Curriculum Map (REVISED 7.24.2012)

Course to Program/Discipline Level Student Learning Outcomes

B.S./M.S. Sci & Tech / Computational Math (NJ Center for Science, Technology & Mathematics)

The computational mathematics 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 learning outcomes.

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

	Program/Discipline Student Learning Outcomes							
Required Courses	**SLO 1 Applied Mathematics Fundamentals** (KU 1,2,3,4; GE S3, V5)	**SLO 2 Holistic Knowledge** (KU 1,2,3,4; GE S3, V2, V4)	**SLO 3 Critical Thinking** (KU1, GE S3, S4)	**SLO 4 Communication** (GE S1, S2, S3, V4)	**SLO 5 Scientific Programming** (KU2, GE S3, S5)	**SLO 6 Modeling** (GE S3, S5)	**SLO 7 Optimization** (GE S3)	**SLO 8 Data and Visualization** (GE S3, S5)
GE 1000 Transition to Kean (NJCSTM majors only section)		I	I	I				
GE 2024 Research and Technology (NJCSTM majors only section)		R	R	R,A				
STME 1403 Mathematical and Computational Methods of Science I	I	I	I	I	I	I	I	I
STME 1603 Mathematical	R, A	R, A	R, A	R, A	R, A	R, A		R, A

and Computational Methods of Science II								
STME 1603 Math & Comp Methods of Science III	R	R	R	R	R			R
STME 1401 Chemical Systems I		I	I		I	I		
STME 1601 Chemical Systems II		R	R		R	R		
STME 2401 Physical Systems		I	I		R	R		
STME 2601 Living Systems		R	R					
STME 2603 Probabilistic Methods in Science	R	R	R					
STME 2610 Current Issues in Science & Technology I		I	R	I				
STME 3610 Current Issues in Science & Technology II	R, A	R,A	R,A	R,A				
CPS 2231 Computer Organization & Programming			R		R			
CPS 2232 Data Structures & Algorithm Analysis			R		R			

CPS 3250 Computer Operating Systems			R		R			
CPS 3962 Information Systems Analysis And Design OR CPS 4301 Software Engineering			R		M			
MATH 3451 Calculus III	R		R					
MATH 3452 Calculus IV	R		R					
MATH 3455 Differential Equations	M		R					
MATH 3120 Combinatorics			R					
MATH 3940 Numerical Analysis			R			R		
MATH 4805 Math Modeling with Applications			R				R	
MATH 5410 Partial Diff. Eqns	M		R					
MATH 5965 High Performance Computing			R			M		
MATH 5630 Current Topics in Computational Science I			R			M		
MATH 5631 Current Topics in Computational			R			M, A	M, A	M

Science II								
STME 5103 Scientific Writing				M				
STME 4610 Senior Seminar in Science and Technology	M, A	M, A	M,A	M, A				
STME 5610 Adv Smr Sci & Tech		M	M	M				
Thesis ID 5800	M,A	M, A	M, A	M,A	M,A	M,A	M,A	M,A