B.S. in Engineering Science

First Year		
1st Semester		**Term Credits**
CHEM 121 or CHEM 125	Fundamentals of Chemical Principles I or General Chemistry I	3
FED 101	Fundamentals of Engineering Design [1]	2
HUM 101	English Composition: Writing, Speaking, Thinking I	3
MATH 111	Calculus I	4
PHYS 111	Physics I	3
PHYS 111A	Physics I Laboratory	1
FRSH SEM	Freshman Seminar	0
PE Physical Education		1
	Term Credits	**17**
2nd Semester		
CHEM 124	General Chemistry Laboratory	1
CHEM 122 or CHEM 126	Fundamentals of Chemical Principles II or General Chemistry II	3
HUM 102	English Composition: Writing, Speaking, Thinking II	3
MATH 112	Calculus II	4
Select one of the following:		3
CS 101	Computer Programming and Problem Solving	
CS 106	Roadmap to Computing Engineers	
CS 115	Intro. to CS I in C++	
PHYS 121	Physics II	3
PHYS 121A	Physics II Laboratory	1
	Term Credits	**18**
Second Year		
1st Semester		
Select one of the following:		3-4
MATH 211	Calculus III A	
MATH 213	Calculus III B	
ECON 201	Economics	3
Cultural History (lower-level):GUR Elective		3
Engineering Science Elective		3
Engineering Science Elective		3
Physical Education		1
	Term Credits	**16-17**
2nd Semester		
MATH 222	Differential Equations	4
MATH 333	Probability and Statistics	3
Social Science (lower level) Elective		3
Engineering Science Elective		3
Engineering Science Elective		3
	Term Credits	**16**
Third Year		
1st Semester		
Humanities and Social Sciences (upper-level):GUR Elective		3
Engineering Science Elective		3
Engineering Science Elective		3
Engineering Science Elective		3

Management: GUR Elective		3
	Term Credits	**15**
2nd Semester		
Humanities and Social Sciences (upper-level):GUR Elective		3
Engineering Science Elective		3
Engineering Science Elective		3
Engineering Science Elective		3
Engineerng Science Elective		3
	Term Credits	**15**
Fourth Year		
1st Semester		
Capstone Seminar Humanities and Social Sciences (upper-level):GUR Elective		3
Engineering Science Elective		3
Engineering Science Elective		3
Engineering Science Elective		3
Engineering Science Elective		3
	Term Credits	**15**
2nd Semester		
ESC 491	Research and Independent Study I	3
Engineering Science Elective		3
Enngineering Science Elective		3
Engineeering Science Elective		3
Engineering Science Elective		3
	Term Credits	**15**
	Total Credits	**127-128**

1 FED 101 Fundamentals of Engineering Design is taken concurrently with either HUM 100 English Composition: Reading, Writing, Speaking II or HUM 101 English Composition: Writing, Speaking, Thinking I

2 Half of the students will take this course in reverse order.

Electives

English Composition and Cultural History (lower-level) GUR

Select two of the following:		6
HUM 211	The Pre-Modern World	
HUM 212	The Modern World	
HIST 213	The Twentieth-Century World	
2XX	200-level history courses at Rutgers-Newark	

Social Sciences (lower-level) GUR [1]

Select one of the following Economics courses:		3
ECON 201	Economics	
ECON 265	Microeconomics	
ECON 266	Macroeconomics	
STS 201	Understanding Technological Society	
STS 210	General Psychology	
STS 221	Sociology	
Select one of the following:		3
EPS 202	Society, Technology, and the Environment	
STS 257	Technology, Society and Culture: An American View	
STS 258	Technology, Society and Culture: A Global View	

Capstone Seminar in Humanities and Social Sciences (upper-level) GUR

Select one of the following. Honors College students select honors section.		3
HSS 403	Humanities Senior Seminar - Literature	

HSS 404	Humanities Senior Seminar - History	
HSS 405	Humanities Senior Seminar - Philosophy	
HSS 406	Humanities Senior Seminar - English	
HSS 407	Humanities Senior Seminar - Theater	
HSS 408	Humanities Senior Seminar - Science, Technology, and Society	
HSS 409	Humanities Senior Seminar - Social Science	
Physical Education GUR [2]		
PE 1XX	Physical Education course	1
Physical Education course		1
Management GUR		
Select one of the following: [3]		3
IE 492	Engineering Management	
MGMT 390	Principles of Management	
AS 333	Leadership and Management I	

1 Students also may take approved introductory courses in basic social sciences at Rutgers-Newark to fulfill this requirement.

2 Students are urged to complete the requirement as soon as possible.

3 Acceptable only for students taking the aerospace option. Students enrolled in a dual degree program between architecture and management take HRM 601 Organizational Behavior to fulfill this requirement.

This curriculum represents the maximum number of credits per semester for which a student is advised to register. A full-time credit load is 12 credits. First-year students are placed in a curriculum that positions them for success which may result in additional time needed to complete curriculum requirements. Continuing students should consult with their academic advisor to determine the appropriate credit load.