General Education: Science, Technology, Engineering and Mathematics (STEM)

15 credits required: 4 credits (minimum) from Mathematics & 7 credits (minimum) from Science 2021-2022

Students must take a minimum of **15** credits in STEM following these requirements:

- A minimum of 4 credits are required from the Mathematics list
- Complete at least two courses in two different disciplines (different course prefixes) from the Science list
 - Minimum of 7 Science credits required
 - at least one of the Science courses must include or be taken with the accompanying laboratory
- No more than 4 credits from the Restricted STEM list may be counted toward the STEM requirement

 Output

 Description:

 Output
- Some courses are on the STEM list and the HASS list, but each course can satisfy only one requirement

Some degree programs specify some or all STEM requirements; students should check with their academic advisor for specific requirements

Mathematics

Minimum of 4 credits required

BUS2300	Quantitative Problem Solving	3
MA1020	Quantitative Literacy	4
MA1030	College Algebra I and	
MA1031	College Algebra II with Trigonometry	6
MA1032	Precalculus	4
MA1120	Single-Variable Calculus with Integrated	
	Precalculus I	4
MA1135	Calculus for Life Sciences	4
MA1160	Calculus with Technology I	4
MA1161	Calculus Plus with Technology I	5
MA2720	Statistical Methods	4
PSY2720	Statistics for the Behavioral Sciences	4
SS4010	Social Statistics	3

Science

- At least two courses in two different disciplines are required; at least one must include or be taken with the accompanying laboratory
- Courses or course-groups satisfying the laboratory requirement are designated by an asterisk (*)
- Minimum of 7 credits required

BL1020* General Biology II 4 BL1040* Principles of Biology 4 BL1100* General Biology I (plus BL1110**) 4 BL1200* General Biology II (plus BL1210**) 4 BL1400* Principles of Biology (plus BL1410**) 4 BL2010* Anatomy & Physiology I (plus BL2011) 4 BL2160* Botany 4 BL2940 Human Nutrition 3 BL3970 Current Health Issues 3 BL4090 Tropical Island Biology 2 CH1000 Introductory Chemistry 3 CH1112* University Chemistry - Studio Lab I 5 CH1150* University Chemistry I (plus CH1151/1153) 4/5 FW1035* Wood Anatomy and Properties 4	BL1010*	General Biology I	4
BL1100* General Biology I (plus BL1110**) 4 BL1200* General Biology II (plus BL1210**) 4 BL1400* Principles of Biology (plus BL1410**) 4 BL2010* Anatomy & Physiology I (plus BL2011) 4 BL2160* Botany 4 BL2940 Human Nutrition 3 BL3970 Current Health Issues 3 BL4090 Tropical Island Biology 2 CH1000 Introductory Chemistry 3 CH1112* University Chemistry – Studio Lab I 5 CH1150* University Chemistry I (plus CH1151/1153) 4/5 FW1035* Wood Anatomy and Properties 4	BL1020*	General Biology II	4
