Students with skills in probability and statistics are in high demand in fields such as business analytics, biostatistics, big data, genomics, and actuarial science. Students who complete the probability and statistics emphasis leave UA very well prepared for a career as a statistician or actuary; however, the focus of this emphasis is to provide students with the mathematical depth and theoretical focus needed for graduate school in statistics. Students who may wish to earn a PhD in statistics should consider this emphasis rather than a Statistics major.

### Undergraduate Graduation Requirements

All course work and requirements for this degree must be completed prior to the date the degree is awarded. The University of Arizona requirements to follow in this audit are required for graduation and awarding of the degree.

Curriculum:
1. The University of Arizona and the Arizona Board of Regents have sole discretion over all curricula changes.
2. Courses, programs & requirements may be suspended, deleted, restricted, or changed in any manner, at any time.
3. Students must remain currently informed about all policies & other info that bears on completing a degree.

Required Units:
Additional units will be required to complete this degree if a student:
A) is admitted to the UA with deficiencies;
B) changes his/her academic plan(s);
C) fails to meet minimum course/plan requirements;
D) ineffectively plans or fails to execute a course of study that leads directly to degree completion; or
E) Candidates for a second bachelor's degree at The University of Arizona with a different award date than the first must earn no fewer than 30 units of University Credit in addition to the units required for the first degree, and must meet all requirements for the second degree.

The following requirements must be met for graduation.

### Units Required and Cumulative GPA
120 units are required at a 2.0 GPA. View the pdf report grid for units earned toward this degree and cumulative GPA.

Completing a second bachelor's degree at The University of Arizona requires no fewer than 30 units in addition to the units required for the first degree, and all requirements for the second degree must be met.

### Upper Division Units
**Not Satisfied:** A minimum of 42 units of upper-division credit are required for this degree.

- **Units:** 42.00 required, 0.00 completed, 42.00 needed

### Units in Residence
**Not Satisfied:** A minimum of 30 units in residence at The University of Arizona (excluding correspondence credit and credit by exam) is required.

- **Units:** 30.00 required, 0.00 completed, 30.00 needed

### Final Units in Residence
A minimum of 18 of the final 30 units taken toward degree requirements must be in residence at The University of Arizona. Consult with your academic advisor if you plan to use transfer credits to fulfill your degree requirements.
Correspondence and/or Exam Credit Limit
- **Satisfied**: A maximum of 60 units of Correspondence Credit and/or Exam Credit may apply toward graduation.
  - **Units**: 0.00 completed

Non Degree Seeking Limit
- A maximum of 15 units completed as a non-degree seeking student may be used for fulfilling undergraduate degree requirements.
  - Units exceeding this limit (shown below) must be subtracted from the units required towards the degree and graduation requirements.

Community College Limit
- **Not Satisfied**: A maximum of 64 units of community college course work may apply toward graduation. A minimum of 56 units of course work must be completed at a 4-year institution, military institution, or as test credit.
  - **Units**: 56.00 required, 0.00 completed, 56.00 needed

Success Course Limit
- **Satisfied**: No more than 3 units will apply toward a student's graduation requirements.
  - All Success courses taken can be seen below. Success Course units exceeding the 3 unit maximum must be subtracted from the total units, residency requirements and cumulative grade point average.

PE Activity Course Limit
- **Satisfied**: No more than 3 units will apply toward a student's graduation requirements.
  - All PE activity courses taken can be seen below. PE Activity units exceeding the 3 unit maximum must be subtracted from the total units, residency requirements and cumulative grade point average.

Foundation Mathematics
- **Not Satisfied**: Foundation Mathematics

GE Substantial Math Strand
- **Not Satisfied**: Complete 1 course.

GE Substantial Math Strand
- **Not Satisfied**: Complete 1 course.
  - **Units**: 2.67 required, 0.00 completed, 2.67 needed

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Courses Available

MATH 122B, MATH 125, MATH 129, MATH 215, MATH 223, MATH 254, MATH 313

Undergraduate General Education and Foundation Requirements

Overall Requirement Not Satisfied: Undergraduate General Education and Foundation Requirements

Foundation Composition

Not Satisfied: Complete 1 of the following 4 Foundation Composition options:
1. 3 Course Foundation Composition Sequence
2. 2 course Foundation Composition sequence
3. Honors Composition with grade of C or higher
4. Honors Composition with a grade of D and Second Semester Composition.

