MATHEMATICS, B.S. (HARRIS-STOWE STATE UNIVERSITY) AND AEROSPACE ENGINEERING, B.S. DUAL DEGREE

The Mathematics, B.S. and Aerospace Engineering, B.S Dual Degree program will allow qualified students the opportunity to earn two bachelor's degrees, one at Harris-Stowe State University (HSSU) and one at Saint Louis University (SLU). Students will start their program at HSSU, then take courses at both institutions before earning the bachelor's at HSSU, and then their second bachelor's at SLU.

For additional information, see the catalog entries for the following SLU programs:

Harris-Stowe State University Mathematics, B.S. (https://go.hssu.edu/ae/aefiles/53/HSSU_2022-2024_Bulletin_FINAL_for_Online.pdf)

Aerospace Engineering, B.S. (https://catalog.slu.edu/colleges-schools/science-engineering/aerospace-mechanical/aerospace-engineering-bs/)

Requirements

Student Requirements

Students must complete Calculus I with a grade of C or better at HSSU prior to enrolling in courses at SLU. HSSU must apply to this program through the HSSU dual enrollment process.

After successfully completing any prerequisite courses, HSSU students may enroll in SLU courses as visiting inter-university students prior to applying to SLU as degree-seeking students.

Students should apply to SLU as degree-seeking students after completing a minimum of 90 credits of the bachelor's degree at HSSU (including any Inter-University courses at SLU). Students will apply to SLU through the standard admission procedures. Students with a HSSU grade point average of 2.70 or higher will be guaranteed admission into SLU. SLU will waive all application fees and not require a tuition deposit.

Transfer Credit

All courses with a grade of C or higher, and their associated credits, outlined in the approved roadmap accepted toward the bachelor's degree at HSSU will be accepted toward the bachelor's degree at SLU.

All courses outside the Program Plan will be articulated through standard procedures at SLU.

Non-Course Requirements

All School of Science and Engineering B.A. and B.S. students must complete an exit interview/survey near the end of their bachelor's program.

Roadmap

Harris Stowe State University, Mathematics, B.S.

Transfer Course	Transfer Course Title	Transfer Course Credits	Equivalent SLU Course	Equivalent SLU Credits
Year One, Fall				
MATH 0135	College Algebra (1st 8 weeks)	3	MATH 1200 College Algebra	3
MATH 0140	Trigonometry (2nd 8 weeks)*	3	MATH 1400 Pre-Calculus	3
HSSU 0100	Seminar in Higher Education	1	UNIV 1ELE	1
ENG 0110I	English Comp. I	3	ENGL 1500 The Process of Composition	3
POSC 0200	American Government Survey*	3	POLS 1100 Introduction to American Government	3
HIST 0143 or HIST 0144	United States History 1 or 2*	3	HIST 1600 History of the United States to 1865 or HIST 1610 History of the United States since 1865	3
Year One, Spring				
MATH 0170	Calculus I*	5	MATH 1510 Calculus I	5
MATH 0190	Problem Solving Seminar	1	MATH 2690 Mathematical Problem Solving	1
MUS 0206	Basic Music*	3	MUSC 1000 Approaching the Arts: Music	3
ENG 0110II	English Comp. II*	3	ENGL 1900 Strategies of Rhetoric and Research	3
CSC 0160	Introduction to Computing	3	CSCI 1ELE Introduction to Computing	3
Year Two, Fall				
MATH 0241	Calculus II*	5	MATH 1520 Calculus II	5
PHY 0253	Physics	3	PHYS 1610 University Physics I	3