BL1200* General Biology II (plus BL1210**) 4 BL1400* Principles of Biology (plus BL1410**) 4 BL2010* Anatomy & Physiology I (plus BL2011) 4 BL2160* Botany 4 BL2940 Human Nutrition 3 BL3970 Current Health Issues 3 BL4090 Tropical Island Biology 2 CH1000 Introductory Chemistry 3 CH1112* University Chemistry – Studio Lab I 5 CH1150* University Chemistry I (plus CH1151/1153) 4/5 FW1035* Wood Anatomy and Properties 4	BL1040*	Principles of Biology	4
BL1400* Principles of Biology (plus BL1410**) 4 BL2010* Anatomy & Physiology I (plus BL2011) 4 BL2160* Botany 4 BL2940 Human Nutrition 3 BL3970 Current Health Issues 3 BL4090 Tropical Island Biology 2 CH1000 Introductory Chemistry 3 CH1112* University Chemistry – Studio Lab I 5 CH1150* University Chemistry I (plus CH1151/1153) 4/5 FW1035* Wood Anatomy and Properties 4	BL1100*	General Biology I (plus BL1110**)	4
BL2010* Anatomy & Physiology I (plus BL2011) 4 BL2160* Botany 4 BL2940 Human Nutrition 3 BL3970 Current Health Issues 3 BL4090 Tropical Island Biology 2 CH1000 Introductory Chemistry 3 CH1112* University Chemistry – Studio Lab I 5 CH1150* University Chemistry I (plus CH1151/1153) 4/5 FW1035* Wood Anatomy and Properties 4	BL1200*	General Biology II (plus BL1210**)	4
BL2160* Botany 4 BL2940 Human Nutrition 3 BL3970 Current Health Issues 3 BL4090 Tropical Island Biology 2 CH1000 Introductory Chemistry 3 CH1112* University Chemistry – Studio Lab I 5 CH1150* University Chemistry I (plus CH1151/1153) 4/5 FW1035* Wood Anatomy and Properties 4	BL1400*	Principles of Biology (plus BL1410**)	4
BL2940 Human Nutrition 3 BL3970 Current Health Issues 3 BL4090 Tropical Island Biology 2 CH1000 Introductory Chemistry 3 CH1112* University Chemistry – Studio Lab I 5 CH1150* University Chemistry I (plus CH1151/1153) 4/5 FW1035* Wood Anatomy and Properties 4	BL2010*	Anatomy & Physiology I (plus BL2011)	4
BL3970Current Health Issues3BL4090Tropical Island Biology2CH1000Introductory Chemistry3CH1112*University Chemistry – Studio Lab I5CH1150*University Chemistry I (plus CH1151/1153)4/5FW1035*Wood Anatomy and Properties4	BL2160*	Botany	4
BL4090Tropical Island Biology2CH1000Introductory Chemistry3CH1112*University Chemistry – Studio Lab I5CH1150*University Chemistry I (plus CH1151/1153)4/5FW1035*Wood Anatomy and Properties4	BL2940	Human Nutrition	3
CH1000 Introductory Chemistry 3 CH1112* University Chemistry – Studio Lab I 5 CH1150* University Chemistry I (plus CH1151/1153) 4/5 FW1035* Wood Anatomy and Properties 4	BL3970	Current Health Issues	3
CH1112* University Chemistry – Studio Lab I 5 CH1150* University Chemistry I (plus CH1151/1153) 4/5 FW1035* Wood Anatomy and Properties 4	BL4090	Tropical Island Biology	
CH1150* University Chemistry I (plus CH1151/1153) 4/5 FW1035* Wood Anatomy and Properties 4	CH1000	Introductory Chemistry	3
FW1035* Wood Anatomy and Properties 4	CH1112*	University Chemistry – Studio Lab I	5
	CH1150*	University Chemistry I (plus CH1151/1153)	4/5
FW2010* Vagatation of North America	FW1035*	Wood Anatomy and Properties	4
rwzu iu vegetation of North America 4	FW2010*	Vegetation of North America	4

