Academic Advisement Report
UGRD.USCNC.MATHBA.APPD
Undergraduate Career
College of Science Program
Mathematics Major (BA)
Applied Emphasis
Requirement Term: Fall 2019

MAIN Campus at TUCSON Location
This emphasis is for students who intend to enter the job market upon graduation, but may also be appropriate for students who plan to go on to graduate school in a field of science or engineering. Applied emphasis coursework focuses on skills like mathematical modeling rather than proof writing, to prepare students to use mathematics in a variety of settings.

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.
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 coursework 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.

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.

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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

#### 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

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**ARB 401**

**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
### 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

#### 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

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### Courses Available


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### 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

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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**


**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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**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

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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

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Courses Available
CSC 110, ISTA 130

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

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 Applied Mathematics

Overall Requirement Not Satisfied: Will appear fully satisfied when student satisfies Applied 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.

Applied Emphasis Requirements

Overall Requirement Not Satisfied: Will appear fully satisfied when student satisfies the Applied required courses, one of the sequences listed below, and one advisor approved course.

Applied Required Courses

Not Satisfied: Complete 2 courses. Students should plan to take MATH 485 in their final Spring semester; MATH 422 should be taken earlier, when possible.

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

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Courses Available

MATH 422, MATH 485

Option 1: Differential Equations

Not Satisfied: Complete Math 454 and 456

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

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Courses Available

MATH 454, MATH 456

OR Option 2: Probability and Statistics

Not Satisfied: OR Complete Math 464 and 466

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Courses Available

MATH 464, MATH 466

OR Option 3: Numerical Analysis

Not Satisfied: OR Complete Math 475A and 475B

- Courses: 2.00 required, 0.00 completed, 2.00 needed

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Courses Available

MATH 475A, MATH 475B

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 468, MATH 413, MATH 424, MATH 454, MATH 456, MATH 464, MATH 468, MATH 475A, MATH 488

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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Applied 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 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.