



THE UNIVERSITY OF ARIZONA
COLLEGE OF SCIENCE

LUNAR & PLANETARY LABORATORY

PTYS Graduate Minor Options

Aerospace Engineering

- 12 units
- <https://ame.engineering.arizona.edu/sites/ame.engineering.arizona.edu/files/AMEGradBookasofMarch2015.pdf>
- Contact: Stephanie Amado, samado@arizona.edu

Atmospheric Science

- 12 units of which 3 must be ATMO 536a
- <http://has.arizona.edu/doctoral-minor-atmospheric-science>
- Contact: has-academic@arizona.edu

Astronomy

- 9 units chosen from core astronomy courses
- Faculty must participate in the oral exam and final defense.
- <http://www.as.arizona.edu/graduate-minors>
- Faculty contact: Dan Marrone, dmarrone@email.arizona.edu, (520) 621-5175

Astrobiology

- 9 units
- <https://lpl.arizona.edu/graduate/astrobiology>
- Faculty contact: Lucy Ziurys, lziurys@email.arizona.edu, (520) 621-6525

Applied Mathematics

- 12 units
- <https://appliedmath.arizona.edu/program-info/degree-requirements/phd-minor>
- Contact: Stacey LaBorde, wileys@math.arizona.edu

Chemistry

- 9 units to be chosen from a selected study area (Analytical, Inorganic, Organic, Physical)
- https://live-azs-cbc.pantheonsite.io/sites/default/files/2022-09/programs_of_study.pdf
- Contact: Heidi Sweet, heidisweet@arizona.edu

Computer Science

- 12 units
- <https://www.cs.arizona.edu/graduate/phd-minor-non-csc-majors>
- Contact: gradadvising@cs.arizona.edu

Geosciences

- 9 units
- https://geo.arizona.edu/sites/default/files/2024-02/phd_graduate_minor_.pdf
- Contact: Rocina Garcia, rocinagarcia@arizona.edu

Materials Science and Engineering

- 9 units
- <https://mse.engineering.arizona.edu/sites/default/files/2025-05/MSE-Graduate-Handbook-2025-Final.pdf>
- Contact: Elsa Morales, elsam@arizona.edu, (520) 626-6762

Mathematics

- 12 units
- <http://math.arizona.edu/academics/grads/requirements/phd-minor>
- Faculty contact: David Glickenstein, glickenstein@math.arizona.edu, (520) 621-2463

Optics

- 12 units
- Faculty member must participate in the oral exam.
- <https://www.optics.arizona.edu/prospective-students/graduate-programs/minor-optical-sciences>
- Contact: admissions@optics.arizona.edu, (520) 621-8418

Physics

- 9 units
- Faculty member must participate in the oral exam.
- <https://w3.physics.arizona.edu/node/31/physics-minor>
- Faculty contact: Dr. Erich Varnes, varnes@arizona.edu

Planetary Sciences

- 9 units
- Courses must support a coherent theme relevant to planetary science.
- <https://www.lpl.arizona.edu/sites/default/files/graduate/forms/minorform2019.pdf>

Remote Sensing

- 12 units
- <https://gidp.arizona.edu/academic-programs/remote-sensing-spatial-analysis>
- Contact: Kyle Hartfield, Ph.D, kah7@arizona.edu

Systems and Industrial Engineering

- 12 units
- <https://sie.engineering.arizona.edu/phd-systems-and-industrial-engineering>
- Contact: graduateadvisor@sie.arizona.edu

Any Other Physical Science

- Please contact department for minor requirements.