Courses of Instruction for M.D. Students

Courses are subject to change, and the University reserves the right to withdraw any course announced. The number in parentheses after the name of a course indicates the number of credit hours that may be earned. Five credit hours per four-week elective period are granted for all fourth-year courses in the M.D. program.

Elective clinical rotations for fourth-year M.D. students are listed by course number and title and are representative of offerings that change yearly; the location is indicated if it is other than the GW Hospital or Medical Faculty Associates. The course descriptions, which change frequently, are to be found in the annual senior course catalog published by the School of Medicine and Health Sciences.

The following abbreviations designate courses for M.D. students in the School of Medicine and Health Sciences.

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Anatomy and Regenerative Biology

R.G. Hawley (Chair)

210 Gross Anatomy (5)
- Required for medical students.

212 Neurobiology (3)
- Same as Idis 212.

213 Microscopic Anatomy (4)
- Required for medical students.

276 Advanced Studies in Anatomy (1)
- Detailed study of an anatomic topic.

277 Special Topics in Neurobiology (1 to 3)

279 Applied Regional Anatomy (1 to 3)
- Regional dissection, guided readings.

291 Special Projects in Anatomy (arr.)
- Independent study on any aspect of gross anatomy.

501 Didactic Anatomy (3)
- Development of a didactic program to include human developmental anatomy, microscopic anatomy, gross anatomy, and/or neuroanatomy. May also include interdepartmental study.

Anesthesiology

M.J. Berrigan (Chair)

302 Required Anesthesiology (3)
- Required for senior medical students. Basic physiology and pharmacology as applied to cardiac, respiratory, obstetric, and renal changes incurred during anesthesia. Clinical applications are discussed and demonstrated.

380 Anesthesiology (5)

382 Neurosurgical Anesthesia (arr.)

384 Intensive Care Unit (5)

387 Pain Management (arr.)

390–92 Extramural Anesthesiology Elective (arr.)
Biochemistry and Molecular Biology

A.L. Goldstein (*Chair*)

201 Medical Biochemistry (7)
   Required for medical students. Lecture and laboratory; emphasis on basic principles and their relation to medicine.

209 Research Elective in Medical Biochemistry (arr.)

501 Issues in Clinical Nutrition (3)

Emergency Medicine

R.F. Shesser (*Chair*)

201 Cardiopulmonary Resuscitation Practicum (0)
   Mechanical skills for providing basic cardiac life support (BCLS). Upon completion, the student receives BCLS certification.

302 Emergency Medicine (5)
   Required clerkship for senior medical students. Students work approximately 16 clinical shifts in Emergency Departments at GW Hospital and Prince George's Hospital Center. Students function at an acting intern level with responsibility for patient care under the direct supervision of the faculty and residents of the Department of Emergency Medicine. Suture lab, regularly scheduled student conferences, required readings, and Grand Rounds.

312 Emergency Medicine (arr.)

345 International Emergency Medicine Elective (5)

350 Wound Management (arr.)

390–95 Extramural Emergency Medicine Elective (arr.)

502 Clinical Toxicology (arr.)

503 Domestic Violence (3)
   Psychological, legal, and medical perspectives on the problem of domestic violence, including understanding the problem, approaches to screening and assessment, and effective interventions for victims, perpetrators, and their children.

504 Emergency Medicine Research (5)

505 International Emergency Medical Systems (3)

506 International Emergency Medicine (5)

507 Pre-Hospital Care—EMS Systems (3)

508 Health Policy Issues in Emergency Medicine (3)

510 Medical Ethics (3)

511 International Diplomatic Emergency Medicine (5)

512 The Economics of Medicine and Entrepreneurship (3)

513 Emerging Infectious Diseases and Tropical Medicine (3)

Interdisciplinary Courses

201 Seminar for Special Program Students (arr.)
   An elective for students in the first year of the Doctor of Medicine special program. Concentration on learning strategies to develop individual strengths. May be repeated for credit.

