Kean University

Curriculum Map (REVISION 7.24.2012)

Course to Program/Discipline Level Student Learning Outcomes

B.S./M.A Science & Technology/Instruction & Curriculum / Math or Science--Biology or Chemistry (NJ Center for Science, Technology & Mathematics)

The BS/MA Math or Science Education curriculum prepares students to achieve the expected student learning outcomes (SLOs) identified by the program. The following table demonstrates how learning activities in the required courses map to these SLOs.

Key: I-Introduced R-Reinforced M-Mastery A-Assessment evidence collected

Required Courses	Program/Discipline Student Learning Outcomes				
	SLO 1 Critical Thinking (KU1, KU2, GE S4)	SLO 2 Content Knowledge & Leadership (KU1 to 4, GE S1 to 5, V1 to 5)	SLO 3 Pedagogical Knowledge (KU1 to 4, GE K2, S2, S4, V4)	SLO 4 Communication (KU1, GE K1, K2, S1, S2, S5, V4)	SLO 5 Standards (KU2, KU4)
GE 1000 Transition to Kean (NJCSTM majors only section)		I		I	
STME 1403 Math & Computational Analysis I	I	I			
GE 2024 Research & Technology (NJCSTM majors only section)	R	I		R,A	
STME 1603 Math & Computational Analysis II	R,A	R			
STME 1401 Chemical Systems I	I	I			
ID 1225 Critical Issues Contemporary Health				I	

Course					
PSY 2110 Psych. Adolescence		I			
STME 1601 Chemical Systems II	I	I			
STME 2401 Physical Systems	I	I			
STME 2601 Living Systems	R	R			
STME 2603 Prob. Methods Science	I	I			
STME 2403 Math & Comp Methods of Science III	R	R			
STME 2610 Current Issues in Science & Technology I	I	I		I	
STME 3610 Cur Iss Sci & Tech II	R	R,A		R,A	
STME 4610 Smr Sci & Tech	M,A	M,A		M,A	R,A
EMSE 2801 Intro Field Exp. Subject Area K-12	I	I	I	I	I
EDUC 3000 Curriculum, Evaluation & the Learner		I	I		R
EMSE 3801 Field Exp. In Instruction in Subject Areas K-12	R	R	R	R	R
EMSE 3903 Teaching English Language Learners	I		R		
EMSE 5315 Intro to Language Arts & Reading in Teaching Content Areas	M	M	M		
EMSE 5320 Computers in School Curriculum I	M	M	M		
STME 5610 Advanced Seminar in Science & Technology	M	M		M	
SPED 5024 Inclusive Education		M	M		
EMSE 5561 Foundations of Education		M			

Kean University

EMSE 5564 Professional Internship	M	M, A		M,A	M,A	M
EMSE 5031 Action Research	M	M		M,A	M	M,A
Math Education requirements:						
MATH 3110 Intro to Proofs	I	R				
MATH 3225 Comp. Methods in Matrix & linear Algebra II	I	R				
MATH 3342 Euclidean & Non Euclidian Geometry	I	R				
MATH 3451 Calculus III	R	R				
MATH 3452 Calculus IV	R	R				
MATH 3455 Differential Equations	M	R				
MATH 3544 Probability & Mathematical Statistics	R	R				
MATH 3891 History of Math	R	R				
MATH 4805 Mathematical Modeling w/Applications	R	R				
EMSE 3220 Mathematics Education K-12	R	R		R,A	R	R,A
MATH 5700 Current Issues in Math Education	M	M		M		
EMSE 5323 Current Theory & Practice in Teaching Math	M	M		M	M	M
Major elective / Graduate electives	R, M	R, M				
Free electives:	I	I				

Chemistry Education Requirements:						
ES 1000 Observing the Earth	I	I				
PHYS 2096 Physics II	I	I				
PHYS 2097 Physics III	I	I				
CHEM 2283 Quantitative Analysis	I	I				
CHEM 2581 Organic Chemistry Lecture I	R	R				
CHEM 2582 Organic Chemistry Lecture II	R	R				
CHEM 2583 Organic Chemistry Lab I	R	R				
CHEM 2584 Organic Chemistry Lab II	R	R				
CHEM 2491 Inorganic Chemistry	I	I				
CHEM 3284 Instrumental Methods of Analysis	R	R				
CHEM 3381 Physical Chemistry Lecture I	R	R				
CHEM 3901 Independent Chemistry Research I	R	R				
CHEM 4908 Seminar in Chemistry	M	M				
MATH 3451 Calculus III	R	R				
EMSE 3230 Science Education K-12	R	R		R,A	R	R,A

EMSE 5330 Current Theory & Practice in Teaching Science	M	M		M	M	M
EMSE 5032 Research Methods for Science Education	M	M		M	M	M
Biology Education Requirements:						
ES 1000 Observing the Earth	I	I				
CHEM 2180 Principles of Organic Chemistry	I	I				
BIO 2500 Principles of Botany	I	I				
BIO 3305 Principles of Microbiology	R	R				
BIO 3400 Zoology Form & Function	R	R				
BIO 3403 Anatomy & Physiology I	R	R				
BIO 3404 Anatomy & Physiology II	R	R				
BIO 3614 Principles of Ecology	R	R				
BIO 3704 Principles of Genetics	R	R				
BIO 4105 Essential of Biochemistry	R	M				
EMSE 3230 Science Educ K-12	R	R		R,A	R	R,A
EMSE 5330 Current Theory & Practice in Teaching Science	M	M		M	M	M
EMSE 5032 Research Methods in Science Education	M	M		M	M	M