

**ENGINEERING TRANSFER (ENGR.AS)
Tentative Generic Curriculum Fall 2015**

Semester 1

Course No.	Course Title	Credits
ENG-101	English Composition 1	3
CHM-111	General Chemistry 1	4
EGR-103 or CSC-111* or CSC-100	Computer Applications in Engineering or Introduction To Java Programming Language or Introduction to Computer Science	4
MAT-131	Calculus 1	4
---	Elective: Social Science	<u>3</u>
		18

Semester 2

Course No.	Course Title	Credits
ENG-102	English Composition 2	3
CHM-112 or BIO-201**	General Chemistry 2 or Biology 1	4
EGR-103 or CSC-111 or CSC-101	Computer Applications in Engineering or Intro. To Java Programming Language or Computer Science 1 (C++)	4
MAT-132	Calculus 2	4
PHY-231	Classical Physics 1	<u>4</u>
		19

Semester 3

Course No.	Course Title	Credits
MAT-233	Calculus 3	4
PHY-232	Classical Physics 2	4
---	Elective: Engineering	3(4)
---	Elective: Engineering/Math/Science	3(4)
	Elective: Social Science/Humanities	3
		<u>17(19)</u>

Semester 4

Course No.	Course Title	Credits
MAT-240 or MAT-255 or EGR-211	Linear Algebra or Differential Equations or Probability & Statistics for Engineers	4
---	Elective: Engineering	3(4)
---	Elective: Engineering	3(4)
---	Elective: Engineering/Math/Science	3(4)
---	Elective: Social Science/Humanities	3
		<u>16(19)</u>

*BIO-201, Biology 1, should be selected by Computer, Electrical, Industrial, and Mechanical Engineering Majors going to UMASS. **Computer and Electrical Engineers going to UMASS should take CSC-111 (Java) while Civil and Mechanical majors should take CSC-101 (C++).

CHEMICAL ENGINEERING (ENGR.AS)**Semester 1**

Course No.	Course Title	Credits
CHM-111	General Chemistry 1	4
EGR-103	Computer Applications in Engineering	4
MAT-131	Calculus 1	4
ENG-101	English Composition 1	3
---	Elective: Social Science	3
		<u>18</u>

Semester 2

Course No.	Course Title	Credits
CHM-112	General Chemistry 2	4
CSC-100	Introduction to Computer Science	4
MAT-132	Calculus 2	4
PHY-231	Classical Physics 1	4
ENG-102	English Composition 2	3
		<u>19</u>

Semester 3

Course No.	Course Title	Credits
CHM-201	Organic Chemistry 1	4
EGR-111	Introduction to Materials Science & Engineering	3
ENGR-340	Introduction to Chemical Engineering	3
MAT-233	Calculus 3	4
---	Elective: Social Science/Humanities	3
		<u>17</u>

Semester 4

Course No.	Course Title	Credits
CHM-202	Organic Chemistry 2	4
EGR-232	Chemical Engineering Thermodynamics 1	3
MAT-255	Differential Equations	4
PHY-232	Classical Physics 2	4
---	Elective: Social Science/Humanities	3
		<u>18</u>

**Civil & Environmental Engineering (ENGR.AS)
Tentative Curriculum Fall 2014**

Semester 1

Course No.	Course Title	Credits
ENG-101	English Composition 1	3
CHM-111	General Chemistry 1	4
EGR-103	Computer Applications in Engineering	4
MAT-131	Calculus 1	4
---	Elective: Social Science	3
		<hr/> 18

Semester 2

Course No.	Course Title	Credits
ENG-102	English Composition 2	3
CHM-112	General Chemistry 2	4
CSC-100	Introduction to Computer Science	4
MAT-132	Calculus 2	4
PHY-231	Classical Physics 1	4
		<hr/> 19

Semester 3

Course No.	Course Title	Credits
EGR-121	Mechanics 1 (Statics)	3
CET-210*	Surveying 1	4
MAT-233	Calculus 3	4
PHY-232	Classical Physics 2	4
---	Elective: Social Science/Humanities	3
		<hr/> 18

Semester 4

Course No.	Course Title	Credits
EGR-219	Mechanics of Materials	3
EGR-229	Engineering Thermodynamics 1	3
EGR-230	Engineering Thermodynamic Computational Lab	1
ENG-211	Probability & Statistics for Engineers	3
MAT-255	Differential Equations	4
---	Elective: Social Science/Humanities	3
		<hr/> 17

*CET-210, Surveying 1, may be taken as the regular course or with the honors lab component. UMass will accept the Surveying course for transfer credit without the honors component. A student transferring without the honors component will have to take 4 surveying labs at UMass to replace the honors lab at STCC.

