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

## (30112) 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		
	UCATION: 37 Semester Hours (S.H.)		
	equirements: 14 S.H.		
GE 1000	Transition to Kean or GE 3000 Transfer Transition <sup>1</sup>	1	
*ENG 1030	College Composition <sup>2</sup>	3	
STME 1403	Math. & Computational Methods of Science I <sup>3</sup>	4	
*COMM 1402	Speech Communication As Critical Citizen <sup>2</sup>	3	
GE 2024	Research & Technology <sup>2, 7</sup>	3	
DISCIPLINARY	Y & INTERDISCIPLINARY REQUIREMENTS:		
Humanities: 6	5 S.H.		
*ENG 2403	World Literature	3	
Select O	NE course from below - see GE Distribution Cour	se List	
	Fine Arts/Art History		
	Philosophy or Religion		
	Foreign Languages <sup>4</sup>		
	Music or Theater		
	Interdisciplinary		
Social Science	es: 6 S.H.		
*HIST 1062	Worlds of History	3	
Select O	NE course from below - see GE Distribution Coul	rse List	
	Psychology		
	Economics or Geography		
	Political Science		
	Sociology or Anthropology		
	Interdisciplinary		
Science and M	Mathematics: 8 S.H.		
*STME 1603	Math. & Computational Methods of Science II	4	
*STME 1401	Chemical Systems I	4	
MAJOR / GE C	CAPSTONE COURSE <sup>5</sup> : 3 S.H.		
*STME 4610	Science & Technology Seminar (WE)	3	
ADDITIONAL I	REQUIRED COURSES <sup>2</sup> : 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 II	NSTITUTIONS (X)		
	Credits		
ACADEMIC N	MAJOR <sup>5</sup> : 62-65 S.H.		
	e Requirements <sup>5</sup> : 28 S.H.	I	
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 Trac	ck Requirements <sup>5</sup> : 34-37 S.H.	ı	1
	on track, see additional sheets)		
,	Applied Math Track	34	
	Bioinformatics Track	34	
	Physics Track	37	
FREE ELECT	IVES: 9-12 S.H.		
(Select w/adv	isement, at least 50% must be at 3000-4000 leve	el)	
	TRACK CREDITS (page 2)		
	TOTAL CREDITS:		
	TOTAL CILIDITS.	l	

#### Special Notes

- <sup>1</sup>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.
- $^2\mbox{Foundation}$  & Additional Requirements require a grade of C or better, except ENG 1030 requires B or better.
- <sup>3</sup> Prerequisite of qualifying placement test score or the equivalent of MATH 1054.
- <sup>4</sup> Credit granted only upon completion of two semesters of elementary or intermediate foreign
- $^{\rm 5}$  A minimum grade of C in no more than two major courses, including capstone. A grade of B- or higher in remaining major courses.
- <sup>6</sup> 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 (30112) 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 <sup>5</sup> : 25-29 S.H.			TRACK SPEC	TRACK SPECIFIC REQUIREMENTS: BIOINFORMATICS: 34 S.H.		
			Program Tra	Program Track Requirements <sup>5</sup> : 30-34 S.H.		
STME 2402	Physical Systems II	4	STME 2602	Living Systems II	4	
MATH 3225	Computational Methods Linear Algebra II	3	STME 1601	Chemical Systems II	4	
MATH 3451	Calculus III	4	STME 2681	Organic Chemistry Honors Lecture I	3	
MATH 3455	Differential Equations	3	STME 2683	Organic Chemistry Honors Lab I	2	
MATH 3940	Numerical Analysis	3	BIO 3709	Genetics	4	
MATH 4805	Math Modeling with Applications	3	BIO 4105	Essentials of Biochemistry <sup>6</sup>	4	
STME 3610	Current Issues <sup>6</sup>	1	STME 3401	OR Biochemistry Honors I <sup>7</sup>	4	
STME 2903	OR Research Experience-RFI <sup>7</sup>	2	BIO 4700	Molecular Genetics	4	
STME 3903	Advanced Research Experience-RFI <sup>7</sup>	3	BIO 3305	Principles of Microbiology	4	
Select <b>ONE</b> co	ourse from below		STME 3610	Current Issues <sup>6</sup>	1	
STME 1601 Chemical Systems II		4	OTME 0000	OR		
STME 2602	Living Systems II	4	STME 2903 STME 3903	Research Experience-RFI <sup>7</sup> Advanced Research Experience-RFI <sup>7</sup>	2 3	
MAJOR ELEC	CTIVES <sup>5</sup> : 5-9 S.H.			CTIVES <sup>5</sup> : 0-4 S.H.		
(Select major	(Select major elective courses with advisement)		(Select major	(Select major elective courses with advisement)		
TRACK SPEC	CIFIC REQUIREMENTS: PHYSICS: 37 S.H.					
Program Trac	ck Requirements <sup>5</sup> : 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 20 <sup>th</sup> 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 <sup>6</sup> OR	1				
STME 2903 STME 3903	Research Experience-RFI <sup>7</sup> Advanced Research Experience-RFI <sup>7</sup>	2 3				
	CTIVES <sup>5</sup> : 0-4 S.H. elective courses with advisement)					
Coloot major	- Court Courses with dayisementy	T				
		+				

#### Special Notes:

WE: Writing Emphasis course.

<sup>&</sup>lt;sup>1</sup>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)

<sup>\*(</sup>G.E.) General Education required course.

 $<sup>^2\</sup>mbox{Foundation}$  & Additional Requirements require a grade of C or better, except ENG 1030 requires B or better.

<sup>&</sup>lt;sup>3</sup> Prerequisite of qualifying placement test score or the equivalent of MATH 1054.

 $<sup>^{\</sup>rm 4}$  Credit granted only upon completion of two semesters of elementary or intermediate foreign language.

 $<sup>^{\</sup>rm 5}$  A minimum grade of C in no more than two major courses, including capstone. A grade of B- or higher in remaining major courses.

<sup>&</sup>lt;sup>6</sup> Non-RFI students only.

 $<sup>^{\</sup>rm 7}$  Required for RFI students – must complete with RFI sponsor faculty.