209 Independent Study (arr.)

210–11 The Practice of Medicine (3 to 5)
   The first part of a four-year, ongoing program established to develop the intellectual and procedural skills required of a physician. Students meet in small groups led by faculty mentors to learn the technical skills of interviewing and physical examination and to explore a range of philosophical and ethical issues on the relationship between doctor and patient. Each student is assigned to the office of a primary care and physician–preceptor to observe patient care and practice clinical skills. Students are assigned to a problem-based learning tutorial group.

212 Neurobiology (3)
   Same as Anat 212. Integrated survey of the structure and function of the human nervous system. Lecture, clinical demonstration, and laboratory.

220–21 The Practice of Medicine (arr.)
   A continuation of small-group mentored sessions, the office-based primary care preceptorship, and the problem-based learning curriculum. Students learn higher-
level interviewing skills and refine their physical diagnostic skills, concentrating on the recognition of abnormal findings. Clinical assessment sessions are closely tied to the content of Idis 301–2. Additional issues pertain to the doctor–patient relationship and the evolution of the student into a physician.

230–31 The Practice of Medicine (2–2)
The third year of The Practice of Medicine reconsiders basic scientific concepts presented in the first two years of the program in the context of patient care and introduces clinically relevant topics not covered elsewhere in the curriculum. The course considers clinical ethics and epidemiology as well as further exploration of the socialization of the physician.

240 Medical Decision Making (2)
Required course for all medical students. Principles of decision making and preventive medicine based on analysis of rates of disease, risk factors, causation, cost-effectiveness analysis, and decision analysis.

241 The Practice of Medicine (2)
The final semester of an ongoing program.

301–2 Introduction to Clinical Medicine (arr.)
One-year course. Integrated, organ-oriented course. Basic instruction in child health and development, clinical problem solving, dermatology, gynecology, internal medicine (including subspecialties), neurology, obstetrics, ophthalmology, orthopaedics, psychiatry, radiology, and urology.

349 Operation Smile (arr.)
An international organization that provides comprehensive surgical and medical treatment to children and adults with facial abnormalities accepts one student on each medical mission.

350 International Medical Experience in Third-World Service (arr.)

351 Clinician as Medical Educator (3)
Effective teaching techniques in the clinical setting, including evaluation and feedback to learners. Student gains practical teaching experience by serving as a teaching assistant for a first- or second-year Practice of Medicine mentor group, providing instruction in diagnosis and interviewing and serving as standardized patient in performance-based examinations.

352 International Medical Experience in Paris, France (3)

353 Integrative Complementary Alternative Medicine (3)

355 OSHA Standard Precautions (0)
Mandatory federal training regulations for health care providers. Medical students must be certified before first patient contact and periodically thereafter.

357 Medical Humanities (3)

Medicine
A.G. Wasserman (Chair)

301 Clerkship in Primary Care (8)
Required for third-year medical students. Care of patients in ambulatory settings, emergency room, and office practices of internists, pediatricians, and family practitioners. Emphasis on specialty areas that contribute to a physician’s capacity to care for common minor illnesses: orthopaedics, otolaryngology, dermatology, and ophthalmology. Six-week elective periods throughout the academic year.

305 Inpatient Clerkship (10)
Required for third-year medical students. Comprehensive study of patients; history and physical examination; ward rounds, consultations, conferences, preceptorial teaching, seminars. V.A. and University Hospitals and Fairfax Inova Hospital. Eight-week periods throughout the academic year.

331 Hematology/Oncology (arr.)

332 Acting Internship in Medicine (5)

333 Acting Internship in Medicine (5)
Fairfax Inova Hospital.

334 Acting Internship in Medicine (5)
V.A. Medical Center.

336 Medical Intensive Care (5)
Washington Hospital Center.

340 Preceptorship in Electrocardiography (arr.)

341 Ambulatory Health Care Research (arr.)
342 Geriatric Medicine (arr.)
Clinical experience at a congregate housing facility, long-term care facility, outpatient practice, hospice, hospital, and home visits. Opportunity to supplement experience with activity at senior centers and day care facilities.

