Goldwater Scholarship Fields of Study

The natural sciences, engineering, and mathematics fields and sub-fields used by the Goldwater Foundation to determine eligibility and for the application are those used by the National Science Foundation for its Graduate Research Fellowship Program.

**CHEMISTRY**
- Artificial Intelligence
- Chemical Catalysis
- Chemical Measurement and Imaging
- Chemical Structure, Dynamics, and Mechanism
- Chemical Synthesis
- Chemical Theory, Models and Computational Methods
- Chemistry of Life Processes
- Computationally Intensive Research
- Environmental Chemical Systems
- Macromolecular, Supramolecular, and Nanochemistry
- Other (specify)
- Quantum Information Science
- Sustainable Chemistry

**ENGINEERING**
- Aeronautical and Aerospace Engineering
- Artificial Intelligence
- Bioengineering
- Biomedical Engineering
- Chemical Engineering
- Civil Engineering
- Computationally Intensive Research
- Computer Engineering
- Electrical and Electronic Engineering
- Energy Engineering
- Environmental Engineering
- Industrial Engineering & Operations Research
- Manufacturing Engineering
- Materials Engineering
- Mechanical Engineering
- Nuclear Engineering
- Ocean Engineering
- Optical Engineering
- Other (specify)
- Quantum Engineering
- Quantum Information Science
- Systems Engineering
- Wireless Engineering

**COMPUTER & INFORMATION SCIENCES & ENGINEERING**
- Algorithms and Theoretical Foundations
- Artificial Intelligence
- Bioinformatics and other Informatics
- Communication and Information Theory
- Computational Science and Engineering
- Computationally Intensive Research
- Computer Architecture
- Computer Networks
- Computer Security and Privacy
- Computer Systems and Embedded Systems
- Data Mining and Information Retrieval
- Data Science
- Databases
- Formal Methods, Verification, and Programming Languages
- Graphics and Visualization
- Human Computer Interaction
- Machine Learning
- Natural Language Processing
- Other (specify)
- Quantum Computing and Communication
- Quantum Information Science
- Robotics and Computer Vision
- Software Engineering

**GEOSCIENCES**
- Aeronomy
- Artificial Intelligence
- Arctic-Antarctic
- Atmospheric Chemistry
- Biogeochemistry
- Biological Oceanography
- Chemical Oceanography
- Climate and Large-Scale Atmospheric Dynamics
- Computationally Intensive Research
- Geobiology
- Geochemistry
- Geodynamics
- Geomorphology
- Geophysics
- Glaciology
- Hydrology
- Magnetospheric Physics
### Goldwater Scholarship Fields of Study

#### Marine Biology
- Marine Biology
- Marine Geology and Geophysics
- Paleoclimate
- Paleontology and Paleobiology
- Petrology
- Physical and Dynamic Meteorology
- Physical Oceanography
- Quantum Information Science
- Sedimentary Geology
- Solar Physics
- Tectonics

#### LIFE SCIENCES
- Artificial Intelligence
- Biochemistry
- Bioinformatics and Computational Biology
- Biophysics
- Cell Biology
- Computationally Intensive Research
- Developmental Biology
- Ecology
- Environmental Biology
- Evolutionary Biology
- Genetics
- Genomics
- Microbial Biology
- Neurosciences
- Organismal Biology
- Other (specify)
- Physiology
- Proteomics
- Quantum Information Science
- Structural Biology
- Systematics and Biodiversity
- Systems and Molecular Biology

#### MATHEMATICAL SCIENCES
- Algebra, Number Theory, and Combinatorics
- Analysis
- Applied Mathematics
- Artificial Intelligence
- Biostatistics
- Computational and Data-enabled Science
- Computational Mathematics
- Computational Statistics
- Computationally Intensive Research
- Geometric Analysis
- Logic or Foundations of Mathematics
- Mathematical Biology
- Other (specify)
- Probability
- Quantum Information Science
- Statistics
- Topology

#### PHYSICS & ASTRONOMY
- Artificial Intelligence
- Astronomy and Astrophysics
- Atomic, Molecular and Optical Physics
- Computationally Intensive Research
- Condensed Matter Physics
- Nuclear Physics
- Other (specify)
- Particle Physics
- Physics of Living Systems
- Plasma Physics
- Quantum Information Science
- Solid State Physics
- Theoretical Physics

#### MATERIALS RESEARCH
- Artificial Intelligence
- Biomaterials
- Ceramics
- Chemistry of Materials
- Computationally Intensive Research
- Electronic Materials
- Materials Theory
- Metallic Materials
- Other (specify)
- Photonic Materials
- Physics of Materials
- Polymers
- Quantum Information Science

#### PSYCHOLOGY
- Artificial Intelligence
- Cognitive Neuroscience
- Cognitive Psychology
- Comparative Psychology
- Computational Psychology
- Computationally Intensive Research
- Developmental Psychology
- Industrial/Organizational Psychology
- Neuropsychology
Goldwater Scholarship Fields of Study

Other (specify)
Perception and Psychophysics
Personality and Individual Differences
Physiological Psychology
Psycholinguistics
Quantitative Psychology
Quantum Information Science
Social/Affective Neuroscience
Social Psychology

SOCIAL SCIENCES
Anthropology, other (specify)
Archaeology
Artificial Intelligence
Biological Anthropology
Communications
Computationally Intensive Research
Cultural Anthropology
Decision Making and Risk Analysis
Economics
Geography
History and Philosophy of Science
International Relations
Law and Social Science
Linguistic Anthropology
Linguistics
Medical Anthropology
Other (specify)
Political Science
Public Policy
Quantum Information Science
Science Policy
Sociology
Urban and Regional Planning

STEM EDUCATION AND LEARNING RESEARCH
Artificial Intelligence
Computationally Intensive Research
Engineering Education
Mathematics Education
Other (specify)
Quantum Information Science
Science Education
Technology Education