Physics (PHYS)

PHYS 5382 Exploration Geophysics **3 SCH (3)**
Application of classical physics to the study of the Earth and the solution of problems in Earth sciences, including gravity, magnetic, seismic, heatflow, electrical, electromagnetic, and well log methods, instruments, data acquisition, processing and interpretation. Applications to petroleum exploration. Prerequisites: GEOL 3370 or permission of the instructor.

PHYS 5385 Seismology **3 SCH (3-0)**
Basics of seismology: wave propagation, seismic reflection and refraction. Application of physics in the seismic velocity and anisotropy structure of the Earth. Earthquake generation, post-seismic deformation and creep events, relation to faulting and plate tectonics. Prerequisites: GEOL 3370 or permission of the instructor.

PHYS 5388 Borehole Geophysics **3 SCH (3-0)**
Basic rock properties concepts; evaluating formations from geophysical well logging. Instrumentation, the physics of logging, and well log interpretation. Rock physics tools and well logs for petroleum and geothermal exploration, as well as water prospecting. Prerequisites: GEOL 1303/ GEOL 1103 and PHYS 2325/ PHYS 2125, PHYS 2326/ PHYS 2126.