Advanced Clinical Experience in Primary Care (arr.)

344 Supervised Experience in Ambulatory Health Care (5)

350 Infectious Disease (arr.)
V.A. Medical Center.

351 Infectious Disease (arr.)

352 Cardiology (5)

356 Cardiology (arr.)
Providence Hospital.

Cardiology (5)
V.A. Medical Center.

Medical Intensive Care and Coronary Care Unit (5)
V.A. Medical Center.

Critical Care Medicine (arr.)
Fairfax Hospital.

Endocrinology and Diabetes (arr.)

373 Endocrinology and Metabolism (arr.)
V.A. Medical Center.

Comprehensive Diabetes Care and Podiatry (arr.)

Endocrinology Research (arr.)
V.A. Medical Center.

Dermatology Clinic (arr.)
Walter Reed Army Medical Center

Private Office Practice: Dermatology (arr.)

390–95 Extramural Elective (arr.)

Oncology (arr.)
V.A. Medical Center.

Oncology (arr.)
Washington Hospital Center. Interdisciplinary conferences with V.A. Medical Center staff.

Gastroenterology (5)

Gastroenterology (arr.)
V.A. Medical Center.

Gastroenterology (arr.)
Washington Hospital Center.

Gastroenterology (arr.)
Walter Reed Army Medical Center.

Gastroenterology (arr.)
National Naval Medical Center.

Gastroenterology (5)

Hematology (arr.)
V.A. Medical Center.

Hematology/Oncology (arr.)

Pulmonary Medicine (arr.)
V.A. Medical Center.

Pulmonary Medicine (5)
Washington Hospital Center.

Rheumatology (5)

Arthritis (arr.)
Washington Hospital Center.

Pediatric Rheumatology and Orthopaedics (arr.)
Children’s National Medical Center.

Physical Medicine and Rehabilitation (arr.)

Clinical Nephrology (5)

Renal Medicine (5)

Diagnostic Laboratory Immunology (5)

Allergy Clinic (arr.)
472 Private Office Practice: Allergy Clinic (3)
Combined elective with allergy clinic at University Hospital, Walter Reed, and NIH.

Microbiology, Immunology, and Tropical Medicine
P.J. Hotez (Chair)

201 Medical Microbiology (5)
Basic principles of medical microbiology (primarily bacteriology, virology, genetics, parasitology, and mycology), including microbial pathogenesis, and clinical infectious diseases.

202 Medical Immunology (2)
The structure and function of the immune system in health and disease, with emphasis on human immunobiology. Topics include humoral and cellular immune responses, immunological tolerance and memory, resistance to microbial pathogens, inflammation and allergic disorders, histocompatibility and transplantation, immunity to tumors, and autoimmune and immunodeficiency diseases.

Neurological Surgery
A.J. Caputy (Chair)

302 Clinical Clerkship in Neurosurgery (3)
Introduction to neurosurgery, emphasizing the neurological examination, diagnosis, and rudiments of treatment. Fulfills the neuroscience course requirement.

380 Neurosurgery (5)
383 Pediatric Neurosurgery (arr.)
Children's National Medical Center.

390–92 Extramural Neurosurgery Elective (arr.)

Neurology
J.J. Kelly (Chair)

380 Clinical Neurology (arr.)

390–94 Extramural Neurology Elective (arr.)

Obstetrics and Gynecology
J.W. Larsen (Chair)

303 Clinical Obstetrics and Gynecology (10)
Required for medical students. Participation in all obstetrical and gynecological clinics, daily departmental conferences, and ward rounds. Eight-week periods throughout the academic year. GW, Fairfax, and Holy Cross Hospitals.

378 Reproductive Endocrinology and Infertility (arr.)
380 Clinical Obstetrics and Gynecology (arr.)
Alexandria Hospital.

382 Gynecologic Oncology (5)
390–95 Extramural Obstetrics and Gynecology Elective (arr.)

Ophthalmology
C.E. Geist (Chair)

381 Clinical Ophthalmology (arr.)
Examination, diagnosis, and management of a wide variety of ocular conditions seen in clinical practice. Emphasis on conducting a general ophthalmic examination, recognition of abnormal findings, and management of common ocular diseases. Lectures, seminars, oral presentations, and written examination.

