

Physical Medicine and Rehabilitation—PMR

PHYSICAL MEDICINE PMR AND REHABILITATION

Department of Physical Medicine and Rehabilitation College of Osteopathic Medicine

590 Special Problems

Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 24 credits in all enrollments for this course.

Each student works under faculty direction on an experimental, theoretical or applied problem in physical medicine and rehabilitation.

601 Physical Medicine and Rehabilitation Clerkship

Fall, Spring, Summer. 2 to 12 credits. Fall: Michigan Capital Med. Spring: Michigan Capital Med. Summer: Michigan Capital Med. A student may earn a maximum of 12 credits in all enrollments for this course.

Physical medicine and rehabilitation inpatient and ambulatory setting clinical experience, didactic sessions, case documentation and presentation, hospital rounds. Strong emphasis on evaluation of neuromusculoskeletal disorders and treatment of function deficits.

620 Directed Studies

Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to juniors or seniors in the College of Osteopathic Medicine. Completion of Semester 6 in the graduate-professional program.

Individual or group projects on special problems related to physical medicine and rehabilitation.

806 Advanced Neuroscience Techniques Laboratory

Spring. 3(0-9) Interdepartmental with Neuroscience; Psychology; Pharmacology and Toxicology; Radiology. Administered by Program in Neuroscience. RB: (PHM 827) R: Open only to doctoral students in the Neuroscience major.

Methods and underlying principles of neuroscience research.

PHYSICS PHY

Department of Physics and Astronomy College of Natural Science

101 Concepts in Physics

Fall. 1(1-0)

Conceptual foundations of physics emphasizing key experiments.

102 Physics Computations I

Spring. 1(0-3) P: (PHY 183 or concurrently or PHY 183B or concurrently or PHY 193H or concurrently or PHY 181B or concurrently) RB: (CSE 101 or CSE 231)

Use of Mathematica to solve, analyze and graph equations and data from mechanics.

170 Investigations in Physics

Fall. 3(0-6) R: Approval of department.

Experiments in optics, electronics, sound and mechanics; analysis of data using computers, library research and oral presentations.

181B Basic Physics I

Fall, Spring, Summer. 3 credits. P: (MTH 132 or MTH 152H or LBS 118) Not open to students with credit in LBS 271 or PHY 183 or PHY 183B or PHY 193H or PHY 231 or PHY 231B or PHY 231C, PHY 233B.

Newton's laws of motion, conservation of momentum and angular momentum, energy conservation, thermal physics, waves, and sound. This course is given in the competency based instruction format.

182B Basic Physics II

Fall, Spring, Summer. 3 credits. P: (PHY 183 or PHY 183B or PHY 181B or LBS 271 or PHY 193H) or (PHY 231 or concurrently and PHY 233B) or (PHY 231B or concurrently and PHY 233B) and (MTH 133 or MTH 153H or LBS 119) Not open to students with credit in LBS 272 or PHY 184 or PHY 184B or PHY 232 or PHY 232B or PHY 294H.

Electricity and magnetism, optical phenomena, interference and diffraction of light, atomic and subatomic topics. This course is given in the competency based instruction format.

183 Physics for Scientists and Engineers I

Fall, Spring. 4(5-0) P: (MTH 132 or MTH 152H or LBS 118) Not open to students with credit in LBS 164 or PHY 181B or PHY 183B or PHY 193H or PHY 231 or PHY 231B.

Mechanics, Newton's laws, momentum, energy conservation laws, rotational motion, oscillation, gravity, waves.

183A Physics I

Fall, Spring, Summer. 1 credit. P: (PHY 181B) Not open to students with credit in LBS 271 or PHY 183 or PHY 183B or PHY 193H or PHY 231 or PHY 231B or PHY 231C.

Topics from: frames of reference, special relativity, rocket equation, forced oscillations, resonances, fluid motion, numerical solutions, moments of inertia, gyroscopic motion. This course plus PHY 181B is equal to PHY 183B. This course is given in the competency based instruction format.

183B Physics for Scientists and Engineers I

Fall, Spring, Summer. 4 credits. P: (MTH 132 or MTH 152H or LBS 118) Not open to students with credit in LBS 271 or PHY 181B or PHY 183 or PHY 193H or PHY 231 or PHY 231B or PHY 231C.

Mechanics, Newton's laws, momentum, energy conservation laws, rotational motion, oscillation, gravity, waves.

184 Physics for Scientists and Engineers II

Fall, Spring. 4(5-0) P: (PHY 183 or PHY 183B or PHY 193H or PHY 233B or PHY 183A) or (LBS 164 and PHY 233B) and (MTH 133 or MTH 153H or LBS 119) Not open to students with credit in LBS 267 or PHY 182B or PHY 184B or PHY 232 or PHY 232B or PHY 294H.

Electricity and magnetism, electromagnetic waves, light and optics, interference and diffraction.

184A Physics II

Fall, Spring, Summer. 1 credit. P: (PHY 182B) Not open to students with credit in PHY 184 or PHY 184B or PHY 232 or PHY 232B or PHY 294H, PHY 232C or LBS 272.

Topics from: standing wave phenomena, atoms, electromagnetic fields, alternating currents, optics, quantum mechanics, elementary particles. This course plus PHY 182B is equivalent to PHY 184B. 182B is exactly 3/4 of 184B and 184A is the other 1/4. This course is given in the competency based instruction format.

184B Physics for Scientists and Engineers II

Fall, Spring, Summer. 4 credits. P: (PHY 183 or PHY 183B or PHY 193H) or (PHY 181B and PHY 183A) or (PHY 231B and PHY 233B) or (LBS 271 and PHY 233B) RB: (MTH 133 or MTH 153H or LBS 119) Not open to students with credit in LBS 272 or PHY 182B or PHY 184 or PHY 232 or PHY 232B or PHY 294H.

Electricity and magnetism, electromagnetic waves, light and optics, interference and diffraction.

191 Physics Laboratory for Scientists, I

Fall. 1(0-3) P: (PHY 183 or concurrently or PHY 183B or concurrently or PHY 193H or concurrently or PHY 231 or concurrently or PHY 231B or concurrently or LBS 271 or concurrently or PHY 181B or concurrently) Not open to students with credit in PHY 251 or LBS 271L.

Error analysis, exercises in motion, forces, conservation laws and some electricity and magnetism studies.

192 Physics Laboratory for Scientists, II

Spring. 1(0-3) P: (PHY 191 or MSM 211 or MSM 250) and (PHY 184 or concurrently or PHY 182B or concurrently or PHY 184B or concurrently or PHY 294H or concurrently or PHY 232 or concurrently or PHY 232B or concurrently or LBS 272 or concurrently) Not open to students with credit in PHY 252 or LBS 272L.

Electric and magnetic fields, circuits, wave optics, modern physics.

193H Honors Physics I-Mechanics

Spring. 3(4-0) P: (MTH 133 or concurrently or MTH 153H or concurrently or LBS 119 or concurrently) Not open to students with credit in PHY 183 or PHY 183B or PHY 231 or PHY 231B or LBS 164 or PHY 181B.

Mechanics and waves.

201 Physics Computations II

Fall. 1(0-3) P: (PHY 184 or concurrently or PHY 184B or concurrently or PHY 294H or concurrently) RB: (MTH 133 and PHY 102)

Computer methods to analyze and visualize physics problems. Tools used will include programming languages (Fortran) and mathematical software (Mathematica, etc).

205 Directed Studies

Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Approval of department.

Guided individualized study in an area of physics.