Computer Engineering (ENGR.AS)		
Semester 1		
Course No.	Course Title	Credits
ENG-101 CHM-111 EGR-103 MAT-131 ---	English Composition 1 General Chemistry 1 Computer Applications in Engineering Calculus 1 Elective: Social Science	3 4 4 4 3 <hr/> 18
Semester 2		
Course No.	Course Title	Credits
ENG-102 BIO-201 * CSC-111 MAT-132 PHY-231	English Composition 2 Biology 1 Intro. to Java Programming Calculus 2 Classical Physics 1	3 4 4 4 4 <hr/> 19
Semester 3		
Course No.	Course Title	Credits
EGR-221 EGR-225 CSC-210 CSC-220 MAT-233 ---	Circuit Analysis 1 Electrical Engineering Lab 1 Computer Organization & Digital Logic Data Structures & Algorithms Calculus 3 Elective: Social Science/Humanities	3 1 4 4 4 3 <hr/> 19
*Semester 4		
Course No.	Course Title	Credits
EGR-222 EGR-226 MAT-240 MAT-255 PHY-232 ---	Circuit Analysis 2 Electrical Engineering Lab 2 Linear Algebra Differential Equations Classical Physics 2 Elective: Social Science/Humanities	3 1 3 4 4 3 <hr/> 18

*Computer Engineering majors should also enroll in MAT-220, Discrete Structures, at STCC. If possible, a student should also take ECE 232, Hardware Organization and Design, at UMass in Semester 4.

*Electrical Engineering (ENGR.AS)		
Semester 1		
Course No.	Course Title	Credits
ENG-101	English Composition 1	3
CHM-111	General Chemistry 1	4
EGR-103	Computer Applications in Engineering	4
MAT-131	Calculus 1	4
---	Elective: Social Science	3
		18
Semester 2		
Course No.	Course Title	Credits
ENG-102	English Composition 2	3
BIO-201	Biology 1	4
CSC-111	Intro. to Java Programming	4
MAT-132	Calculus 2	4
PHY-231	Classical Physics 1	4
		19
Semester 3		
Course No.	Course Title	Credits
EGR-221	Circuit Analysis 1	3
EGR-225	Electrical Engineering Lab 1	1
CSC-210	Computer Organization & Digital Logic	4
CSC-220	Data Structures & Algorithms	4
MAT-233	Calculus 3	4
---	Elective: Social Science/Humanities	3
		19
Semester 4		
Course No.	Course Title	Credits
EGR-222	Circuit Analysis 2	3
EGR-226	Electrical Engineering Lab 2	1
MAT-255	Differential Equations	4
MAT-240	Linear Algebra	3
PHY-232	Classical Physics 2	4
---	Elective: Social Science/Humanities	3
		18

*Electrical Engineering majors should also enroll in ECE 232, .Hardware Organization and Design at UMass in semester 4 if possible.

Mechanical & Industrial Engineering (ENGR.AS)

Tentative Curriculum Fall 2014

Semester 1

Course No.	Course Title	Credits
ENG-101	English Composition 1	3
CHM-111	General Chemistry 1	4
EGR-103	Computer Applications in Engineering	4
MAT-131	Calculus 1	4
---	Elective: Social Science	3
		<hr/> 18

Semester 2

Course No.	Course Title	Credits
ENG-102	English Composition 2	3
BIO-201	Biology 1	4
CSC-101	Computer Science 1 (C++)	4
MAT-132	Calculus 2	4
PHY-231	Classical Physics 1	4
		<hr/> 19

Semester 3

Course No.	Course Title	Credits
EGR-121	Mechanics 1 (Statics)	3
EGR-111	Introduction to Materials Science & Engineering	3
MAT-233	Calculus 3	4
PHY-232	Classical Physics 2	4
---	Elective: Social Science/Humanities	3
		<hr/> 17