382 Clinical Ophthalmology (arr.)
National Naval Medical Center.

384 Clinical Ophthalmology (arr.)
Martinsburg V.A. Hospital
COURSES OF INSTRUCTION FOR M.D. STUDENTS

385 Private Office Practice (arr.)
390–92 Extramural Ophthalmology Elective (arr.)

Orthopaedic Surgery
R.J. Neviaser (Chair)

302 Clerkship in Orthopaedic Surgery (3)
- Basic clinical rotation that will partially fulfill the surgical subspecialty requirement.
- Didactic sessions on physical diagnosis, X-ray interpretation, arthritis, trauma, and reconstructive surgery.
- Ward rounds, periods in emergency room or operating room, conferences. All affiliated hospitals.

380 Orthopaedic Surgery (5)
390–93 Extramural Orthopaedic Surgery Elective (arr.)

Pathology
D. Karcher (Chair)

201–2 Pathology (3–5)
- A year-long course; required for second-year medical students.
- General introduction to concepts of disease. Pathology of organ systems; correlation with symptoms and physical signs.
- Gross and microscopic study of diseased tissues. Case studies.

290–92 Extramural Pathology Elective (arr.)
296 Surgical Pathology (arr.)
- Evaluation of surgical specimens and correlation with clinical status of patient.
- Description of gross and microscopic findings on assigned cases.

298 Autopsy Pathology (arr.)
- Organ changes in disease, gross and microscopic correlation, preparation of protocols.
- Participation in autopsy pathology service.

321 Clinical Pathology/Laboratory Medicine (arr.)
- Rotations through clinical chemistry, hematology, microbiology, and transfusion medicine (blood bank) laboratories providing guided readings, laboratory experience, didactic presentations, weekly conferences, and opportunities for clinical consultation.
- Basic principles of laboratory technology applied to the diagnosis and management of clinical disorders, with special focus on the appropriate interpretation of laboratory data.

501 Selected Topics in Pathology (3)
- Guided readings, study, and/or laboratory experience in an aspect of pathology of particular interest to students.
- Students present a report on the specific topic.

Pediatrics
M.L. Batshaw (Chair)

Unless otherwise indicated, all courses are held at Children's National Medical Center.

303 Pediatric Clerkship (10)
- Required for medical students.
- Full-time experience as part of resident team.
- Ward rounds, work in outpatient department and specialty clinics under staff supervision, lectures, clinical conferences, grand rounds.
- Includes child psychiatry and child guidance.
- Eight-week periods throughout the academic year.

360 Clinical Pediatrics Acting Internship: General Inpatient Medicine (arr.)
361 Clinical Pediatrics Acting Internship: Adolescent Medicine/Nephrology (arr.)
362 Clinical Pediatrics Acting Internship: Pulmonary/General Medicine (5)
365 Clinical Pediatrics Acting Internship: Hematology/Oncology (arr.)
365 Clinical Pediatrics Acting Internship: General Pediatrics (arr.)
- Holy Cross Hospital.

368 Pediatric HIV Infection (5)
369 Pediatric Infectious Disease Consultation Service (arr.)
371 Community Pediatrics—Advocacy (arr.)
372 Clinical Evaluation of Child/Adolescent Abuse (arr.)
373 Pediatric Urology (arr.)
375 Pediatric Surgery (arr.)
376 Pediatric Neurology (arr.)
378 Medical Genetics (arr.)
379 Pediatric Critical Care (arr.)
Pharmacology and Physiology
V.A. Chiappinelli (Chair)

Pharmacology

201–2 Pharmacology (arr.)
Required for second-year medical students. Lectures, laboratory, and conferences on interaction of drugs and biological systems as a basis for rational disease therapy. Prerequisite: Bioc 201; Phyl 201, 212.