Please note: Students who earn a grade of D in Honors Composition may choose to repeat the course in order to earn a higher grade to satisfy the requirement. Please consult with your major advisor.

Mid-Career Writing Assessment - Complete 2nd semester English Composition with a B grade or higher. Students who do not earn a grade of B or better in 2nd semester English Composition must also satisfy a college or department writing requirement. Consult your major advisor if you do not earn a grade of B in 2nd semester English Composition.

Option 1: Foundation Composition - 3 Course Sequence


· Courses: 3.00 required, 0.00 completed, 3.00 needed

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Courses Available

ENGL 101, ENGL 101A, ENGL 107, ENGL 107A, ENGL 102, ENGL 108, ENGL 106

OR Option 2: Foundation Composition - 2 Course Sequence

Not Satisfied: Complete 2 courses. Complete ENGL 101/107 AND ENGL 102/108

· Courses: 2.00 required, 0.00 completed, 2.00 needed

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Courses Available

ENGL 101, ENGL 101A, ENGL 107, ENGL 107A, ENGL 102, ENGL 108

OR Option 3: Honors Composition

Not Satisfied: Complete 1 course with a C or better.

· Courses: 1.00 required, 0.00 completed, 1.00 needed

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### Courses Available

**ENGL 109H**

**Foundation Second Language - Fourth Semester Proficiency**

**Not Satisfied:** Credit will not be given for a course at an equivalent or lower level than prior language credit earned. Course must be taken for a grade, not for pass/fail.

Demonstrate fourth semester proficiency in a second language by completing one of the following:

1. Complete a Fourth Semester Language Course with a grade of C or higher.
2. Complete Arabic 401 and 1 course with a grade of C of higher from Arabic 424B, 427B or 430B.
3. Pass a language proficiency examination at the fourth semester level

#### Option 1: Fourth Semester Language Course

**Not Satisfied:** Complete 1 course with a grade of C or better.


Courses used to fulfill this requirement may also be used to fulfill other requirements.

- **Courses:** 1.00 required, 0.00 completed, 1.00 needed

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**OR Option 2: Arabic Language**

**Not Satisfied:** Complete ARB 401, Intermediate Arabic, plus one additional course from ARB 424B, 427B, 439B.

- **Courses:** 1.00 required, 0.00 completed, 1.00 needed

#### Courses Available

ARB 401

**AND Option 2: Additional Arabic Courses**

**Not Satisfied:** Complete one additional course with a grade of C or better from ARB 424B, 427B, 439B.

- **Courses:** 1.00 required, 0.00 completed, 1.00 needed
### Courses Available

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**General Education Tier I**

Overall Requirement Not Satisfied: Complete each of the following areas.

#### Tier I Individuals & Societies

**Not Satisfied:** Complete 2 courses, 6 units total. Transfer students with quarter system credits may satisfy Tier One requirements with 2 courses and 5.34 units.

- **Units:** 5.34 required, 0.00 completed, 5.34 needed
- **Courses:** 2.00 required, 0.00 completed, 2.00 needed

### Courses Available

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### Tier I Traditions & Cultures

**Not Satisfied:** Complete 2 courses, 6 units total. Transfer students with quarter system credits may satisfy Tier One requirements with 2 courses and 5.34 units.

- **Units:** 5.34 required, 0.00 completed, 5.34 needed
- **Courses:** 2.00 required, 0.00 completed, 2.00 needed

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**Courses Available**


### General Education Tier II

**Overall Requirement Not Satisfied:** Complete each of the following areas.

**Tier II Arts**

**Not Satisfied:** Complete 1 course, 3 units total. Transfer students with quarter system credits may satisfy Tier Two requirements with 2.67 units.

