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 their 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.

Non-Community College Units

**Not Satisfied:** Non-Community College Units: While there is no limit to the total number of units of course work that may be transferred from an accredited community college to The University of Arizona, no more than 64 units from a 2-year institution may be applied toward the requirements for a bachelor's degree. Therefore, to reach the required 120 units for a bachelor's degree, a minimum of 56 units must be completed from 1) coursework at a 4-year institution, 2) approved credit by examination (refer to UA Catalog for approved examinations and scores), or 3) any combination thereof.

- **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
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

Courses Available

AIS 204B, ARB 402, CHN 202, CHN 301, CHN 302, CHN 415, CHN 417, CHN 422, CHN 423, CRL 202, CRL 202-SA, CRL 301, CRL 301-SA, CRL 302, CRL 397A, CRL 497A, FREN 202, FREN 212, FREN 301, FREN 302, FREN 320, FREN 410, FREN 420, GER 202, GER 211, GER 301, GRK 202, GRK 204, GRK 212, GRK 402, GRK 412, GRK 424, ITAL 202, ITAL 202Z, ITAL 301, ITAL 302, ITAL 310, ITAL 320, JPN 202, JPN 301, JPN 302, JPN 405, JPN 421, JPN 422, JUS 203B, LAS 330, LAS 381, LAS 425, LAS 481, LAS 482, LAT 202, LAT 212, LAT 400, LAT 401, LAT 405, LING 204B, MAS 381, MAS 481, MAS 482, MENA 203B, PHIL 412, PORT 350, PORT 425, PRS 402, PRS 403, PRS 404, RSSS 202, RSSS 301, RSSS 302, RSSS 308, SERP 431B, SPAN 202, SPAN 203, SPAN 206, SPAN 251, SPAN 253, SPAN 323, SPAN 325, SPAN 330, SPAN 333, SPAN 381, SPAN 399, SPAN 425, SPAN 450, SPAN 481, SPAN 482, TURK 402, TURK 403, TURK 404

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


General Education Tier I

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

Tier I Individuals & Societies/150s

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

(***) (###), AFAS 150B1, ANTH 150B1, ART 150B1, ART 150B2, EAS 150B1, EDP 150B1, ENGL 150B1, ESOC 150B1, FREN 150B1, FSHD 150B1, FTV 150B1, GEG 150B1, GEOG 150B2, GER 150B1, GWS 150B1, GWS 150B2, GWS 150B3, GWS 150B4, GWS 150B5, HNRS 150B1, HNRS 150B2, HUMS 150B1, ITAL 150B1, LAR 150B1, LAS 150B1, MAS 150B1, MAS 150B2, MIS 150B1, PA 150B1, PHIL 150B1, POL 150B1, RCSC 150B1, RCSC 150B2, RELI 150B1, RSSS 150B1, RSSS 150B2, SOC 150B1, SOC 150B2, SPAN 150B1, SPAN 150B2, TLS 150B1, AED 150A1, ANTH 150A1, ART 150A1, GER 150A1, HNRS 150A1, LING 150A1, MIS 150A1, MIS 150A1, PAH 150A1, PAH 150A2, PHIL 150A1, POL 150A1, PSY 150A1, AED 150C1, AREC 150C1, AREC 150C2, AREC 150C3, ECON 150C1, FIN 150C1, GEOG 150C1, HIST 150C1, HIST 150C2, HIST 150C3, HIST 150C4, HIST 150C5, HIST 150C6, HNRS 150C1, HPS 150C1, JOUR 150C1, LAS 150B2, MAS 150C1, MENA 150C1, NSC 150C1, PHIL 150C1, PLP 150C1, POL 150C1, POL 150C2, POL 150C3, RNR 150C1, SOC 150C1, SOC 150C2, TLS 150C1

Tier I Natural Sciences/170s

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

Tier I Traditions & Cultures/160s

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


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

Courses Available


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
### 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

### Courses Available

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### 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
## 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.

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

## 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.

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**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

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**Courses Available**

CSC 110, ISTA 130

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**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

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**Courses Available**

MATH 122B, MATH 125

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**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


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

DATA 468, 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

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**Courses Available**

DATA 462, DATA 468, 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

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**Probability and Statistics Emphasis Graduation Requirements**

**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

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**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

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**Major GPA**

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

· **GPA:** 2.000 required, 0.000 completed

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**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

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Major Residency
Not Satisfied: A minimum of 18 units in the 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

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.