INDE (INDE)

Courses

INDE 200. The Future of Academic Medicine. 1 Unit.
Required for and limited to first-year MSTP students. Presentations of research directions and opportunities by chairs of basic science, clinical departments, and PhD programs. Prerequisite: instructor consent.

INDE 201. Practice of Medicine I. 11 Units.
Six quarter series extending throughout the first two years of the MD program, intervening core skills training in medical interviewing and the physical examination with other major threads addressing the context of medical practice: information literacy, nutrition principles, clinical epidemiology and biostatistics, evidence-based practice, psychiatry, biomedical ethics, health policy, population health. Core clinical skills are acquired through hands-on practice, and evaluated through an extensive program of simulated medical encounters, in which students interview, examine, and manage patients in a mock clinic. The information literacy thread introduces students to informatics and knowledge management, biomedical informatics, and evidence-based medicine searching. Nutrition principles are acquired through interactive, web-based instruction, and reinforced through problem-based learning cases, which run in parallel to the basic science components over the first year. In epidemiology students learn the taxonomy of epidemiological studies, how to critically read a journal article, and how to recognize and understand the concepts behind different clinical study designs. Topics include bias, confounding, diagnostic testing and screening, and "how statistics can lie." Psychiatry introduces students to the unique role of medical students in talking with patients, the difference between process and content in patient communication, how to respond to breaks in the patient-physician relationship, and the relationship between the quality of the patient-physician interaction and health outcomes. Health care policy covers such topics as health insurance, physician payment, health care costs, access, measurement and improvement of quality, regulation and health care reform. Biomedical ethics includes important ethical issues in medical practice, such as confidentiality, privacy, and ethical issues relating to medical students. The population health curriculum exposes students to concepts of public health, community action, and advocacy, and includes a year-long, community-based project. At the end of this quarter students participate in a performance-based assessment of the medical interview skills.

INDE 202. Practice of Medicine II. 8 Units.
Medical interview and physical examination skills, information literacy, nutrition principles, evidence-based practice, health policy, and population health are covered. At the end of this quarter, students participate in a performance-based assessment of their medical interview and physical examination skills. See INDE 201 for a complete description of the Practice of Medicine course series.

INDE 203. Practice of Medicine III. 8 Units.
Medical interview and physical examination skills, biomedical literature retrieval and appraisal, nutrition principles, evidence-based practice, biomedical ethics, and population health are covered. Students begin clinical problem-solving sessions to learn the approach to common and important clinical problems. Cases integrate other course themes of population health, evidence-based practice, clinical ethics, nutrition, health policy, and behavioral medicine. Students begin transition from comprehensive to problem-focused patient encounters. Students also gain exposure to geriatrics, pediatrics, and interprofessional healthcare teams, and practice mental health interview skills. At the end of this quarter, students participate in a performance-based assessment of their medical interview and physical examination skills. See INDE 201 for a complete description of the Practice of Medicine course series.

INDE 204. Practice of Medicine IV. 10 Units.
The second year of the Practice of Medicine series (INDE 204 and 205) emphasizes clinical reasoning, clinical practicum, and clinical procedures. Students continue clinical problem-solving sessions to learn the approach to common and important clinical problems. Cases integrate other course themes of population health, evidence-based practice, clinical ethics, nutrition, health policy, and behavioral medicine. Students spend one-half day per week in a clinical setting, practicing medical interview, physical examination skills, oral presentations, and clinical note-writing under the mentorship of a clinical tutor. In the practicum, students also gain experience with other practical aspects of patient care. The Clinical Procedures segment introduces common and important procedures in clinical practice, including phlebotomy, intravenous line insertion, and electrocardiography.

