

Bachelor of Science in Natural Science, Applied Mathematics

The goal of academic advising is to further enhance the educational mission of the university, and create quality, accessible advising partnerships with all students in a positive environment that supports student success. This advising sheet is for tracking purposes toward degree completion and is subject to change. Students also may track their academic progress via STAR Degree Check through www.star.hawaii.edu. Academic Advising appointments may be scheduled by calling [808-689-2689](tel:808-689-2689) or toll-free from neighbor islands at [866-299-8656](tel:866-299-8656).

Graduation Requirements (see the 2023-24 catalog for any additional graduation requirements):

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| <input type="checkbox"/> 45 Upper Division Credits Minimum | <input type="checkbox"/> 3 Upper Division Writing Intensive Courses | <input type="checkbox"/> 2.0 UHWO GPA |
| <input type="checkbox"/> 120 Total Credits Minimum | <input type="checkbox"/> Focus Requirements (OC, HAP, ETH) | <input type="checkbox"/> 2.0 CONCENTRATION GPA |
| <input type="checkbox"/> 30 UHWO Credits | | |

*Note: Some courses may be applied more than once to fulfill General Education, Core, or Concentration Requirements. Double counted courses do not reduce the number of credits required for the concentration. Students are still responsible for meeting the minimum number of credits in the concentration and the overall total credits for graduation

General Education Requirements: 31 credits (21 credits *see note above)

Credits	Course Alpha / Number / Title
3	Foundations Written Communications (FW) ENG 100 Composition I
0*	Foundations of Quantitative Reasoning (FQ) MATH 241 Calculus I
6	Foundations Global and Multicultural Perspectives (FG): 6 credits from two different groups (A, B, C): *Group A: Primarily before 1500 CE (e.g., HIST 151 or ANTH 151) *Group B: Primarily after 1500 CE (e.g., HIST 152 or ANTH 152) *Group C: Pre-history to present
6	Diversification Arts, Humanities & Literature (DA, DH, DL): 6 credits from two different areas (<i>recommended HAP and OC Focus</i>)
3	Diversification Social Sciences (DS): 6 credits from two different areas
3	Diversification Social Sciences (DS): Different area from above.
0*	Diversification Natural Sciences (DB, DP, DY): 3 credits from the biological sciences (DB): BIOL 171
0*	3 credits from the physical sciences (DP): CHEM 161
0*	1 credit of laboratory (DY): CHEM 161L

Writing Skills Requirement: 3 credits

Credits	Course Alpha / Number / Title
3	ENG 200 Composition II (with a C- or higher)

Natural Science Core Requirements: 41 credits

*10 credits in the NS Core Requirement will also fulfill General Education Requirements

Credits	Course Alpha / Number / Title
4	CHEM 161/ 161 L General Chemistry I and Lab (<i>will satisfy general ed DP/DY above</i>) Prerequisite: Placement into ENG 100 or concurrent enrollment in ENG 100T and MATH 103 with a C or higher or concurrent enrollment in MATH 241
4	CHEM 162/ 162 L General Chemistry II and Lab Prerequisite: CHEM 161 with a C or higher
4	MATH 241 Calculus I (<i>will satisfy general ed FQ above</i>) Prerequisite: Grade of "C" or better in MATH 140 or equivalent; or placement into MATH 241
4	MATH 242 Calculus II Prerequisite: Grade of "C" or better in MATH 241 or equivalent; or placement into MATH 242
4	PHYS 151/ 151L College Physics I and Lab or PHYS 170/ 170 L General Physics I and Lab Prerequisite: MATH 140 with a C or better, or Math 241 with a C or better or concurrent with Math 241
4	PHYS 152/ 152 L College Physics II and Lab or PHYS 272/ 272 L General Physics II and Lab Prerequisite: PHYS 151/151L with a C or better, or PHYS 170/170L with a C or better and Math 242 with a C or better or concurrent with Math 242
4	BIOL 171/ 171L Introduction to Biology I and Lab (<i>will satisfy general ed DB above</i>) Prerequisite: Completion of or concurrent enrollment in either CHEM 151 or 161

Credits	Course Alpha / Number / Title
4	BIOL 172/ 172L Introduction to Biology II and Lab Prerequisite: BIOL 171/171L
3	Select one course from the following: HLTH 204 Introduction to Native Hawaiian & Indigenous Health and Healing HLTH 205 Hawaiian Ways of Healing NSCI 300 Interdisciplinary Indigenous Science and Health
1	NSCI 100L Transdisciplinary Introduction to Laboratory Methods
2	NSCI 200 Transdisciplinary Introduction to Research Methods
3	NSCI 400 Interdisciplinary Seminar

Applied Mathematics Concentration Requirements: 32 credits

Credits	Course Alpha / Number / Title
4	MATH 245 Multivariable Calculus Prerequisite: MATH 242
4	MATH 304 Math Modeling: Deterministic Models Prerequisite: Math 242
3	MATH 307 Linear Algebra and Differential Equations Prerequisite: MATH 242 or concurrent enrollment; or instructor consent
3	MATH 321 Introduction to Advanced Mathematics Prerequisite: ENG 200 and MATH 243 or MATH 245 or concurrent; or equivalent coursework within the past two years; or instructor consent.
3	MATH 327 Origins of Mathematics Prerequisite: MATH 242 or equivalent coursework within the past two years; or instructor consent. MATH 311 or MATH 321 recommended.
3	MATH 331 Introduction to Real Analysis Prerequisite: MATH 242 and concurrent or completion of MATH 321; or instructor consent
3	MATH 361 Applied Probability Theory Prerequisite: MATH 242; or instructor consent
3	MATH 405 Ordinary Differential Equations and Stability Theory Prerequisite: MATH 302 or MATH 307 or MATH 311
3	MATH 409 Methods in Applied Mathematics Prerequisite: MATH 307 or instructor consent
3	MATH 461 Applied Statistics Prerequisite: MATH 361; or instructor consent

Applied Mathematics Electives: 9 credits

MATH 301 Intro to Discrete Mathematics
MATH 351 Foundation of Euclidean Geometry
MATH 407 Numerical Analysis
MATH 411 Linear Algebra
MATH 412 Introduction to Abstract Algebra I

MATH 413 Introduction to Abstract Algebra II
MATH 444 Introduction to Complex Analysis
Any other 300 or 400 level math course not already used to meet a requirement

Credits	Course Alpha / Number / Title
3	
3	
3	

Capstone Requirement: 3 credits

Credits	Course Alpha / Number / Title
3	NSCI 486M Senior Project or NSCI 490M Senior Practicum

Elective Requirements: 11 credits

Check with your College Success Advisor to confirm how many elective credits needed

Credits	Course Alpha / Number / Title
2	<i>Possible Upper Division 300-400 level</i>
3	
3	
3	

NOTES: The faculty contacts for the Applied Mathematics concentration are:

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