



Sample 4-year Guided Pathway for **Bachelor of Science in Biotechnology Engineering**
 Academic Catalog Requirements **2019-2020**

This is **ONLY** a sample degree pathway. Please meet with an academic advisor prior to registration to formulate your own plan, and for additional information refer to the [academic degree requirements](#).

Year	Fall Semester	Spring Semester
1st	MATH 2214 Calculus I (GE QA&SR)* 3	GE H&P 3
	GE WC&IL I* 3	GE WC&IL II 3
	ENGE 1000 Introduction to Engineering (GE CT&E) 3	MATH 2215 Calculus II 3
	CHEM 2050 General Chemistry I (GE NW) 3	MATH 3307 Differential Equations 3
	CHEM 2051 General Chemistry I Lab 1	ENVS 2000 Principles of Environmental Science 3
	Total Credits 13	Total Credits 15

Year	Fall Semester	Spring Semester
2nd	MATH 2216 Calculus III 3	BIOL 2052 General Biology II 4
	PHYS 2050 General Physics I 3	BIOL 2053 General Biology II Lab 1
	PHYS 2051 General Physics I Lab 1	ENGE 2003 Bioengineering Signals & Systems 3
	BIOL 2050 General Biology I 4	ENGT 2001 Biomaterials 3
	BIOL 2051 General Biology I Lab 1	ENGT 2002 Bioprocesses 3
	ENGE 2000 Linear Circuits & Systems 3	
	ENGE 2001 Linear Circuits & Systems Lab 1	
	Total Credits 16	Total Credits 14

Year	Fall Semester	Spring Semester
3rd	MATH 3305 Linear Algebra 3	GE AE 3
	BIOL 3170 Cell & Molecular Biology 3	ENGB 3001 Bioengineering Thermodynamics 3
	BIOL 3171 Cell & Molecular Biology Lab 1	GE CT&E 3
	ENGT 3000 Engineering Design Project I 3	ENGT 3001 Engineering Design Project II 3
	ENGT 3002 Analytical Biotechnology for Engineers 3	ENGB 2004 Bioinstrumentation Lab 1
	Restricted Elective 3	ENGE 4500 Research I 3
	Total Credits 16	Total Credits 16

Year	Fall Semester	Spring Semester
4th	GE SW 3	GE Creative Arts 3
	GE GC&D 3	MATH 3470 Applied Statistics 3
	GE T&M 3	Major Elective 3
	Major Elective 3	Major Elective 3
	ENGE 4600 Research II 3	ENGE 4700 Research III 3
	Total Credits 15	Total Credits 15

**This schedule is only a suggestion; make sure you understand the necessary prerequisites for each course and consult with your Academic Advisor. Course availability subject to change; actual degree audits may change depending on course availability in a given semester.

**If you were placed into foundational Writing and Mathematics courses based on your placement and/or test scores, please consult with your academic advisor to develop a degree plan.*

Baccalaureate Requirements

- Total Degree Credits Required = 120 credits of which a minimum of 36 are Upper-Division Credits (level 3000 and above)
- Completion of Major Requirements (*as indicated above*)
- Completion of General Education Requirements (*as indicated above*)
- Cumulative GPA of at least 2.0; Major GPA of at least 2.0
- Residency Requirements: 12 credits of major course work and the last 30 credits immediately preceding graduation (*Service member's Opportunity College students please see your academic advisor*)

Program-Specific Requirements

- The total Credit Point count for the Program complies with University requirements at HPU. The total for this Program is: **120**.
- The General Education Credit Point count for the Program complies with University requirements at HPU. GE Total Credit Point for this program is: **27** (9 x 3), excluding (3 x 3); **this number excludes 9 counted as core**
- The Credit count for Basic Math & Science for the Program complies with ABET Accreditation requirements of 1 out of 4 years (equivalent to 30 credits). The total is: **46**
- The Credit count for Engineering (including Computer Science) for the Program complies with ABET Accreditation requirements of 1.5 out of 4 years (equivalent to 45 credits). The total is: **47**
- There are no unrestricted electives for this Program in order to meet ABET accreditation requirements and enable required Core and Elective subject offerings specific to Biotechnology Engineering.
- Research series (I, II, & III) can be either an extension of the Design Project, or relevant industry work such as an internship or a supervised project work under a CNCS faculty.

General Education Curriculum

Academic Catalog 2018-2019

This is a general education worksheet that illustrates our general education curriculum requirements for any of our Bachelor's degree programs. Please utilize this worksheet in addition to the Sample Guided Pathways to identify the GE categories and their offerings.