INDE 205. Practice of Medicine V. 8 Units.
Continued emphasis on clinical reasoning, clinical practicum, and clinical procedures. Students continue clinical problem-solving sessions to learn the approach to common and important clinical problems. Cases integrate other course themes of population health, evidence-based practice, clinical ethics, nutrition, health policy, and behavioral medicine. Students spend one-half day per week in a clinical setting, practicing medical interview, physical examination skills, oral presentations, and clinical note-writing under the mentorship of a clinical tutor. In the practicum, students also gain experience with other practical aspects of patient care. For the Clinical Procedures segment, students will have an opportunity in the Emergency Department to practice performing procedures learned in the previous quarter. At the end of this quarter, students participate in a comprehensive four-station objective structured clinical examination (OSCE) performance-based assessment of their medical interview, physical examination, and clinical problem-solving skills.

INDE 206. Practice of Medicine VI. 9 Units.
This last segment of the Practice of Medicine series is an intensive, four-week learning experience to consolidate clinical skills from prior quarters, and a final preparation for transition to clerkships. An extensive series of workshops covers topics such as dermatology, ophthalmology, advanced clinical reasoning, advanced presentations, bedside skills, ethics, palliative medicine, advanced sexual history, electronic medical record, EKG interpretation, intravenous fluid and electrolyte management. Students practice clinical procedures with task trainers and on a cadaver. This quarter also includes a professionalism series to prepare students for entry into clinical practice. Special clinical practice sessions are held as a capstone to clinical skills preparation.

INDE 207A. Medical Mandarin I: Beginning. 2-3 Units.
Develops conversational communication skills and essential medical vocabularies. Teaches in pinyin pronunciation system, which provides an accessible method of learning basic phrases. The foundations of taking a comprehensive patient history in Mandarin and doing medical interviews at individual hospital divisions, including making introductions, soliciting symptoms, explaining health concepts (e.g., diseases and prescriptions) as well as daily survival conversations. Main goals are to improve rapport with Chinese patients through Mandarin fluency in the medical setting and to promote understanding of Chinese culture in the context of health care as well as daily life. Students registering for 3 units participate in clinic visits and field activities.

INDE 207B. Medical Mandarin II: Intermediate. 2-3 Units.
For students who already have a basic command of spoken Chinese. Conversational communication skills practiced in a more advanced setting, including more sophisticated assessment of patient history and different tasks such as giving medical instructions and doing lab and tests. Builds working vocabulary for organ system, disease assessment to conduct a full physical exam, and to describe treatment modalities for Chinese-speaking patients (diagnostic and therapeutic). Students registering for 3 units participate in clinic visits and field activities. Prerequisite: one year of college-level Chinese or instructor assessment of fluency.
INDE 207C. Medical Mandarin III: Advanced. 2-3 Units.
Access advanced professional medical vocabulary, conduct medical research, and engage in discussions in Chinese. Aims at a proficiency level of medical interpreting or doing other independent work in Chinese. Students are also assisted in doing a project or projects related to a specific field of medicine. Students registering for 3 units participate in clinic visits, field activities or projects. Prerequisite: completion of Medical Mandarin II, or advanced Chinese proficiency.

INDE 207D. Professional Mandarin I. 2-3 Units.
Designed for students who seek professional development via Mandarin. Coursework includes lectures, online classes, language partnerships, selected topics, projects and field activities. Goal is to enhance students’ language abilities as professionals and facilitate a career. Students choose to enroll for 2 units or 3 units depending upon an agreed- upon workload approved by the instructor. Prerequisite: sound preparation in Mandarin as assessed by the instructor.

INDE 208A. Medical Mandarin I: Beginning. 2-3 Units.
Continuation of 207A. See description for 207A. Students participating in classroom and online instruction only register for 2 units. Students registering for 3 units participate in clinic visits and field activities as well.

INDE 208B. Medical Mandarin II: Intermediate. 2-3 Units.
Continuation of 207B. See description for 207B. Students participating in classroom and online instruction only register for 2 units. Students registering for 3 units participate in clinic visits and field activities as well.

