

General Science (GS) Planning Sheet

All courses used for the GS major must be completed with grades of C- or P (pass) or better.

Lower Division Requirements:

Calculus or Calculus for the Biological Sciences: MATH 251, 252 or MATH 246, 247

Three of the following sequences, two of which must include labs. The third can but does not have to, include labs.

Lab Sequences

General Biology (any three of four) or Honors Biology: BI 211, 212, 213, 214 or 281, 282, 283
General Chemistry & Lab or Honors Chemistry & Lab: CH 221 & 227, 222 & 228, 223 & 229 or 224 & 237, 225 & 238, 226 & 239
Computer/Information Science: CIS 210, 211, 212
Earth Sciences: GEOL 201, 202, 203
General Physics & Lab or Foundations of Physics & Lab: PHYS 201 & 204, 202 & 205, 203 & 206 or 251 & 290, 252 & 290, 253 & 290

Non-Lab Sequences

Anthropology: ANTH 270 plus any two from the following: 170, 171, 173, 175, 176, 361, 362
Geography: GEOG 141 plus any two from the following: (311), 181, 321, 322, 323, 360, 361

Upper Division Requirements:

32 upper division credits from the lists below. 24 must be taken at UO. At least twelve graded credits (not P/NP) must be in one field and at least twelve graded credits must be in a second field. We strongly encourage students to take all majors classes for a grade. 4 of the 32 credits may be research (401), thesis (403), or supervised college teaching (402) credits. Seminar, Readings & Conference, Practicum, Internship, and Tutorial credits may not be used for the General Science major. **Note for double majors:** upper division credits used for another major may not be used to satisfy GS requirements.

Anthropology:

ANTH 341 Food Origins
ANTH 361 Human Evolution
ANTH 362 Human Biological Variation
ANTH 366 Human Osteology Lab
ANTH 369 Human Growth and Development
ANTH 375 Primates in Ecological Communities
ANTH 376 Genomics and Anthropology
ANTH 410 **Requires GenSci Advisor approval
ANTH 442 Northwest Coast Archaeology
ANTH 443 North American Archaeology
ANTH 445 Archaeology of Cultural Landscapes
ANTH 446 Practical Archaeobotany
ANTH 456 Peopling of the Americas
ANTH 459 Advanced Evolutionary Medicine
ANTH 462 Primate Evolution
ANTH 463 Primate Behavior
ANTH 466 Primate Feeding and Nutrition
ANTH 467 Paleoeecology and Human Evolution
ANTH 468 Evolutionary Theory
ANTH 470 Stat Analysis of Bio Anth
ANTH 471 Zooarchaeology
ANTH 472 Primate Conservation Biology
ANTH 473 Advanced Forensic Anthropology
ANTH 474 Human Paleopathology
ANTH 479 Taphonomy: Bones, Bugs, and Burials
ANTH 481 Principles of Evolutionary Psychology
ANTH 487 Bioanthropology Methods

Biology:

BI 306 Pollination Biology
BI 307 Forest Biology
BI 309 Diseases of Africa
BI 320 Molecular Genetics
BI 321 Molecular Genetics Research Laboratory
BI 322 Cell Biology
BI 328 Developmental Biology
BI 330 Microbiology
BI 331 Microbiology Laboratory
BI 353 Sensory Physiology
BI 355 Vertebrate Evolution and Development
BI 356 Animal Physiology
BI 357 Marine Biology
BI 358 Investigations in Medical Physiology
BI 359 Plant Biology
BI 360 Neurobiology
BI 370 Ecology
BI 372 Field Biology
BI 374 Conservation Biology
BI 375 Biological Diversity
BI 380 Evolution
BI 390 Animal Behavior
BI 410 Experimental Courses
BI 412 Marine Field Studies
BI 420 Cellular Basis of Learning and Memory
BI 421 Advanced Molecular Genetics Res Lab
BI 422 Protein Toxins in Cell Biology
BI 423 Human Molecular Genetics