- **Units:** 2.67 required, 0.00 completed, 2.67 needed
- **Courses:** 1.00 required, 0.00 completed, 1.00 needed

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**Courses Available**

AFAS 218, AFAS 318, AFAS 371, ANTH 318, ARC 304, ARC 325, ARE 130, ARH 201, ARH 202, ARH 203, ARH 312, ARH 314, ARH 315, ARH 316A, ARH 316B, ARH 319, ARH 320, ARH 321, ARH 322, ARH 324, ARH 325, ARH 329, ART 203, ART 242, ART 329, ART 358, CLAS 310, CLAS 329, DNC 100, DNC 101, DNC 112A, DNC 112B, DNC 112C, DNC 143, DNC 144A, DNC 144B, DNC 144C, DNC 152A, DNC 152B, DNC 152C, DNC 175, DNC 176A, DNC 176B, DNC 177C, DNC 177D, DNC 200, DNC 276A, ENGL 201, ENGL 209, ENGL 210, ENGL 300, ENGV 300, FTV 252, FTV 375, HRNS 203H, HRNS 216, HRNS 218, HRNS 220, HRNS 222, ISTA 301, JPN 245, LAS 322, LAS 337, MAS 337, MUS 100, MUS 101A, MUS 107, MUS 108, MUS 109, MUS 206, MUS 231, MUS 328, MUS 334, MUS 337, MUS 344, MUS 360, RELI 227, RELI 345, TAR 100, TAR 103, (***) (###)

**Tier II Humanities**

**Not Satisfied:** Complete 1 course, 3 units total. Transfer students with quarter system credits may satisfy Tier Two requirements with 2.67 units. Prerequisite course work in Tier 1 Traditions and Cultures (TRAD) must be completed prior to taking. If LAT 201 or 202 are used to fulfill Foundation Second Language Proficiency, they cannot be used to fulfill Tier II Humanities.

- **Units:** 2.67 required, 0.00 completed, 2.67 needed
- **Courses:** 1.00 required, 0.00 completed, 1.00 needed

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Courses Available


Tier II Individual & Societies

Not Satisfied: Complete 1 course, 3 units total. Transfer students with quarter system credits may satisfy Tier Two requirements with 2.67 units. Prerequisite course work in Tier 1 Individuals and Societies (INDV) must be completed prior to taking.

· Units: 2.67 required, 0.00 completed, 2.67 needed
· Courses: 1.00 required, 0.00 completed, 1.00 needed

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Courses Available


Tier II Natural Sciences

Not Satisfied: Complete 1 course, 3 units total. Transfer students with quarter system credits may satisfy Tier Two requirements with 2.67 units. Prerequisite course work in Tier 1 (NATS) must be completed prior to taking.

· Units: 2.67 required, 0.00 completed, 2.67 needed
· Courses: 1.00 required, 0.00 completed, 1.00 needed

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Courses Available


Diversity Emphasis Course

Not Satisfied: One course must be taken that focuses on Gender, Race, Class, Ethnicity, Sexual Orientation or Non-Western Area Studies.

Courses used to fulfill this requirement may also be used to fulfill other requirements.

Diversity Emphasis Course

Not Satisfied: General Education Diversity Emphasis Course: Gender, Race, Class, Ethnicity, Sexual Orientation or Non-Western Area Studies.

Term | Subject | Catalog Nbr | Course Title | Grade | Units | RptCd | RqDes | Type
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Courses Available


Additional Coursework

Courses listed in this section may include general elective credits, UA courses and transferable courses from other institutions. Consult with your advisor to determine if courses listed in this section may be used to fulfill a requirement or sub-requirement in your
degree program.

Courses taken for Pass/Fail option can only count as elective credit. They cannot fulfill any General Education, Major, or Minor requirements.

**BA in Mathematics**

Overall Requirement Not Satisfied: Will appear fully satisfied when student satisfies Mathematics Supporting Computer Science, Math Major Core Requirements, and selects an emphasis. All emphases require a minimum of 15 units of 400-level coursework in the major.

Equivalent MATV courses may be available through UA South. For approved courses consult with your advisor.

**Mathematics Supporting Computer Science**

Satisfied: Will appear fully satisfied when student satisfies Computer Science requirements.

