

Associate in Science in Natural Sciences

The Associate in Science in Natural Science is a transfer degree designed for students pursuing STEM-related educational and career goals. The courses are designed to prepare students to transfer into science programs at UH Mānoa, UH Hilo, and UH West O'ahu.

The Associate in Science in Natural Science degree has four concentrations: Biological Science, Engineering, Physical Science and Information and Communication Technology.

Program Learning Outcomes

Upon successful completion of Associate in Science in Natural Sciences, students will be able to:

- Analyze data effectively using the most currently available technology
- Communicate scientific ideas and principles clearly and effectively
- Analyze and apply fundamental mathematical, physical, and chemical concepts and techniques to scientific issues
- Apply fundamental concepts and techniques in their chosen field of study, such as biology, chemistry, geology, engineering, etc.

Type: Associate in Science

Graduation Requirements

The issuance of an AS degree requires that the student earn a grade point average (GPA) of 2.0 or higher for all courses applied towards the degree.

Foundation Requirements: Written Communication (FW)

Item #	Title	Credits
ENG 100	Composition I	3
Sub-Total Credits		3

Foundation Requirements: Global and Multicultural Perspectives (FG)

Required: 6 credits from 2 different groups

Item #	Title	Credits
	Global and Multicultural Perspectives (FG): Group A	
	Global and Multicultural Perspectives (FG): Group B	
	Global and Multicultural Perspectives (FG): Group C	

Foundation Requirements: Quantitative Reasoning (FQ)

The requirement will be fulfilled by the MATH requirement in the concentration.

Diversification Requirements

Arts, Humanities and Literature (DA, DH, DL)

Required: 3 credits

Social Sciences (DS)

Required: 3 credits

Biological or Physical Sciences (DB, DP)

Required for Physical Science and Pre-Computer Science Concentrations: 3 credits

Item #	Title	Credits
	Diversification: Arts (DA)	
	Diversification: Humanities (DH)	
	Diversification: Literature (DL)	
	Diversification: Social Sciences (DS)	
	Diversification: Biological Sciences (DB)	
	Diversification: Physical Sciences (DP)	

Elective Requirements: Natural Science Electives

Required for Biological Science and Physical Science Concentrations. Natural Science Electives are required in addition to the required Concentration courses (not required for Engineering, and Information and Communication Technology Concentrations).

Required: 6 credits of transfer-level Natural Sciences courses (DB, DP, DY) and/or:

Item #	Title	Credits
EE 160	Programming for Engineers	4
ICS 111	Introduction to Computer Science I	3
ICS 141	Discrete Mathematics for Computer Science I	3
ICS 211	Introduction to Computer Science II	3
ICS 241	Discrete Mathematics for Computer Science II	3
MATH 100	Survey of Mathematics	3
MATH 103	College Algebra	4
	MATH 115 or higher	3
	Sub-Total Credits	26

Elective Requirements: General Electives

Transfer-level courses (100 and 200-level courses) in any field to achieve a total of 60 credits.

Biological Science Concentration (24 credits)

For students pursuing the Biological Science Concentration, CHEM 161 fulfills the DP (Physical Science Diversification) for the Biological or Physical Sciences Diversification Requirements.

Item #	Title	Credits
BIOL 171	Introduction to Biology I	3
BIOL 171L	Introduction to Biology I Lab	1
BIOL 172	Introduction to Biology II	3
BIOL 172L	Introduction to Biology II Lab	1
CHEM 161	General Chemistry I	3
CHEM 161L	General Chemistry I Lab	1
CHEM 162	General Chemistry II	3
CHEM 162L	General Chemistry II Lab	1
MATH 241	(Formerly Math 205) Calculus I	4
	BIOL 265/L or BIOL 275/L or CHEM 272/L or PHYS 151/L	4
	Sub-Total Credits	24

Engineering Concentration (33 credits)

The Engineering Concentration is designed for students entering into engineering fields.

Students pursuing the Engineering Concentration do not have a Biological and Physical Sciences Diversification Requirement.

Item #	Title	Credits
CHEM 161	General Chemistry I	3
CHEM 161L	General Chemistry I Lab	1
CHEM 162	General Chemistry II	3
MATH 241	(Formerly Math 205) Calculus I	4
MATH 242	(Formerly Math 206) Calculus II	4
MATH 243	(Formerly Math 231) Calculus III	3
MATH 244	(Formerly Math 232) Calculus IV	3
PHYS 170	General Physics I	4
PHYS 170L	General Physics I Lab	1
PHYS 272	General Physics II	3
PHYS 272L	General Physics II Lab	1
	CE 270 or EE 160 or EE 211 or PHYS 274 or SCI 295V	1 - 4
	Sub-Total Credits	31-34

Physical Science Concentration (24 credits)

Students pursuing the Physical Sciences concentration must take at least one Biological Science course (DB) as one of the Biological or Physical Sciences Diversification Requirements.

NOTE: On the Physics options, choose the lab courses that correspond to your chosen lecture courses.

Item #	Title	Credits
CHEM 161	General Chemistry I	3
CHEM 161L	General Chemistry I Lab	1
CHEM 162	General Chemistry II	3
CHEM 162L	General Chemistry II Lab	1
MATH 241	(Formerly Math 205) Calculus I	4
MATH 242	(Formerly Math 206) Calculus II	4
	PHYS 151 or PHYS 170	3 - 4
	PHYS 151L or PHYS 170L	1
	PHYS 152 or PHYS 272	3
	PHYS 152L or PHYS 272L	1
	Sub-Total Credits	24-25

Information and Communication Technology Concentration (31 credits)

An Associate of Science in Natural Science with a Concentration in Information and Communication Technology is a transfer degree designed for students interested in pursuing an academic study and career in fields related to computer science, including database design, website creation, and mobile applications.

Item #	Title	Credits
	ICT Natural Science Electives	8 - 9
MATH 241	(Formerly Math 205) Calculus I	4
MATH 242	(Formerly Math 206) Calculus II	4
ICS 111	Introduction to Computer Science I	3
ICS 141	Discrete Mathematics for Computer Science I	3
ICS 211	Introduction to Computer Science II	3
	ICS 212 or ICS 215	3
ICS 241	Discrete Mathematics for Computer Science II	3
	Sub-Total Credits	31-32
	Total credits for degree:	60