Measures. New York: HarperCollins Publishers; 2015<br>3. Flaxman AD, Vos T, Murray CJL (Eds.). An Integrative Metaregression Framework for Descriptive Epidemiology. Seattle and London: University of Washington Press; 2015 |

| 評量方式<br>Grading | # | 項目 | % | 說明 |
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| | 1 | Participation | 20 | |
| | 2 | Homework | 30 | |
| | 3 | Final group project | 50 | |

| 週次 Week | 日期 Date | 單元主題（中/英文）Topic | CEPH 核心能力<br>(CEPH Core Competence) |
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| 第 1 週 Week 1 | | Measuring burden of diseases, injuries, and risk factors: what, why, and how | D17-3 |
| 第 2 週 Week 2 | | I. Invited Talk: Global Health Cost Effectiveness Analysis<br>II. YLL and Life table | D17-3 D1711 |
| 第 3 週 Week 3 | | Cause of death and Garbage code | D17-3 D17-6 |
| 第 4 週 Week 4 | | I. YLD: incidence-based and prevalence-based approach<br>II. Disability weights | D17-3 D17-6 3 |
| 第 5 週 Week 5 | | Estimating burden of disease from health expenditures | D17-3 |
| 第 6 週 Week 6 | | Lab I (Life table and garbage code | D17-3 |

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| 第 7 週 Week 7 | | Spring break | |
| 第 8 週 Week 8 | | Measuring the burden of risk factors: comparative risk assessment (CRA) I | D17-3 |
| 第 9 週 Week9 | | I. Measuring the burden of risk factors: comparative risk assessment (CRA) II II. Lab II (CRA) | D17-3 |
| 第 10 週 Week 10 | | Mid-term progress report | |
| 第 11 週 Week 11 | | Measuring the burden of injuries and mental illness | D17-3 D17-10 |
| 第 12 週 Week 12 | | I. Benchmarking II. Forecasting the burden of disease | D17-11 |
| 第 13 週 Week 13 | | National infectious disease surveillance and health open data in Taiwan; Field visit to Taiwan CDC | D17-3 3 |
| 第 14 週 Week 14 | | National burden of disease studies in Taiwan | D17-4 3 |
| 第 15 週 Week 15 | | Application of GBD results | D17-10 3 |
| 第 16 週 Week 16 | | Quantification of disease burden using EYLL (expected years of life lost) | D17-3 |
| 第 17 週 Week 17 | | Evidence-based health policy making; evaluation of health system performance | D17-3 D17-10 D17-11 |
| 第 18 週 Week 18 | | Final project presentation | |

全球衛生碩士學位學程 核心能力

Global Health Program Competencies

| Code | Competencies |
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| D17-1 | Explain public health history, philosophy and values |
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| D17-2 | Identify the core functions of public health and the 10 Essential Services* |
| D17-3 | Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health |
| D17-4 | List major causes and trends of morbidity and mortality in the US or other community relevant to the school or program |
| D17-5 | Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc. |
| D17-6 | Explain the critical importance of evidence in advancing public health knowledge |
| D17-7 | Explain effects of environmental factors on a population's health |
| D17-8 | Explain biological and genetic factors that affect a population's health |
| D17-9 | Explain behavioral and psychological factors that affect a population's health |
| D17-10 | Explain the social, political and economic determinants of health and how they contribute to population health and health inequities |
| D17-11 | Explain how globalization affects global burdens of disease |
| D17-12 | Explain an ecological perspective on the connections among human health, animal health and ecosystem health (eg, One Health) |
| 1 | Analyze the roles, relationships, and resources of the entities influencing global health |
| 2 | Apply ethical approaches in global health research and practice |
| 3 | Apply monitoring and evaluation techniques to global health programs, policies, and outcomes |
| 4 | Propose sustainable and evidence-based multi-sectoral interventions, considering the social determinants of health specific to the local area |
| 5 | Design sustainable workforce development strategies for resource-limited settings |
| 6 | Display critical self-reflection, cultural humility, and ongoing learning in global health |

* 授課內容引用本所（系）教師發表之著作 0 篇，引用本院教師發表之著作 0 篇。
（請列出著作出版資料：作者姓名，題目，期刊名稱，卷數，起訖頁數及出版年）