INDE 208C. Medical Mandarin III: Advanced. 2-3 Units.
Access advanced professional medical vocabulary, conduct medical research, and engage in discussions in Chinese. Aims at a proficiency level of medical interpreting or doing other independent work in Chinese. Students are also assisted in doing a project or projects related to a specific field of medicine. 3 units includes clinic visits and field activities. Prerequisite: completion of 207C, or advanced Chinese proficiency.

INDE 208D. Professional Mandarin II. 2-3 Units.
Continuation of INDE 207D. Designed for students who seek professional development via Mandarin. Coursework includes lectures, online classes, language partnerships, selected topics, projects and field activities. Goal is to enhance students' language abilities as professionals and facilitate a career. Students choose to enroll for 2 units or 3 units depending upon an agreed- upon workload approved by the instructor. Prerequisite: INDE 208D.

INDE 209A. Medical Mandarin III: Beginning. 2-3 Units.
Continuation of 207A/208A. See description for 207A. Students participating only in classroom and online instruction register for 2 units. Students registering for 3 units participate in clinic visits and field activities as well.

INDE 209B. Medical Mandarin III: Intermediate. 2-3 Units.
Continuation of 207B/208B. See description for 207B. Students participating only in classroom and online instruction register for 2 units. Students registering for 3 units participate in clinic visits and field activities as well.

INDE 209C. Medical Mandarin III: Advanced. 2-3 Units.
Access advanced professional medical vocabulary, conduct medical research, and engage in discussions in Chinese. Aims at a proficiency level of medical interpreting or doing other independent work in Chinese. Students are also assisted in doing a project or projects related to a specific field of medicine. 3 units includes clinic visits and field activities. Prerequisite: completion of 208C or advanced Chinese proficiency.

INDE 209D. Professional Mandarin III. 2-3 Units.
Continuation of INDE 208D. Designed for students who seek professional development via Mandarin. Coursework includes lectures, online classes, language partnerships, selected topics, projects and field activities. Goal is to enhance students’ language abilities as professionals and facilitate a career. Students choose to enroll for 2 units or 3 units depending upon an agreed- upon workload approved by the instructor. Prerequisite: INDE 208D.

INDE 211. Creative Writing. 1 Unit.
For medical students - all levels of writing skill. Examines uses of creative writing, including understanding the experience of medical training. May be repeated for credit.

INDE 212. Medical Humanities and the Arts. 2 Units.
The interdisciplinary field of medical humanities: the use of the arts and humanities to examine medicine in personal, social, and cultural contexts. Topics include the doctor/patient relationship, the meaning of doctoring, and the meaning of illness. Sources include visual and performing arts, film, and literary genres such as poetry, fiction, and scholarly writing. Designed for medical students in the Biomedical Ethics and Medical Humanities Scholarly Concentration, but all students are welcome.

INDE 214. Stanford Medical Student Journal. 1 Unit.
Provides an opportunity for editors of all levels to cultivate their skills and assist in preparing pieces submitted by colleagues for publication in the Stanford Medical Student Journal. Students enrolled in the course work closely with student authors as well as other editors. Editors examine multiple categories of writing, including opinion pieces, poetry, memoirs, book reviews, case reports and investigative reports. The Journal is published two to three times per year and highlights the diverse talents of Stanford medical students in both scientific writing and the humanities.

INDE 215. Queer Health and Medicine. 1 Unit.
Explores specific, pertinent, and timely issues impacting the health of the lesbian, gay, bisexual, and transgender community; examines the role of the primary care physician in addressing the health care needs of this community. Guest lecturers provide a gender-sensitive approach to the medical care of the LGBT patient, breaking down homophobic barriers and reaffirming patient diversity. May be repeated for credit.