- **Computer Science**
  - Not Satisfied: Complete 1 course. Consult your advisor for a list of alternative programming courses.

  Courses used to fulfill this requirement may be used to fulfill other requirements.

  - Courses: 1.00 required, 0.00 completed, 1.00 needed

**Math Major Core Requirements**

Overall Requirement Not Satisfied: Will appear fully satisfied when student satisfies Calculus I and Core Courses.

- **Calculus I**
  - Not Satisfied: Complete 1 course

  - Courses: 1.00 required, 0.00 completed, 1.00 needed

**Core Courses**

Not Satisfied: Complete 5 courses. Credit allowed for only one course in each pair: MATH 313 or MATV 313, MATH 323 or MATV 323, MATH 355 or MATV 355. MATV courses are only available to UA South students.

- Courses: 5.00 required, 0.00 completed, 5.00 needed
### Courses Available

MATH 129, MATH 223, MATH 313, MATH 323, MATH 355, MATV 313, MATV 323, MATV 355

### Emphasis in Probability and Statistics Mathematics

**Overall Requirement Not Satisfied:** Will appear fully satisfied when student satisfies Probability and Statistics Emphasis course requirements, Graduation Requirements, and declares a minor.

Equivalent MATV courses may be available through UA South. For approved courses consult with your advisor.

### Probability and Statistics Emphasis Requirements

**Overall Requirement Not Satisfied:** Will appear fully satisfied when student satisfies the three Probability and Statistics Emphasis Required Courses, one of the Elective courses, and one advisor approved course.

### Probability and Statistics Option Required Courses

**Not Satisfied:** Complete 3 courses

- **Courses:** 3.00 required, 0.00 completed, 3.00 needed

### Courses Available

MATH 425A, MATH 464, MATH 466

### Elective Course

**Not Satisfied:** Complete 1 course

- **Courses:** 1.00 required, 0.00 completed, 1.00 needed

### Courses Available

MATH 413, MATH 468

### Additional Course

**Not Satisfied:** Complete one 400-level MATH course in consultation with your math faculty advisor. You may choose from the pre-approved list. If you prefer to select another course, you may do so ONLY if approved by your math faculty advisor.

- **Units:** 3.00 required, 0.00 completed, 3.00 needed
Courses Available

MATH 413, MATH 422, MATH 425B, MATH 454, MATH 456, MATH 462, MATH 468, MATH 485

Major 400-level Upper Division

Not Satisfied: A minimum of 15 units of 400-level upper-division major coursework must be completed.

- Units: 15.00 required, 0.00 completed, 15.00 needed

Probability and Statistics Emphasis Graduation Requirements

Overall Requirement Not Satisfied: Will appear fully satisfied when student satisfies Mid Career Writing Assessment, Major GPA, Residency requirement, and Major Upper Division unit requirement.

Mid Career Writing Assessment

Not Satisfied: Complete 2nd semester English Composition with a B grade or higher. Students who do not earn a grade of B or higher in 2nd semester English Composition must also satisfy a college or department writing requirement. Consult your major advisor if you do not earn a grade of B or higher in 2nd semester English Composition.

- Courses: 1.00 required, 0.00 completed, 1.00 needed

Major GPA

Satisfied: A minimum 2.0 GPA is required in the major coursework.

- GPA: 2.000 required, 0.000 completed

Major Units

Not Satisfied: A minimum of 34 units must be completed in the major.

- Units: 34.00 required, 0.00 completed, 34.00 needed
Major Residency

**Not Satisfied:** A minimum of 18 units in the pre-major, supporting coursework, professional core, and/or major must be taken at the University of Arizona.

- **Units:** 18.00 required, 0.00 completed, 18.00 needed

---

Major Upper Division

**Not Satisfied:** A minimum of 18 units of upper-division major coursework must be completed.

- **Units:** 18.00 required, 0.00 completed, 18.00 needed

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Minor Required

**Not Satisfied:** A minor outside of the Mathematics Department is required for this major. Consult with your advisor to select a minor or discuss other options such as selecting a second major.