501 Readings in Pharmacology (arr.)
Readings, discussions, and/or preparation of report. Student can choose to work with one or more faculty members in the department on a topic of mutual interest.

502 Clinical Use of Drugs (3)
Discussion of the rational use of drugs in the treatment of disease. Independent reading and study.

800 Summer Remedial: Pharmacology I (5)
801 Summer Remedial: Pharmacology II (1)

Physiology

201 Physiology (6)
Required for medical students, open to graduate students. Cellular, organ system, and applied human physiology. Prerequisite for graduate students: Anat 201 or Phyl 191, or equivalent; Bioc 221 or Phyl 205, or consent of department chair. Concurrent registration: Phyl 212. Open to consortium students only with permission of department chair.

295 Research (arr.)
By special arrangement with individual staff members. Approximately four hours per week in the laboratory for each credit hour of credit. May be repeated for credit.

Psychiatry and Behavioral Sciences
J.S. Akman (Chair)

301 Psychopathology and Conceptual Models (2)
Required for second-year medical students. Mental mechanisms, psychopathology, introduction to psychiatric syndromes, clinical interviewing, and behavioral sciences in clinical medicine.

302 Clinical Clerkship (10)
Required for medical students. Supervised examination, diagnosis, and outpatient and inpatient treatment at University, St. Elizabeth's, Children's, and V.A. Hospitals and Northern Virginia Mental Health Institute. Case conferences, seminars on psychiatric referral, "psychiatric" drugs, and community resources, with emphasis on psychiatry in general practice.

379 Inpatient Psychiatry Acting Internship (5)
Northern Virginia Mental Health Institute.
Clinical Psychiatry (arr.)
Psychiatric Consultation–Liaison Service (5)
Psychiatric Research Elective (arr.)
Psychiatric Research Elective (arr.)
University Hospital, CNMC, NIMH.
Psychiatric Research Elective (arr.)
Children's National Medical Center.
Child and Adolescent Psychiatry (arr.)
Children's National Medical Center.
Extramural Psychiatry Elective (arr.)
Independent Study (arr.)

Radiology
R.K. Zeman (Chair)
Vascular Interventional Radiology (arr.)
Clinical Radiology (arr.)
Nuclear Medicine (arr.)
Radiation Oncology (arr.)
Subspecialty Diagnostic Radiology (arr.)
Extramural Radiology Elective (arr.)
GI/GU Radiology (5)
Acute/ER Radiology (5)
Trauma/Bone Radiology (5)
Women's Imaging (arr.)

Surgery
J.M. Giordano (Chair)
Clinical Clerkship (10)
Required for medical students. Eight weeks at GW Hospital and Walter Reed Army Medical Center.
Otolaryngology, Head and Neck Surgery (arr.)
Walter Reed Army Medical Center.
Otolaryngology (arr.)
National Naval Medical Center.
Otolaryngology, Head and Neck Surgery (arr.)
Otolaryngology—Head and Neck Surgery (arr.)
Intensive Care Unit (5)
Washington Hospital Center.
General Surgery and Surgical Oncology (5)
General Surgery and Colorectal Surgery (5)
Plastic and Reconstructive Surgery (arr.)
GW Hospital and Children's National Medical Center.
Extramural Surgery Elective (arr.)
General Surgery and Trauma (arr.)
Special elective developed in consultation with department faculty.
Peripheral Vascular Surgery (arr.)
V.A. Medical Center.
Burns (arr.)
Washington Hospital Center.
Hand Surgery Clinic/Research (arr.)
Walter Reed Army Medical Center.
Plastic Surgery Clinic/Research (arr.)
Walter Reed Army Medical Center.

Urology
T. Jarrett (Chair)
Clinical Clerkship (3)
Observation of urologic conditions and procedures for diagnosis and treatment. Radiologic and pathologic studies, endoscopy and surgery, collateral reading, weekly staff conference.
Extramural Urology Elective (arr.)