INDE 216. Cells to Tissues. 3 Units.
Focuses on the cell biology and structural organization of human tissues as self-renewing systems. Topics include identification and differentiation of stem cells, regulation of the cell cycle and apoptosis in normal and cancerous cells, cell adhesion and polarity in epithelial tissues, intracellular transport, and cell migration. Histology laboratory sessions examine normal and abnormal samples of blood, epithelia, connective tissue, muscle, bone and cartilage. Patient presentations and small group discussions of current medical literature illustrate how cell biology influences medical practice.

INDE 217. Physician Scientist Hour. 1 Unit.
Enrollment is limited to MD, PhD, or MD-PhD students interested in careers as physician scientists. Focus is on aspects of developing careers in biomedical research through a mix of research lectures, clinical case presentations, and physician-scientist guest speakers.

INDE 221. Human Health and Disease I. 11 Units.
First course in three-sequence Human Health and Disease block. Focus is on structure, function, disease, and therapeutics of the respiratory system and the cardiovascular system. The Human Health and Disease block presents organ-system-based histology, pathology, physiology, pharmacology, and infectious disease in a sequence of interdisciplinary courses. Each organ-specific integrated course includes a review of the anatomy and related histology, normal function of that organ system, how the organ system is affected by and responds to disease including infection, and how diseases of that organ system are treated (therapeutics).
INDE 222. Human Health and Disease III. 15 Units.
Structure, function, disease, and therapeutics of the renal/genito-urinary system, the gastrointestinal system, the endocrine system, male and female reproductive systems, and women's health. See INDE 220 for a description of the Human Health and Disease block.

INDE 223. Human Health and Disease IV. 11 Units.
Structure, function, disease, and therapeutics of the central nervous system, hematologic system and multi-systemic diseases. See INDE 220 for a description of the Human Health and Disease block.

Designed for medical students and other health care professionals. Lunchtime lectures review the epidemiological and clinical research related to eating patterns and misconceptions of the public, the mechanisms of pharmacological effects of food, and related topics common to patient nutritional concerns. Topics include fad diets, the impact of dietary addiction, longevity associated with caloric restriction, toxins in foods and the action of phytonutrients. Epidemiological, clinical, and biochemical studies are reviewed in the discussion of these and other topics.

INDE 226. History of Medicine Online. 1 Unit.
Via Internet. Topics include: ancient medicine, Egypt and Babylonia, ancient Greece and Rome, Europe in the Middle Ages and the Renaissance, 18th-century schools of thought, and technological medicine. Sources include Kleiman's core clinical functions, and text, pictures, hypertext links, and sound clips. For assistance accessing the course, email: cwpsupport@lists.stanford.edu. Enroll in Axess, then ask cwpsupport to be added to the course site as a student.

INDE 227. Careers in Medicine: Pathways in the Medical Sciences. 1 Unit.
Open to medical students, graduate and undergraduate students. Interactive, seminar-style sessions expose students to diverse career opportunities and the challenges of developing work-life balance in medicine. Recognized experts in clinical medicine and biomedical research who have been innovators in their careers discuss their work, decision-points in their career pathways, and lifestyle aspects of their choices.

INDE 228. Career Transition Planning: Taking Action Today for a Successful Tomorrow. 1 Unit.
Open to School of Medicine MD and graduate students; post-docs and clinical fellows may audit by consent of instructor. How to prioritize career goals and develop an effective job search campaign. Topics: translating scientific and clinical training into a variety of workplace environments, professional network development, professional interest assessment, recruiters’ perspectives, credentials development, and creating a marketing plan. Guest speakers from myriad career fields. May be repeated for credit.

INDE 229. Managing Difficult Conversations. 1 Unit.
(Same as GSBBGEN 568) Dealing effectively with difficult interpersonal situations in medical contexts. Focus is on improving students' judgment as to how to prepare for and confront difficult discussions in medical situations. Relevant principles of professionalism, leadership, and psychology underlie the course pedagogy. Case-based; student-to-student and student-to-instructor role-playing in actual medical situations. Patient and physician-expert participation as class guests. Enrollment limited to 20 medical students (2nd year and beyond) and 15 2nd year MBA students.