***Semester 4**

Course No.	Course Title	Credits
EGR-219	Mechanics of Materials	3
EGR-229	Engineering Thermodynamics 1	3
EGR-230	Engineering Thermodynamic Computational Lab	1
ENG-211	Probability & Statistics for Engineers	3
MAT-255	Differential Equations	4
---	Elective: Social Science/Humanities	3
		<hr/> 17

****Mechanical and Industrial Engineering Majors should also enroll in EGR-122, Mechanics 2 (Dynamics) in Semester 4 if possible.**

Computer Science Transfer (CSCI.AS)		
Semester 1		
Course No.	Course Title	Credits
ENG-101	English Composition 1	3
CSC-100	Introduction to Computer Science	4
CSC-111	Introduction to the Java Programming Language	4
MAT-131	Calculus 1	4
---	Elective: Social Science	3
		18
Semester 2		
Course No.	Course Title	Credits
ENG-102	Composition 2: Introduction to Literature	3
PHY-231	Classical Physics 1	4
CSC-112	Intermediate Topics in Java Programming	4
MAT-132	Calculus 2	4
---	Elective: Humanities/Social Science	3
		18
Semester 3		
Course No.	Course Title	Credits
CSC-210	Computer Organization & Digital Logic	4
CSC-220	Data Structures & Algorithms	4
PHY-232	Classical Physics 2	4
MAT-233	Calculus 3	4
---	Elective: Social Science/Humanities	3
		19
Semester 4		
Course No.	Course Title	Credits
MAT-220	Discrete Structures	4
CSE-150 or	Linux Command and Shell Programming or	3
CSE-220 or	Computer and Network Security	
CIT-116	Mobile Programming	3
MAT-240	Linear Algebra	3 (4)
---	Elective: Computer Science, Engineering, or	3
---	Mathematics	
	Elective: Social Science/Humanities	3
		16 (17)

*Computer Science Majors planning on transferring to UMASS, who did not take 4 years of a foreign language in high school, should consider taking two semesters of a foreign language as humanities electives.

**Technical Engineering (TECH.AS)
Tentative Curriculum Fall 2014**

Semester 1

Course No.	Course Title	Credits
ENG-101	English Composition 1	3
MET-180	Computer Apps in Engr. or CAD 1:2D Fundamentals	4
MAT-124or MAT-131	Technical Math 1 or Calculus 1	4
PHY-221 or PHY-231	Physics 1 or Classical Physics 1	4
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Semester 2

Course No.	Course Title	Credits
CHM-101 or CHM-111	Survey of Chemistry 1 or General Chemistry 1	4
ENG-104	Technical Report Writing	3
MAT-125 or MAT-132	Technical Math 2 or Calculus 2	4
PHY-222 or PHY-232	Physics 2 or Classical Physics 2	4
---	Elective: Social Science/Humanities	3
		<hr/> 18

Semester 3

Course No.	Course Title	Credits
CMP-106	Computer Basics: Concepts & Applications	4
or EGR-103	or Computer Apps in Engr.	
ESET-141 & ESET-145	Electric Circuits & Lab	3
or EGR-221 & EGR-225	or Circuit Analysis 1 & Electrical Engr. Lab 1	
CET-245	Statics & Strength of Materials	4
or EGR-121	or Mechanics 1 (Statics)	3
MAT-131or MAT-233	Calculus 1 or Calculus 3	
---	Elective: Math/Science/Technical	3
		<hr/> 17

Semester 4

Course No.	Course Title	Credits
CSC-101, CSC-111 or CSC-100	Intro to Computer Sci. I, Intro. to Java Prog. or Intro. to Computer Sci.	4
ESET-260 &ESET-265	Digital Systems & Lab	4
or EGR-222 & ENGR-427	or Circuit Analysis 2 & Electrical Engr. Lab 2	
CET-246 or EGR-219	Structures or Mechanics of Materials	3
MAT-132or MAT-255	Calculus 2 or Differential Equations	4
---	Elective: Social Science or Humanities	3
		<hr/> 18

Biology (BIOL.AS)
Tentative Curriculum Fall 2014

Semester 1

Course No.	Course Title	Credits
ENG-101	English Composition 1	3
BIO-201	Biology 1	4
CHM-111	General Chemistry 1	4
MAT-131	Calculus 1	4
SOC-101	Intro. to Sociology	3
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Semester 2

Course No.	Course Title	Credits
ENG-102	Composition 2: Introduction to Literature	3
BIO-202	General Biology 2	4
CHM-112	General Chemistry 2	4
MAT-132 or MAT-115	Calculus 2 or Statistics	4
PSY-101	General Psychology	3
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Semester 3

