

Application for CAMS [Mathematical Biology Track] Major

Complete application and submit along with the **Registrar's Declaration of Major Form** to the Registrar's Office | Blow Hall | Room 124. *Retain a copy for your records.*

Name _____ Student ID # _____

Email _____ Advisor/Dept _____ Expected Graduation Date _____

Mark only those courses which are to be counted toward your Major.

	COURSE	COURSE TITLE			CREDIT HOURS
Required Mathematical Modeling (2 courses)	BIOL 325 OR MATH 345	Introduction to Quantitative Biology OR Introduction to Mathematical Biology			3-4
	APSC/BIOL 351 OR BIOL/MATH 356	Cellular Biophysics and Modeling OR Random Walks in Biology			3
Statistics and Data Analysis (choose 2 courses)	BIOL 327 MATH 351 MATH 352 MATH 451 MATH 452	Introduction to Biostatistics Prob. and Stats. for Sci. (Note: 351 cannot be taken for credit if 451 has already been taken) Statistical Data Analysis Probability Mathematical Statistics			3-4
Computational Elective (choose 1 course)	BIOL 404 CSCI 303 CSCI 426 CSCI 520 DATA 442 PHYS 256	Applied Programming for Biology Algorithms Simulation Computing in Operations Research Neural Networks & Deep Learning Practical Computing for Scientists			3
Biology (choose 2)	Any BIOL 300 or above				3-4
Applications and Models (choose 2 courses)	APSC 327 APSC/BIOL 351 APSC 450 BIOL/MATH 356 BIOL 377 CHEM 341 CHEM/BIOL 314 CSCI 215 CSCI 416	Intro. to Laser Biomedicine Cellular Biophysics Comp. Neuroscience Random Walks in Biology Bioeng. and Synthetic Biol. Phys. Chem. for Life Sci. Biochemistry Intro. to Bioinformatics Intro. to Machine Learning	DATA 310 DATA 431 MATH 302 MATH 413 and/or 414 MATH 441 MATH 442 PHYS 403 MATH 410/APSC 490	Applied Machine Learning Spatial Data Discovery Ordinary Differential Eq. Numeric. Analysis I & II Nonlinear Dynamics Partial Differential Eq. Stat. Mech. and Thermo. Topics Courses (subject to approval of CAMS Math Bio Track Director)	3
*Proficiency Courses	MATH 211, MATH 212/3, CSCI 141 or equiv, CSCI 241				3-4

I certify that these courses fulfill the requirements for a major in CAMS Mathematical Biology.

Total Credit Hours _____

Approved by Advisor _____ Date _____

(minimum of 27 credit hours)

Approved by Director of CAMS _____ Date _____