## Emphases

Comprehensive ${ }^{4}$
$\qquad$ MATH 413
MATH 424
MATH 425A \& 425B
One of the following sequences:
MATH 415A \& 415B
MATH 454 \& 456
Applied ${ }^{4}$
MATH 422
MATH 485
O-Oe of the following sequences:
MATH 454 \& 456
MATH 464 \& 466
MATH 475A \& 475B
Fifth $\overline{400}$-level course ${ }^{8}$
MATH $\qquad$

## ${ }^{4}$ Minor Requirement

Most minors require 18 units, of which 9 are upper division. Minor Courses:

Subject/ Course number



Education ${ }^{9}$
MATH 315
MATH 330
MATH 361
MATH 404
MATH 407
MATH 205
EDP 301
SERP 400
TLS 416
TLS 435
MATH 406A \& 406B
MATH 494C

## Application Courses*

${ }^{1}$ The Bachelor of Science degree requires second-semester proficiency in a second language and a two-semester lab science sequence. Upper division (300-400 level) units: 42 required. See Advisement Report (ADVIP) for details. ${ }^{2}$ These courses are recommended for most math majors. Other courses that can be used are: CSC 127A or 227, ECE 175, MIS 301, MSE 350, and PHYS 305. These latter courses may have additional eligibility criteria. ${ }^{3}$ MATH 313 replaced MATH 215 as of fall semester 2015. Students who completed 215 prior to fall 2015 or who have transfer credit equivalent to 215 will still fulfill this requirement, though they will not earn upper-division credit for the course. ${ }^{4}$ All emphases except Education require a minor; the Applied, Comprehensive, and Probability \& Statistics emphases allow a minor in any subject. The minor should be selected in consultation with faculty advisor. Double-dipping between the math major and a minor is NOT permitted, with the one exception of the introductory programming course, which may also be used in a minor. Double majors are not required to have a minor. If pursuing a double degree, consult with your major advisor regarding UA requirements. ${ }^{5}$ The Computer Science emphasis requires a Computer Science minor. ${ }^{6}$ The Economics/ Business emphasis requires an Economics, Finance, or Business Administration minor, or a Thematic minor with an Econ, Finance, or Business Admin emphasis (approved by your advisor). ${ }^{7}$ The Life Sciences emphasis requires a minor in a Life Sciences area. ${ }^{8}$ This 400-level course is to be selected with approval from your math faculty advisor. See handbook for pre-approved list. At least 15 units of 400-level MATH course work are required for the major. ${ }^{9}$ The pedagogy courses within this emphasis replace the minor requirement. No additional minor is required. *For the BS degree, except for the Education emphasis, students must complete six units of course work outside the Mathematics Department, approved by the major advisor requiring Calculus or higher as pre-requisite or co-requisite. See ADVIP for a list of courses that fulfill this requirement. Courses taken to fulfill other requirements of the degree may also be applied to this requirement.