Course No.	Course Title	Credits
CHM-201	Organic Chemistry 1	4
PHY-221	College Physics 1	4
BIO-263	Genetics	4
---	Elective: General Education*	3
---	Elective: Social Science	3
		<hr style="width: 100%; border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> 18

Semester 4

Course No.	Course Title	Credits
CHM-202	Organic Chemistry 2	4
PHY-222	Physics 2	4
---	Elective: Biology**	4
---	Elective: General Education*	3
---	Elective: Humanities	3
		<hr style="width: 100%; border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> 18

*These General Electives must be courses that will transfer into a 4-year biology curriculum. Biology Majors planning on transferring to UMASS, who did not take 4 years of a foreign language in high school, should consider taking two semesters of a foreign language as humanities electives.

**Elective to be selected from: BIO-141, Environmental Biology; BIO-265, Microbiology; BIO-231, Anatomy & Physiology 1; and BIO-265, Cell Biology.

Chemistry (CHEM.AS)		
Semester 1		
Course No.	Course Title	Credits
ENG-101	English Composition 1	3
CHM-111	General Chemistry 1	4
EGR-103	Computer Apps. in Engineering	4
or CSC-100	or Intro. to Computer Science	
MAT-131	Calculus 1	4
---	Elective: Humanities/Social Science*	3
		18
Semester 2		
Course No.	Course Title	Credits
ENG-102	Composition 2: Introduction to Literature	3
CHM-112	General Chemistry 2	4
MAT-132	Calculus 2	4
---	Elective: Math/Science/Technical**	3
---	Elective: Humanities/Social Science*	3
		17
Semester 3		
Course No.	Course Title	Credits
CHM-201	Organic Chemistry 1	4
MAT-233	Calculus 3	4
PHY-221	College Physics 1	4
or PHY-231	or Classical Physics 1***	
---	Elective: Math/Science/Technical**	3
---	Elective: Humanities/Social Science*	3
		18
Semester 4		
Course No.	Course Title	Credits
CHM-202	Organic Chemistry 2	4
MAT-255	Differential Equations	4
PHY-222	Physics 2	4
or PHY-232	or Classical Physics 2***	
---	Elective: Math/Science/Technical**	3
---	Elective: Humanities/Social Science	3
		18

***Chemistry Majors planning on transferring to UMASS, who did not take 4 years of a foreign language in high school, should consider taking two semesters of a foreign language as humanities electives. **Check the curriculum of the school you plan to attend, as well as your advisor, to determine what these electives should be. ***Students intending to transfer to UMass should take PHY-231 and PHY-232.**

Pre-Med/Pre-Dental/Pre-Vet (MDVT.AS)		
Semester 1		
Course No.	Course Title	Credits
ENG-101	English Composition 1	3
BIO-201	Biology 1	4
CHM-111	General Chemistry 1	4
MAT-124	Technical Math 1	4
or MAT-131	or Calculus 1	3
SOC-101	Introduction to Sociology	3
		18
Semester 2		
Course No.	Course Title	Credits
ENG-102	Composition 2: Introduction to Literature	3
BIO-202	General Biology 2	4
CHM-112	General Chemistry 2	4
MAT-125	Technical Math 2	4
or MAT-132	or Calculus 2	3
PSY-101	General Psychology	3
		18
Semester 3		
Course No.	Course Title	Credits
CHM-201	Organic Chemistry 1	4
PHY-221	College Physics 1	4
BIO-263	Genetics	4
---	Elective: General Education*	3
---	Elective: Social Science	3
		18
Semester 4		
Course No.	Course Title	Credits
CHM-202	Organic Chemistry 2	4
PHY-222	Physics 2	4
---	Elective: Biology**	4
---	Elective: Humanities	3
---	Elective: General Education*	3
		18

*Check the curriculum of the school you plan to attend to determine what these electives should be.

**Elective to be selected from: BIO-141, Fundamentals of Environmental Biology; BIO-235, Microbiology; BIO-231, Anatomy & Physiology 1; BIO-265, Cell Biology.