Hawaii & the Pacific (GE H&P)		Quantitative Analysis & Symbolic Reasoning (GE QA&SR)	
AL 1050	Languages in the Pacific	CSCI 1534	Data Analysis and Visualization
ANTH 1500	Contemporary Social Activism in Hawaii	MATH 1120	How Numbers Shape Our Lives
ARTH 1001	Arts of Oceania	MATH 1123	Statistics
BIOL 2170	Ethnobotany: People and Plants	MATH 1130	Pre-Calculus I
ENG 1101	Representations of Pacific Life	MATH 1150	Pre-Calculus I & II
HAWN 1100	Beginning Hawaiian I	MATH 2214	Calculus I
HIST 1558	Living History of Hawaii	PHIL 2090	Principles of Logic
PHIL 1001	Philosophies of Hawaii & the Pacific	PSY 1100	Probabilistic Thinking

Written Communication & Information Literacy I (GE WC&IL 1)		Written Communication & Information Literacy II (GE WC&IL 2)	
WRI 1100	Writing and Analyzing Arguments	WRI 1200	Research, Argument & Writing
WRI 1150	Literature & Argument	WRI 1250	Introduction to Research in the Humanities

American Experience (GE AE)		Creative Arts (GE CA)	
AMST 2000	Topics in American Studies	ARTH 2301	World Art History
HIST 1401	American Stories: Themes in American Hist. to 1877	ARTS 1000	Intro. to Visual Arts
HIST 1402	The American Experience: 1865 to Present	ARTS 2150	Intro. to Design
HUM 1270	Intro. to Gender & Women's Studies	ENG 2000	The Art of Literature
PADM 1000	Intro. to Leadership in America	MUS 1000	Intro. to Classical Music
PHIL 2500	Ethics in America	MUS 2101	Music in World Culture
PSCI 1400	The American Political System	THEA 2320	Acting I: Basic Acting for Stage & Screen
SOC 1000	Introduction to Sociology	WRI 2601	Intro. to Creative Writing

Critical Thinking & Expression (GE CT&E)		Global Crossroads & Diversification (GE GC&D)	
COM 1000	Intro. to Communication Skills	AL 2000	Intro. to Linguistics
COM 2000	Public Speaking	ANTH 2000	Cultural Anthropology
ECON 2010	Principles of Microeconomics	GEOG 1500	World Regional Geography
ENG 2100	Ways of Reading: Film, Literature & Culture	HIST 1002	Global Crossroads: 1500 to Present
GEOG 2000	Visual Human Geography	INTR 1000	The International System
HIST 1717	Reacting to the Past	MULT 2000	Global Cinema Studies
PH 1300	Public Health Ethics	PH 2060	Comparative Healthcare Systems
PSY 1000	Intro. to Psychology	REL 1000	Intro. to World Religions

Natural World (GE NW)		Sustainable World (GE SW)	
BIOL 1000	Intro. Biology	AQUA 1200	Global Aquaculture for Food Security & Conservation
BIOL 1300	Nutrition: Eat Smarter	ARTS 1003	Sustainable Art & Design
CHEM 1000	Intro. Chemistry	BIOL 1500	Conservation Biology
CHEM 2050	General Chemistry	ENVS 1000	The Sustainability Challenge
GEOG 1000	Intro to Physical Geography	ENVS 1030	Tropical Ecology & Sustainability
GEOL 1000	The Dynamic Earth	MARS 1500	Marine Biology and the Global Ocean
MARS 1000	Intro. Oceanography	SWRK 2010	Social Sustainability, Social Work & Entrepreneurship
PHYS 1020	Astronomy		

Technology & Innovation (GE T&I)		Traditions & Movements that Shape the World (GE T&M)	
CSCI 1041	Digital Literacy in a Global Society	AL 1100	Language, Power, and Identity
CSCI 1061	Mobile Technologies for the 21 st Century	CLST 1000	Great Books East and West
CSCI 1611	A Gentle Intro. to Programming	ECON 2015	Principles of Macroeconomics
ENGE 1000	Intro. to Engineering Syst. & Pro. Practice	ENG 2500	World Literature
HIST 2630	The History of Science & Technology	HIST 1001	Traditions & Encounters: World Cultures to 1500
MATH 1234	Intro. to Cryptology	PH 1200	Intro. to Public Health Professions
MIS 2000	Information Tools for Business	PSCI 2000	Intro. to Politics
MULT 1100	Foundations of Multimedia Production	SOC 2600	Peace Studies

For more information on our General Education curriculum please refer to our Academic Catalog or you may refer here:
http://www.hpu.edu/FacultyAssembly/General_Education_Curriculum_and_Learning_Assessment_Committee.html