

BS Astrophysics Required Course Map

Sequence of required mathematics and science courses to achieve graduation in 4 years.

Graduation requires 120 total credit hours with a minimum 45 credits of upper division course work.

CHEMISTRY PLACEMENT	MATH PLACEMENT EXAM
CHEM 131 Prep Chemistry	MATH 134 Precalculus MATH 140 Precalculus Trig

ADVANCED PLACEMENT OR EXEMPTIONS WITH HIGH SCHOOL AP EXAMS

details: www.manoa.hawaii.edu/admissions/undergrad/pdf/AP.pdf

SUMMER MATH BOOTCAMP algebra and trigonometry refresher offerings
www.hawaii.edu/natsci/mathbootcamp.html

MATH placement exam info
math.hawaii.edu/wordpress/placement-exam

CHEMISTRY placement exam info
manoa.hawaii.edu/chem/academics/undergraduate/placement-exam

Semester	Chemistry	Math	Physics	Astronomy	Other
FALL 1	CHEM 161/L General Chemistry I	MATH 241 Calculus I	Foundations requirement to be fulfilled during the first year http://www.catalog.hawaii.edu/corerequirements/core-req.htm http://www.hawaii.edu/gened/foundations_FWcollection.htm		
SPRING 1	CHEM 162/L General Chemistry II	MATH 242 Calculus II	PHYS 170/L General Physics I	1 FW: Written Communication or FW collection option 1 FS: Symbolic Reasoning: satisfied by Math 241 2 FG: Global and Multicultural Perspectives	
FALL 2	Diversification & Second Language Requirements* 2 courses (DA, DH, DL) ARTS, HUMANITIES, & LITERATURE	MATH 243 Calculus III	PHYS 272/L General Physics II	ASTR 241 Astrophysics I	F
SPRING 2		MATH 244 Calculus IV	PHYS 274/L General Physics III	ASTR 242 Astrophysics II	S
FALL 3	2 courses (DS) SOCIAL SCIENCE	MATH 311 Linear Algebra	PHYS 310 Theoretical Mechanics I	PHYS 350 E & M	ASTR 300/L Observational Astro
SPRING 3		1 course (DB) BIOLOGICAL SCIENCE		PHYS 311 Theoretical Mechanics II	PHYS 450 EM Waves
FALL 4	4 courses HAWAIIAN or SECOND LANGUAGE (101,102, 201, 202)	PHYS 400 Applications of Math	1 Elective PHYS 460	PHYS 480 Quantum Mechanics I	ASTR 426 or 430
SPRING 4			OR PHYS 481 or 490	PHYS 485 Professional Ethics	ASTR 423 Stellar Astrophysics

F: only offered in Fall Semesters

S: only offered in Spring semesters

Req: prerequisite

* Diversification requirements: <http://www.catalog.hawaii.edu/corerequirements/diversification.htm>

Hawaiian or Second Language requirements: <http://www.catalog.hawaii.edu/corerequirements/hsl.htm>

Second language placement exam: check with specific language department