*Pre-Pharmacy (Select Pre-Med or Biology option instead.)		
Semester 1		
Course No.	Course Title	Credits
ENG-101	English Composition 1	3
BIO-201	Biology 1	4
CHM-111	General Chemistry 1	4
MAT-131	Calculus 1	4
---	Elective: Social Science**	3
		18
Semester 2		
Course No.	Course Title	Credits
ENG-102	Composition 2: Introduction to Literature	3
BIO-202	Biology 2	4
CHM-112	General Chemistry 2	4
MAT-132	Calculus 2	4
---	Elective: Social Science**	3
		18
Semester 3		
Course No.	Course Title	Credits
MED-100	Medical Terminology	3
CHM-201	Organic Chemistry 1	4
PHY-221	College Physics 1	4
SOC-101	Introduction to Sociology	3
---	Elective: Social Science or Humanities**	3
		17
Semester 4		
Course No.	Course Title	Credits
BIO-235	Microbiology	4
CHM-202	Organic Chemistry 2	4
PHY-222	Physics 2	4
---	Elective: Social Science or Humanities**	3
---	Elective: General Education***	3
		18

***Due to extreme competition at both the freshmen and transfer level, with no guarantee of transferability, STCC has discontinued this option. However, Students interested in Pre-Pharmacy can complete most of the courses required in the first two years of a pharmacy program by enrolling in the Pre-Med or Biology option.**

****Most Pharmacy schools require ECN-101, Economics 1; HIS-100, Survey of Early Western Civilization; and HIS-101, Survey of Modern Western Civilization, for social science/humanities electives. ***Check the curriculum of the school you plan to attend to determine what this elective should be.**

Mathematics (MATH.AS)		
Semester 1		
Course No.	Course Title	Credits
ENG-101	English Composition 1	3
CHM-111	General Chemistry 1	4
CSCI-111	Intro. to the Java Programming Language	4
MAT-131	Calculus 1	4
---	Elective: Humanities/Social Science*	3
		18
Semester 2		
Course No.	Course Title	Credits
ENG-102	English Composition 2: Introduction to Literature	3
CHM-112	General Chemistry 2	4
MAT-132	Calculus 2	4
PHY-231	Classical Physics 1	4
---	Elective: Humanities/Social Science*	3
		18
Semester 3		
Course No.	Course Title	Credits
MAT-233	Calculus 3	4
PHY-232	Classical Physics 2	4
---	Elective: Math/Science/Technical**	3
---	Elective: Humanities/Social Science*	3
---	Elective: General Education**	3
		17
Semester 4		
Course No.	Course Title	Credits
MAT-255	Differential Equations	4
MAT-240	Linear Algebra	3
MAT-220	Discrete Structures	3
---	Elective: Humanities/Social Science*	3
---	Elective: General Education**	3
		16

*Math Majors planning on transferring to UMASS, who did not take 4 years of a foreign language in high school, should consider taking two semesters of a foreign language as humanities electives.

**Check the curriculum of the school that you plan to attend to determine what these electives should be.

Physics (PHYS.AS)		
Semester 1		
Course No.	Course Title	Credits

Physics (PHYS.AS)		
Semester 1		
Course No.	Course Title	Credits
ENG-101	12 English Composition 1	3
CHM-111	General Chemistry 1	4
CSCI-111	Intro. to the Java Programming Language	4
MAT-131	Calculus 1	4
---	Elective: Humanities/Social Science*	3
		<hr/> 18
Semester 2		
Course No.	Course Title	Credits
ENG-102	English Composition 2: Introduction to Literature	3
CHM-112	General Chemistry 2	4
MAT-132	Calculus 2	4
PHY-231	Classical Physics 1	4
---	Elective: Humanities/Social Science*	3
		<hr/> 18
Semester 3		
Course No.	Course Title	Credits
MAT-233	Calculus 3	4
PHY-232	Classical Physics 2	4
---	Elective: Math/Science/Technical**	3
---	Elective: Humanities/Social Science*	3
---	Elective: General Education**	3
		<hr/> 17
Semester 4		
Course No.	Course Title	Credits
MAT-255	Differential Equations	4
PHYS-332	University Physics 3	4
---	Elective: Math/Science/Technical**	3
---	Elective: Humanities/Social Science*	3
---	Elective: General Education**	3
		<hr/> 17

*Physics Majors planning on transferring to UMASS, who did not take 4 years of a foreign language in high school, should consider taking two semesters of a foreign language as humanities electives.

**Check the curriculum of the school that you plan to attend to determine what these electives should be.