INDE 230. Topics in Scientific Management. 1 Unit.
Designed for postdocs and advanced graduate students. Reviews management skills necessary for successfully assuming leadership roles in scientific research. Addresses some of the most difficult aspects of developing, directing, and managing people and projects and running a research group, especially issues that new faculty have traditionally learned by trial and error over a number of years. Topics include: the faculty job search process and strategies, key elements in starting a lab, basic principles regarding legal dimensions of scientific activity (intellectual property, royalties, links with industry), team science, research ethics, communication and negotiation skills, and writing and securing grants.

INDE 231A. Career Transitions: Academia. 1 Unit.
Preference to PhD students in their fourth year or beyond and postdocs/fellows in their intended final year. Restricted to students in Biosciences and the School of Medicine. Focus is on practical, hands-on preparation of application materials (including interview and job talk) for academic positions. Provides practical, hands-on preparation for Bioscience PhD students, postdoctoral fellows and research/clinical trainees ready to apply to academic positions. It not only previews the academic hiring process, including tips from experienced faculty from different types of institutions, but also guides participants in the preparation and polishing of their application materials for success on the job market.

INDE 231B. Career Prep and Practice: Academia. 1 Unit.
Open to all Biosciences PhD students, postdocs/fellows and medical students/residents/fellows planning to pursue academic careers. Focus is on gaining a deeper understanding of faculty roles and responsibilities. Topics include how to balance teaching, research, service, lab set-up, grantwriting and publishing at different types of institutions. Features panels of experienced faculty members from different academic environments. More information available on course website: web.stanford.edu/class/inde231b.

INDE 232. Introduction to Academic Medicine for Physician-Scientists. 3 Units.
Open only to accepted MSTP students. Presentations by Stanford faculty on professional development topics, including: choosing a dissertation advisor, giving oral presentations, writing a grant proposal, attending scientific meetings, developing a research career. Substantial writing component.

INDE 233. Medical Education Seminar Series. 1 Unit.
For pre-clinical and clinical medical students. A series of sessions rotating among the following formats: Medical Education journal club; education works-in-progress; topics in medical education design, implementation, and evaluation; teaching M&M; hot topics and controversies in medical education. May be repeated for credit.

INDE 234. Introduction to Writing Research Proposals. 3 Units.
Practical instruction in research proposal writing. Suitable for advanced graduate students. Substantial writing component. Enrollment by instructor approval only.

INDE 235. Wilderness Leadership and Mentorship Skills for Medical Students. 2 Units.
For MD/Master of Medicine wilderness pre-orientation trip (SWEAT) leaders. Training to engage with and prepare incoming first-year medical students for the rigors of medical school. Topics include: fundamentals of wilderness survival, wilderness equipment use, wilderness first aid, camping, outdoor leadership, mentorship, team building, improvisation, risk management, cultural competency, professionalism as a physician, reflection and resiliency, first-year curriculum, stress management and coping. Guest lectures from Stanford faculty, emergency medicine physicians, National Outdoor Leadership School wilderness instructors, learning strategy specialists, and mentorship development specialists.

INDE 236. Introduction to Teaching and Mentoring. 1 Unit.
Enrollment limited to medical students. An introduction to medical education teaching principles and skills. Topics include assessment of current teaching skills, reviews of performance, giving appropriate learner feedback, and best practices for interactive teaching. Also introduces the literature around the value of peer mentoring in the medical setting and how to apply this information. Recommended for medical students interested in or currently serving as teaching assistants or interested in future academic positions.

