KEAN UNIVERSITY - N.J. CENTER FOR SCIENCE, TECHNOLOGY & MATHEMATICS

(3011**2**) B.S. IN SCIENCE & TECHNOLOGY (Computational Science & Engineering Option) 124 S.H. (3.0 minimum GPA required for Graduation)

EFFECTIVE DATE: FALL 2016 START TERM: _____

NAME:			
STUDENT ID #:		Credits	
GENERAL EDUCATION: 37 Semester Hours (S.H.)			
Foundation Requirements: 14 S.H.			
GE 1000	Transition to Kean or GE 3000 Transfer Transition[1]	1	
*ENG 1030	College Composition[2]	3	
STME 1403	Math. & Computational Methods of Science I[3]	4	
*COMM 1402	Speech Communication As Critical Citizen[2]	3	
GE 2024	Research & Technology[2, 7]	3	
DISCIPLINARY & INTERDISCIPLINARY REQUIREMENTS:			
Humanities: 6 S.H.			
*ENG 2403	World Literature	3	
Select ONE course from below - see GE Distribution Course List			
	Fine Arts/Art History		
	Philosophy or Religion		
	Foreign Languages[4]		
	Music or Theater		
	Interdisciplinary		
Social Sciences: 6 S.H.			
*HIST 1062	Worlds of History	3	
Select ONE course from below - see GE Distribution Course List			
	Psychology		
	Economics or Geography		
	Political Science		
	Sociology or Anthropology		
	Interdisciplinary		
Science and Mathematics: 8 S.H.			
*STME 1603	Math. & Computational Methods of Science II	4	
*STME 1401	Chemical Systems I	4	
MAJOR / GE CAPSTONE COURSE[5]: 3 S.H.			
*STME 4610	Science & Technology Seminar (WE)	3	
ADDITIONAL REQUIRED COURSES[2]: 13 S.H.			
STME 2601	Living Systems I	4	
STME 2401	Physical Systems I	4	
STME 2603	Probabilistic Methods in Science	4	
STME 1903	Research Methods-RFI	1	

TRANSFER INSTITUTIONS (X)			
		Credits	
ACADEMIC MAJOR[5]: 62-65 S.H.			
Program Core Requirements[5]: 28 S.H.			
STME 1605	Intro. Programming In Sci. & Engineering	4	
STME 2403	Math. & Computational Methods of Science III	4	
CPS 2231	Computer Organization & Programming	4	
CPS 2232	Data Structures & Algorithm Analysis	4	
MATH 2110	Discrete Structures	3	
CPS 3962 CPS 4301	Information Systems Analysis & Design or Software Engineering I (WE)	3	
Select ONE course from below			
CPS 5965	High Performance Computing	3	
STME 5630	Modeling and Simulation of Dynamic Systems	3	
Select ONE course from below			
STME 5410	Modeling and Simulation of Continuous Systems	3	
STME 5631	Data Analysis and Visualization	3	
Program Track Requirements[5]: 34-37 S.H.			
(Select based on track, see additional sheets)			
	Applied Math Track	34	
	Bioinformatics Track	34	
	Physics Track	37	
FREE ELECTIVES: 9-12 S.H.			
(Select w/advisement, at least 50% must be at 3000-4000 level)			
	TRACK CREDITS (page 2)		
	TOTAL CREDITS:		

Special Notes:

[1] University Requirement for Graduation for all undergraduate students that must be satisfied in one of two ways: Complete GE 1000 (all freshmen & transfers entering with 0-29 credits) OR complete GE 3000 (transfers entering with 30 credits or more)

[*] (G.E.) General Education required course.

[2] Foundation & Additional Requirements require a grade of C or better, except ENG 1030 requires B or better.

[3] Prerequisite of qualifying placement test score or the equivalent of MATH 1054.

[4] Credit granted only upon completion of two semesters of elementary or intermediate foreign language.

[5] A minimum grade of C in no more than two major courses, including capstone. A grade of B- or higher in remaining major courses.

[6] Non-RFI students only.

[7] Required for RFI students – must complete with RFI sponsor faculty.

WE: Writing Emphasis course.

KEAN UNIVERSITY - N.J. CENTER FOR SCIENCE, TECHNOLOGY & MATHEMATICS

(301**12**) B.S. IN SCIENCE & TECHNOLOGY (Computational Science & Engineering Option) 124 S.H. (3.0 minimum GPA required for Graduation).

EFFECTIVE DATE: FALL 2016 START TERM: _____

TRACK SPECIFIC REQUIREMENTS: APPLIED MATH: 34 S.H.			
Program Track Requirements[5]: 25-29 S.H.			
STME 2402	Physical Systems II	4	
MATH 3225	Computational Methods Linear Algebra II	3	
MATH 3451	Calculus III	4	
MATH 3455	Differential Equations	3	
MATH 3940	Numerical Analysis	3	
MATH 4805	Math Modeling with Applications	3	
STME 3610	Current Issues[6]	1	
	OR		
STME 2903	Research Experience-RFI[7]	2	
STME 3903	Advanced Research Experience-RFI[7]	3	
Select ONE course from below			
STME 1601	Chemical Systems II	4	
STME 2602	Living Systems II	4	
MAJOR ELECTIVES[5]: 5-9 S.H. (Select major elective courses with advisement)			
TRACK SPECIFIC REQUIREMENTS: PHYSICS: 37 S.H.			
Program Track Requirements[5]: 33-37 S.H.			
STME 1603	Chemical Systems II	4	
STME 2402	Physical Systems II	4	
PHYS 2907	Physics III	4	
PHYS 4592	Modern Physics	4	
PHYS 4593	Landmarks in 20th Century Physics or PHYS 4901 Independent Research in Physics	3	
MATH 3451	Calculus III	4	
MATH 3455	Differential Equations	3	
MATH 3940	Numerical Analysis	3	
MATH 4805	Mathematical Modeling	3	
STME 3610	Current Issues[6]	1	
	OR		
STME 2903	Research Experience-RFI[7]	2	
STME 3903	Advanced Research Experience-RFI[7]	3	
MAJOR ELECTIVES[5]: 0-4 S.H. (Select major elective courses with advisement)			

TRACK SPECIFIC REQUIREMENTS: BIOINFORMATICS: 34 S.H.			
Program Track Requirements[5]: 30-34 S.H.			
STME 2602	Living Systems II	4	
STME 1601	Chemical Systems II	4	
STME 2681	Organic Chemistry Honors Lecture I	3	
STME 2683	Organic Chemistry Honors Lab I	2	
BIO 3709	Genetics	4	
BIO 4105	Essentials of Biochemistry[6]	4	
	OR		
STME 3401	Biochemistry Honors I[7]	4	
BIO 4700	Molecular Genetics	4	
BIO 3305	Principles of Microbiology	4	
STME 3610	Current Issues[6]	1	
	OR		
STME 2903	Research Experience-RFI[7]	2	
STME 3903	Advanced Research Experience-RFI[7]	3	
MAJOR ELECTIVES[5]: 0-4 S.H. (Select major elective courses with advisement)			

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[7] Required for RFI students – must complete with RFI sponsor faculty.

WE: Writing Emphasis course.