PHY 0252	Physics Lab	2	PHYS 1620 University Physics I Laboratory	2
MATH 0250	Data Analysis and Statistics*	3	STAT 1100 Introduction to Statistics	3
LANG 0100	Basic Conversational Foreign Language	1	MLNG 1ELE Basic Conversational Foreign Language	1
MATH 0255	Intro Statistics Lab	1	MATH 1ELE Intro Statistics Lab	1
Year Two, Spring				
MATH 0242	Calculus III*	5	MATH 2530 Calculus III	5
MATH 0201	Discrete Math I	3	MATH 1660 Discrete Mathematics	3
SPCH 0109	Intro to Public Speaking*	3	CMM 1200 Public Speaking	3
GEOG 0200	Principles of Geography*	3	SOC 1180 World Geography	3
Year Three, Fall				
MATH 0356	Linear Algebra I	3	MATH 3110 Linear Algebra for Engineers	3
MATH 03XX/04XX	Upper-level Math course	3	Elective	3
CHEM 0255	Chemistry Lecture*	3	CHEM 1110 General Chemistry I	3
CHEM 0256	Chemistry Lab	2	CHEM 1115 General Chemistry I Lab	2
HIST 0213 or HIST 0214	World History 1 or 2*	3	HIST 1110 Origins of the Modern World to 1500 or HIST 1120 Origins of the Modern World 1500 to Present	3
			COURSE at SLU	1-3
Year Three, Spring				
MATH 0320	Modern Algebra	3	MATH 4110 Intro to Abstract Algebra	3
MATH 0361	Diff. Equations	3	MATH 3550 Differential Equations	3
MATH 03XX/ MATH 04XX	Upper-level Math course	3	Elective	3
MATH 0205	Intro to MATLAB	2	MATH 2ELE Intro to Matlab	2
PHIL 0101 or PHIL 0102	Philosophy or Ethics*	3	PHIL 1050 Introduction to Philosophy: Self and Reality or PHIL 2050 Ethics	3
			COURSE at SLU	1-3
			TOTAL CREDITS:	**90-94**

* HSSU course that meets SLU Undergraduate University Core attribute

Aerospace Engineering, B.S.

Course	Title	Credits
Year Three		
Fall		
SE 1700 & SE 1701	Engineering Fundamentals and Engineering Fundamentals Studio	3
	Credits	**3**
Spring		
AENG 2020	Introduction to Aero and Astro Engineering	1
	Credits	**1**
Year Four		
Fall		
MENG 1011	Prototyping	1
CORE 1500	Cura Personalis 1: Self in Community	1
PHYS 1630 & PHYS 1640	University Physics II and University Physics II Laboratory †	4
MENG 2100X	Statics	3
CORE 1600	Ultimate Questions: Theology †	3
ECE 1100	Electrical Engineering 101	2
	Credits	**14**
Spring		
ECE 1200	Computer Engineering 101	2
CORE 2500	Cura Personalis 2: Self in Contemplation	0
CORE 1700	Ultimate Questions: Philosophy	3
CSCI 1060	Introduction to Computer Science: Scientific Programming	3
MENG 2150	Dynamics	3
MENG 2310	Thermodynamics †	3

MENG 3105	Mechanics of Solids †	3
	Credits	**17**
Year Five		
Fall		
MENG 3110	Linear Vibrations †	3
MENG 3111	Mechanics Laboratory †	1
MENG 3200	Fluid Dynamics †	3
MATH 3270	Advanced Mathematics for Engineers †	3
MENG 3510X	Materials Science	3
Tech Elective		3
	Credits	**16**
Spring		
AENG 3410	Analysis and Control of Linear Systems †	3
AENG 3000	Performance	3
AENG 3150	Astrodynamics	3
AENG 3230	Compressible Flow	3
CORE 2800	Eloquentia Perfecta 3: Creative Expression	3
Tech Elective		3
	Credits	**18**
Year Six		
Fall		
AENG 3050	Design of Space Missions	3
AENG 3240	Aerodynamics and Boundary Layer Flow	3
AENG 4004	Flight Vehicle Analysis and Design I †	3
AENG 4111	Aerospace Laboratory	1
AENG 4210	Propulsion	3
AENG 4400	Stability and Control	3
	Credits	**16**
Spring		
AENG 4014	Flight Vehicle Analysis and Design II	3
CORE 4500	Reflection-in-Action	0
AENG 4110	Flight Vehicle Structures	3
Tech Elective		3
CORE	Eloquentia Perfecta 4: Writing Intensive	3
	Credits	**12**
	Total Credits	**97**

† Potential courses to reverse transfer to HSSU to complete the Mathematics, B.S.