Science cont'

FVV2000	Fundamentals of Environmental Sustainability	3
FW3075	Introduction to Biotechnology	3
FW3330*	Soil Science	4
FW3610*	Ornithology	4
FW3620	Field Ornithology	1
FW4120	Tree Physiology	3
FW4128	Conservation Genetics	3
FW4240*	Mammalogy	4
FW4260*	Population Ecology	3
GE2000*	Understanding the Earth	3
KIP3100*	Exercise Assessment and Prescription	3
KIP3700*	Lifetime Fitness	3
PH1090*	The Physics Behind Music (plus PH1091**)	4
PH1110*	College Physics I (plus PH1111)	4
PH1140*	Applied College Physics I (plus PH1141)	4
PH1160*	Honors Physics I-Mechanics (plus PH1161 or PH1100)	5
PH1600*	Introductory Astronomy (plus PH1610**)	3
PH2100*	University Physics I-Mechanics (plus PH1100)	4
SS3221*	Archaeological Sciences (plus SS3222)	4

Fundamentals of Environmental Sustainability

Restricted STEM

RI 1020

No more than 4 credits

General Biology II

 No course may count in a degree audit toward both STEM and HASS requirements

DL 1020	General biology II	4
BL1200	General Biology II	3
CH1122	University Chemistry Studio Laboratory II ***	5
CH1160	University Chemistry II (plus CH1161/1163) ***	4/5
CMG1000	Introduction to Construction Management	3
CS1121	Introduction to Programming I	3
CS1122	Introduction to Programming II	3
CS1131	Accelerated Introduction to Programming ***	5
CS1142	Programming at the Hardware Software Interface	3
EC3002	Microeconomic Theory	3
EC4050	Game Theory/Strategic Behavior	3 5 3 3 3 3 4
EC4100	Mathematical Economics	3
EC4200	Econometrics	3
EET1120	Circuits I	4
EET1411	Basic Electronics	4
ENG1001	Engineering Problem Solving	2
ENG1003	Introduction to Computer Aided Drafting	1
ENG1100	Engineering Analysis	2
ENG1101	Engineering Analysis and Problem Solving	3
ENG1102	Engineering Modeling and Design	3
HU3700	Philosophy of Science	3
HU3701	Philosophy of Technology	3
KIP1500	Foundations of Kinesiology	3
MIS2100	Introduction to Business Programming	3
PH1210	College Physics II (plus PH1200)	4
PH1360	Honors Physics II (plus PH1361)	1 2 3 3 3 3 3 4 3 3
PSY3060	Physiological Psychology	3

4

^{**}This laboratory is optional with the associated course. If the laboratory is not taken, the associated course can count as a Science course, but it will not satisfy the laboratory portion of the requirement.

Restricted STEM cont' 3 SAT1700 Cyber Ethics SND4120 Transducer Theory 3 SND4121 Transducer Theory Lab 1 SS2050 Fundamentals of GIS 3 3 SS2200 Introduction to Archaeology SS3210 Field Archaeology var SS3230 Archaeology of Industry 3 SS3250 Biological Anthropology 3 SS3510 History of American Technology 3 SS3511 History of Science in America 3 Technology and Western Civilization 3 SS3580 Ethical, Legal, and Societal Implications (ELSI) SS3820 3 of Nanotechnology Survey Methods 3 SS4009 3 GIS Applications for Social Science SS4050 Drafting for the Entertainment Industry 3 THEA2310

Any course at the 2000-level or higher in the following STEM disciplines (with the exceptions of BE2100, CM3410, ENG2060, ENG3060, ENG4060, and ENG4070):

Biological Sciences (BL), Chemistry (CH), Computer Science (CS), Engineering (BE, CE, CEE, CM, EE, ENG, ENVE, GE, MEEM, MY, MSE, SSE), Forest Resources and Environmental Science (FW), Geological Sciences (GE), Kinesiology (KIP), Mathematics (MA), Physics (PH), Technology (EET, MET, SAT, SU, TE)

APPROVED TRANSFER COURSES

The following courses are available ONLY by transfer.

<u>Mathematics</u>		
MA1XXX	Approved Transfer STEM Math Elective	var
Science		
BL1XXX	Approved Transfer Science-Biology	var
BL2XXX	Approved Transfer Science-Biology	var
BLL1XXX*	Approved Transfer Lab Science-Biology	var
BLL2XXX*	Approved Transfer Lab Science-Biology	var
CH1XXX	Approved Transfer Science-Chemistry	var
CH2XXX	Approved Transfer Science-Chemistry	var
CHL1XXX*	Approved Transfer Lab Science-Chemistry	var
CHL2XXX*	Approved Transfer Lab Science-Chemistry)	var
FW1XXX	Approved Transfer Science-Forestry	var
FW2XXX	Approved Transfer Science-Forestry	var
FWL1XXX*	Approved Transfer Lab Science-Forestry	var
FWL2XXX*	Approved Transfer Lab Science-Forestry	var
GE1XXX	Approved Transfer Science-Geology/Mining	var
GE2XXX	Approved Transfer Science-Geology/Mining	var
GEL1XXX*	Approved Transfer Lab Science-Geology/Mining	var
GEL2XXX*	Approved Transfer-Lab Science-Geology/Mining	var
KIP1XXX	Approved Transfer Science-Kinesiology	var
KIP2XXX	Approved Transfer Science-Kinesiology	var
KIPL1XXX*	Approved Transfer Lab Science-Kinesiology	var
KIPL2XXX*	Approved Transfer Lab Science-Kinesiology	var
PH1XXX	Approved Transfer Science-Physics	var
PH2XXX	Approved Transfer Science-Physics	var
PHL1XXX*	Approved Transfer Lab Science-Physics	var
PHL2XXX*	Approved Transfer Lab Science-Physics	var
SCI1XXX	Approved Transfer Science	var
SCI2XXX	Approved Transfer Science	var
SCIL1XXX*	Approved Transfer Lab Science	var
SCIL2XXX*	Approved Transfer Lab Science	var

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^{***}A maximum of 4 credits will count toward STEM requirements