

# Minors & Double Majors Fact Sheet

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The Minors and Double Majors listed below are optional (not required).

## Mathematics MINOR

**2 electives:** **MATH 313** (Linear Algebra) or **MATH 310** (Applied Linear Algebra) plus **1 MATH elective** must be filled with 1 choice from: MATH 315, 322, 323, 330, 361, 362, 363, 368, 401A, 401B, 402, 404, 407, 413, 415A, 415B, 422, 424, 425A, 425B, 432, 443, 445, 446, 447, 454, 456, 464, 466, 468, 475A, 475B, 485, 488, or 498(H).

## Planetary Science MINOR

**6 electives:** **3 Core PTYS electives** (PTYS 403, 407, 411), **1 elective** selected from **300 and 400 level PTYS** classes, plus **2 additional electives** approved by a PTYS minor adviser. Note: PTYS 407 requires 2 semesters of Chemistry (103/104 AB) as a prerequisite (CHEM 151/152 or AP credit also count).

## Astrobiology MINOR

**6 electives:** **3 Core Astrobiology electives** (MCB315, AST 406, AST 475, AST 488, PTYS 450, GEOS 484), plus **3 300-500 level electives** in relevant topics approved by an Astrobiology Minor advisor. Please check <http://astrobiology.arizona.edu> for additional information.

## Optics MINOR

**6 electives:** OPTI 201 R/L and OPTI 202 R/L plus 4 choices from OPTI 300 - 490 level courses.

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## Mathematics Double MAJOR

**7 electives:** Additional requirements for the Applied Mathematics major are **MATH 313, 323, 422, and 485**. In addition, **2 Electives** must be filled with one pair of classes: **MATH 454 & 456** or **MATH 464 & 466** or **MATH 475A & 475B**, plus **1 more MATH 400-level** class. MATH 355 is recommended instead of 254.

## Physics Double MAJOR

**7 electives:** Additional requirements for the Physics major are **PHYS 332, 381, 382 472, and 49X (3 units)** plus **2 additional electives chosen** from PHYS 320, 405, 422, 431, 450, 460, 468, 469, 473, 476, or 483.