INDE 239. Preparation and Practice for Biotechnology Business and Finance. 2 Units.
Open to School of Medicine graduate students, medical students, residents and fellows. Focus on the process of new company development and skills for success in biotechnology business, entrepreneurship and finance, including management/leadership skill development, awareness of business terminology and theory. Topics include: financial analysis, feasibility, IP, case practice.
INDE 255A. Health Policy, Finance and Economics I. 1 Unit.
Open to medical students and resident physicians. Introduction to basic concepts and current issues in health policy, health finance, and health economics. Goals are to promote understanding of the forces that shape healthcare; to integrate medical students with graduate medical education (residents); to motivate participants to pursue further scholarly activity in these subjects through coursework, graduate programs or research. Team taught by world-renowned experts in their respective fields. Prerequisite: instructor consent.

INDE 255B. Health Policy, Finance and Economics II. 1 Unit.
Continuation of INDE 255A. Open to medical students and resident physicians. Introduction to basic concepts and current issues in health policy, health finance, and health economics. Goals are to promote understanding of the forces that shape healthcare; to integrate medical students with graduate medical education (residents); to motivate participants to pursue further scholarly activity in these subjects through coursework, graduate programs or research. Team taught by world-renowned experts in their respective fields. For medical students 255A is not prerequisite to 255B. Prerequisite: instructor consent.

INDE 260. Journeys in Women’s Health and Sex and Gender in Medicine. 1 Unit.
Sponsored by the Stanford WSDM Center. Course focuses on health research on women and sex differences in medicine, acknowledges the “wisdom” of research and education on sex (e.g. chromosomes, gonads, gonadal hormones) and gender (sociocultural) factors influencing health. Brings alumni to share their professional journeys in the world of Women and Sex Differences in Medicine. Meets Women’s Health Scholarly Concentration Requirement.
Same as: FEMGEN 260X

INDE 263. Microbiology and Infectious Diseases I. 4 Units.
First course in a four-course series exploring microbiology, pathogenesis, and clinical issues associated with infectious diseases. Patient cases springboard discussion on viral, bacterial, fungal, protozoal and helminthic pathogens. Online videos and self-assessments followed by interactive sessions and problem sets.

INDE 264. Microbiology and Infectious Diseases II. 1 Unit.
Second course in a four-course series exploring microbiology, pathogenesis, and clinical issues associated with infectious diseases. Patient cases springboard discussion on viral, bacterial, fungal, protozoal and helminthic pathogens. Online videos and self-assessments followed by interactive sessions and problem sets.

INDE 295. Bioethics and Anthropology Interdisciplinary Directed Individual Study. 3-5 Units.
Supervised individualized study in bioethics and anthropology for a qualifying paper, research proposal, or project with an individual faculty member. May be repeated for credit.

INDE 297. Reflections, Research, and Advances in Patient Care. 4 Units.
Required for all MD students enrolled in clerkships at Stanford affiliated sites. Two-year curriculum designed to provide structured time for students to step back from clerkships, in order to promote reflection on and reinforcement for their learning in the clinical environment. Goals are: to discuss and reflect upon critical experiences in clerkships; to provide continuity of instruction in translational science topics across the curriculum; to reinforce and extend the study of behavioral, cultural, ethical, social and socioeconomic topics introduced in the Practice of Medicine course sequence; to expose students to recent advances in medical discoveries, emphasizing their application to clinical practice (translational medicine); and to develop research and critical thinking skills, acquiring new information in areas related to the Scholarly Concentrations. Components of this curriculum include Doctoring with CARE small groups, the Advances and Reflections in Medicine lecture/seminar series, and Scholarly Concentration breakout groups. The Friday afternoon lecture/seminars explore advances in biomedical sciences with applications to medical practice (translational medicine) as well as faculty career pathways, reflections on doctoring, and the context of medicine in society. All students in clinical clerkships must participate in all aspects of RRAP Days. Prerequisite: Concurrent enrollment in clinical clerkships.

INDE 298. Women’s Health Independent Project. 1 Unit.
Required for Women’s Health Scholarly Concentration. Students pursue individual projects under the supervision of a faculty member. Prerequisite: consent of instructor.