MATH 119A - Mathematics of Biological Systems: a Calculus Based Approach

● *What is it?*

Math 119A is a new 4-unit course. Using real examples drawn from biology, ecology, and physiology, we will develop and study models of biological dynamical systems using concepts from calculus. Focus is on how the math comes from the biology and tells us interesting and non-obvious things about the biological systems we model. Some of the systems we will explore are population change (e.g. predators and prey), endocrine or hormone regulation (e.g. insulin-glucose), spread of epidemics (e.g. HIV), and biological cycles (e.g. muscle tremors). We will develop the key ideas from calculus in the context of these explorations.

● *Who can take it?*

This course is for majors within Physiology; Biology; Molecular & Cellular Biology; and Ecology & Evolutionary Biology.

Students can qualify through recent test scores: ALEKS PPL 60%, ACT MATH 26, SAT I MSS 640. ACT and SAT I placement is for incoming freshman students only. Students who have completed UA College Algebra (Math 112) also qualify.

● *Who shouldn't take it?*

Any major outside of Physio, Bio, MCB, and EEB should not take this course.
Students who plan to take Calculus II should take Math 122A/B instead of Math 119A.
This course is not a good choice for students who are not interested in biological systems or who do not like to use a computer for math.

● *When and How?*

There will be one section offered Tues/Thurs at 8 a.m. Students also enroll in a once a week discussion offered Wed at 8am or 9am. Eligible students can add through Uaccess Student.