BI 424 Advanced Molecular Genetics
BI 425 Adv Molecular Biology Research Lab
BI 426 Developmental Genetics of Cancer
BI 427 Molecular Genetics of Human Disease
BI 428 Developmental Genetics
BI 432 Mycology
BI 442 Systematic Botany
BI 448 Field Botany
BI 451 Invertebrate Zoology
BI 452 Insect Biology
BI 454 Estuarine Biology
BI 455 Marine Birds and Mammals
BI 457 Marine Biology
BI 458 Biological Oceanography
BI 459 Field Ornithology (discontinued)
BI 461 Systems Neuroscience
CH 462 Biochemistry
BI 463 Cellular Neuroscience
BI 464 Biological Clocks
BI 465 Evolution of Nervous Systems
BI 466 Developmental Neurobiology
BI 467 Hormones and the Nervous System
CH 467 Biochem Lab
BI 468 Amphibians and Reptiles of Oregon
BI 471 Population Ecology
BI 472 Community Ecology
BI 473 Quantitative Ecology
BI 474 Marine Ecology
BI 475 Freshwater Ecology
BI 476 Terrestrial Ecosystem Ecology
BI 478 Neotropical Ecology
BI 479 Neotropical Ecology Field Study
BI 480 Evolution of Development (discontinued)
BI 484 Molecular Evolution
BI 485 Techniques in Computational Neuroscience
BI 486 Population Genetics
BI 487 Molecular Phylogenetics
BI 488 Evolutionary Processes
BI 489 Evol Bio of Infectious Disease
BI 493 Genomic Approaches and Analysis
BI 496 Conservation Genetics

Chemistry:

CH 331 Organic Chemistry I
CH 332 Organic Chem of Bio Molecules
CH 335 Organic Chemistry II
CH 336 Organic Chemistry III
CH 337 Organic Chem Lab I
CH 338 Organic Chem Lab II
CH 339 Organic Analysis
CH 341 Majors Track Organic Chemistry I
CH 342 Majors Track Organic Chemistry II
CH 343 Majors Track Organic Chemistry III
CH 348 Organic Chemistry Laboratory for Majors
CH 349 Organic Chemistry Lab for Majors
CH 360 Physiological Biochemistry
CH 410 Experimental Courses
CH 411 Physical Chem I

CH 412 Physical Chem II
CH 413 Physical Chem III
CH 417 Physical Chem I Lab
CH 418 Physical Chem II Lab
CH 419 Physical Chem III Lab
CH 429 Instrumental Analysis
CH 431 Inorganic Chemistry I
CH 432 Inorganic Chemistry II
CH 433 Inorganic Chemistry III
CH 437 Inorganic Chemistry Lab
CH 441 Quantum Chemistry
CH 442 Quantum Chem and Spectroscopy I
CH 443 Quantum Chem and Spectroscopy II
CH 444 Quantum Thermodynamics
CH 445 Statistical Mechanics
CH 446 Chemical Kinetics
CH 451 Advanced Organic-Inorganic Chem
CH 452 Stereochemistry and Reactions
CH 453 Synthesis
CH 461 Biochemistry I
CH 462 Biochemistry II
CH 463 Biochemistry III
CH 465 Physical Biochemistry
CH 466 Structural Biochemistry
CH 467 Biochemistry Lab

Computer & Information Science:

CIS 313 Intro to Data Structures
CIS 314 Computer Organization
CIS 315 Intro to Algorithms
CIS 322 Introduction to Software Engineering
CIS 323 Data Structures Lab (discontinued 2014)
CIS 330 C/C++ and Unix
CIT 381 Database Systems
CIT 382 Info Arch and Intranets
CIT 383 Enterprise Networks
CIS 410 Experimental Courses
CIS 413 Data Structures
CIS 415 Operating Systems
CIS 420 Automata Theory
CIS 422 Software Methodology I
CIS 423 Software Methodology II
CIS 425 Principles of Programming Languages
CIS 427 Introduction to Logic
CIS 429 Computer Architecture
CIS 431 Introduction to Parallel Computing
CIS 432 Introduction to Networks
CIS 433 Computer and Network Security
CIS 441 Introduction to Computer Graphics
CIS 443 User Interfaces
CIS 445 Modeling and Simulation
CIS 451 Database Processing
CIS 452 Database Issues
CIS 453 Data Mining
CIS 454 Bioinformatics
CIS 455 Computational Science (discon 2015)
CIS 461 Introduction to Compilers
CIS 471 Introduction to AI

CIS 472 Machine Learning
CIS 473 Probabilistic Methods for Artificial Intelligence

Geography:

GEOG 321 Climatology
GEOG 322 Geomorphology
GEOG 323 Biogeography
GEOG 341 Population and Environment
GEOG 342 Geography of Globalization
GEOG 343 Society, Culture, and Place
GEOG 360 Watershed Science and Policy
GEOG 361 Global Environmental Change
GEOG 410 **Requires GenSci Advisor approval
GEOG 412 Geospatial Concepts
GEOG 421 Advanced Climatology
GEOG 422 Advanced Geomorphology
GEOG 423 Advanced Biogeography
GEOG 425 Hydrology and Water Resources
GEOG 427 Fluvial Geomorphology
GEOG 430 Long-Term Environmental Change
GEOG 432 Climate Aspects of Global Change
GEOG 433 Fire and Natural Disturbances
GEOG 461 Environmental Alteration
GEOG 481 GIScience I
GEOG 482 GIScience II
GEOG 485 Remote Sensing I
GEOG 486 Remote Sensing II
GEOG 491 Adv Geog Info Systems
GEOG 493 Adv Cartography
GEOG 494 Spatial Analysis
GEOG 495 Geographic Data Analysis
GEOG 496 Location-Aware Systems
GEOG 497 Qualitative Methods in Geography

Earth Sciences:

GEOL 304 The Fossil Record
GEOL 305 Dinosaurs
GEOL 306 Volcanoes and Earthquakes
GEOL 307 Oceanography
GEOL 308 Geology of Oregon and the Pacific NW
GEOL 310 Earth Resources and the Environment
GEOL 311 Earth Materials
GEOL 314 Principles of Paleontology
GEOL 315 Earth Physics
GEOL 316 Introduction to Hydrogeology
GEOL 318 Introduction to Field Methods
GEOL 331 Mineralogy
GEOL 332 Introduction to Petrology
GEOL 334 Sedimentology and Stratigraphy
GEOL 350 Structural Geology
GEOL 351 Structural Geology Problems
GEOL 352 Structural Geology Lab
GEOL 353 Geologic Hazards
GEOL 363 MATLAB for Earth Scientists
GEOL 410 Experimental Courses
GEOL 414 Igneous and Metamorphic Petrology
GEOL 415 Field Geophysics
GEOL 416 Sedimentary Petrology
GEOL 418 Earth and Environmental Data Analysis
GEOL 425 Geology of Ore Deposits
GEOL 433 Paleobotany
GEOL 434 Vertebrate Paleontology
GEOL 435 Paleopedology
GEOL 438 Geobiology
GEOL 440 Sedimentary Basin Analysis
GEOL 441 Hillslope Geomorphology
GEOL 450 Field Geology
GEOL 451 Hydrogeology
GEOL 452 Neotectonics and Quaternary Geology
GEOL 453 Tectonics
GEOL 455 Mechanical Earth
GEOL 466 Geodynamics
GEOL 467 Fault Mechanics
GEOL 468 Introduction to Seismology
GEOL 471 Thermodynamic Geochemistry
GEOL 472 Aqueous Geochemistry
GEOL 473 Isotope Geochemistry

Human Physiology (HPHY 211-325 are available for non-majors, **but all other HPHY courses are restricted to HPHY majors only.** Students that change their major from HPHY to GenSci can use these classes towards the major.):

HPHY 321 Human Anatomy I
HPHY 322 Human Physiology I
HPHY 323 Human Anatomy II
HPHY 324 Human Physiology II
HPHY 325 Human Anatomy and Physiology III
HPHY 333 Motor Control
HPHY 335 Motor Development
HPHY 362 Tissue Injury and Healing
HPHY 371 Physiology of Exercise
HPHY 381 Biomechanics
HPHY 410 Experimental Courses
HPHY 412 Sleep Physiology
HPHY 413 Muscle Physiology
HPHY 414 Muscle Metabolism
HPHY 418 Integrative Endocrinology
HPHY 419 Alternative and Comp Medicine
HPHY 420 Human Cadaver Dissection
HPHY 421 Pathophysiology
HPHY 433 Neurophysiology of Concussion
HPHY 443 Clinical Pharmacology
HPHY 460 Lumbar & Pelvic Functional Anatomy
HPHY 462 Therapeutic Techniques
HPHY 470 Environmental Physiology
HPHY 471 Training in Health and Performance
HPHY 472 Adv Lab in Exercise Physiology
HPHY 473 High Altitude Phys and Medicine
HPHY 485 Gait Analysis
HPHY 486 Orthopedic Biomechanics

Mathematics:

MATH 307 Introduction to Proof
MATH 315 Elementary Analysis
MATH 341 Elementary Linear Algebra
MATH 342 Elementary Linear Algebra
MATH 343 Statistical Models and Methods
MATH 346 Number Theory
MATH 351 Elementary Numerical Analysis I
MATH 352 Elementary Numerical Analysis II
MATH 391 Fund of Abstract Algebra I
MATH 392 Fund of Abstract Algebra II
MATH 393 Fund of Abstract Algebra III
MATH 394 Geo from an Advanced Viewpoint I
MATH 395 Geo from an Advanced Viewpoint II
MATH 410 Experimental Courses
MATH 411 Functions of a Complex Variable I
MATH 412 Functions of a Complex Variable II
MATH 413 Introduction to Analysis I
MATH 414 Introduction to Analysis II
MATH 415 Introduction to Analysis III
MATH 420 Diff Eqns and Fourier Analysis I
MATH 421 Diff Eqns and Fourier Analysis II
MATH 422 Diff Eqns and Fourier Analysis III
MATH 425 Statistical Methods I
MATH 426 Statistical Methods II
MATH 427 Multivariate Statistical Methods
MATH 431 Intro to Topology
MATH 433 Intro to Differential Geometry
MATH 441 Linear Algebra
MATH 444 Intro to Abstract Algebra I
MATH 445 Intro to Abstract Algebra II
MATH 446 Intro to Abstract Algebra III
MATH 451 Intro to Numerical Analysis I
MATH 452 Intro to Numerical Analysis II
MATH 455 Mathematical Modeling
MATH 456 Networks and Combinatorics
MATH 457 Discrete Dynamical Systems
MATH 461 Intro to Math Methods of Statistics I
MATH 462 Intro to Math Methods of Statistics II
MATH 463 Math Methods of Reg Analysis
MATH 464 Math Statistics I
MATH 465 Math Statistics II
MATH 466 Math Statistics III

Physics:

ASTR 321 Topics in Astrophysics
PHYS 311 Physics of the Atmosphere
PHYS 351 Foundations of Physics I
PHYS 352 Foundations of Physics II
PHYS 353 Foundations of Physics III
PHYS 354 Introduction to Quantum Mechanics
PHYS 355 Introduction to Optics
PHYS 361 Modern Science and Culture
PHYS 390/391 Intermediate Physics Laboratory
PHYS 410 Experimental Courses
PHYS 411 Mechanics
PHYS 412 Electricity
PHYS 413 Magnetism
PHYS 414 Quantum Physics
PHYS 415 Quantum Physics II
PHYS 417 Topics in Quantum Physics
PHYS 422 Electromagnetism
PHYS 424 Classical Optics
PHYS 425 Modern Optics
PHYS 426 Modern Optics Laboratory
PHYS 427 X-ray Crystallography
PHYS 431 Analog Electronics
PHYS 432 Digital Electronics
PHYS 433 Physics Instrumentation
PHYS 481 Design of Experiments
PHYS 490 Advanced Physics Laboratory

Psychology: Many PSY classes are restricted the PSY majors & minors only. Students that change their major from PSY to GenSci can use these classes towards the major.

PSY 301 Scientific Thinking in Psychology
PSY 302 Statistical Methods in Psychology
PSY 303 Research Methods in Psychology
PSY 304 Biopsychology
PSY 305 Cognition
PSY 306 Social Psychology (was PSY 456)
PSY 307 Personality (was PSY 471)
PSY 308 Developmental Psychology
PSY 309 Psychopathology (was PSY 469)
PSY 330 Thinking (discontinued)
PSY 348 Music and the Brain
PSY 366 Cul & Mental Health
PSY 376 Child Development (now PSY 308)
PSY 380 Psychology of Gender
PSY 383 Psychoactive Drugs
PSY 388 Human Sexuality
PSY 410 **Requires GenSci Advisor approval
PSY 412 Applied Data Analysis
PSY 420 Psychology and Law
PSY 430 Cognitive Science
PSY 433 Learning and Memory
PSY 435 Cognition
PSY 436 Human Performance
PSY 438 Perception
PSY 440 Psycholinguistics
PSY 445 Brain Mechanisms of Behavior
PSY 449 Human Neuropathy
PSY 450 Hormones and Behavior
PSY 456 Social Psychology (see PSY 306)
PSY 457 Group Dynamics
PSY 458 Decision-Making
PSY 459 Cultural Psychology
PSY 460 Advanced Social Psychology
PSY 461 Imagination
PSY 468 Motivation and Emotion
PSY 469 Psychopathology (see PSY 309)
PSY 471 Personality (see PSY 307)
PSY 472 Psychology of Trauma
PSY 473 Marital and Family Therapies
PSY 475 Cognitive Development
PSY 476 Language Acquisition
PSY 478 Social Development
PSY 480 Development and Psychopathology