The AS-NS Degree offers pathways for STEM (Science, Technology, Engineering, and Math) students planning to transfer to baccalaureate degree programs and is designed to fulfill the first two-year requirements for baccalaureate degrees in the sciences. See list of possible majors in the Transfer section, page 123. There are four pathways:

- Biological Sciences
- Physical Sciences
- Engineering
- Information and Communication Technology

### Degree Requirements

The Associate of Science Degree (AS - Natural Science) is awarded to students who complete the following:

1. 60 credits, all in courses numbered 100 and above.
2. General education and Concentration requirements, as indicated below.
3. 12 credits of the requirements earned at Leeward CC.
4. One Hawaiian, Asian, Pacific (HAP) course.
5. Cumulative grade point average of 2.0 or better for all courses used to meet the degree requirements.

### Upon graduation, students will be able to:

- Analyze effectively
- Communicate scientific ideas and principles clearly and effectively
- Evaluate the aims and methods of science
- Analyze and apply fundamental mathematical, physical, and chemical concepts and techniques to scientific issues
- Analyze and apply fundamental concepts and techniques in their chosen field of study, such as biology, chemistry, geology, engineering, etc.
- Use computer technology to analyze and present experimental results

### NOTES

- Planning on transferring to UH Mānoa? Consider taking Writing Intensive (WI) courses at Leeward CC.

- Important note: Appropriate course substitutions may be made with the prior written approval of both the appropriate Division Chair and Dean.

### IMPORTANT

AA, AS, and AAS degrees and ASCs and CAs require a cumulative 2.0 GPR or better for all courses used to meet the degree or certificate requirements. Transfer coursework is not calculated into the GPR.

To graduate with a degree from a Leeward Community College, a student must have earned a minimum of 12 credits of program courses in the degree/major at Leeward.
NATURAL SCIENCE

Biological Sciences

General Education Requirements

Foundation Requirements

Written Communication (FW)
- ENG 100 Composition I (3)
- or ENG 100E Composition I (3)

Symbolic Reasoning (FS)
- MATH 205 Calculus I (4)

Global Multicultural Perspectives (FG)
- Select 1 course from 2 different groups
  - Group A: ANTH 151, ART 175, HIST 151
  - Group B: ANTH 152, ART 176, BUSN 277, BUSN 279, GEOG 102, HIST 152
  - Group C: GEOG 151, MUS 107, REL 150
- or other FG

Total Foundation Credits 13

Diversification Requirements

Diversification Social Sciences (DS)
- Select 1 course from list below
  - AMST 211, 212
  - ANTH 150, 200, 210
  - ECON 120, 130, 151
  - FAMR 230
  - PACS 108
  - POLS 110, 120, 180
  - PSY 100, 202, 240, 260
  - SOC 100, 214, 218, 231, 250, 251
  - WS 151, 202, 290
- or other DS

Total Diversification Credits 3

Diversification Arts/Humanities/Literatures (DA, DH, DL)
- Select 1 course from list below
  - Diversification Arts (DA)
    - (Mainly Theory): ART 101, MUS 108, 253, 281, 282, 283, 284
    - (Mainly Practice)
      - DMED 150, DNCE 131, 132
      - HWST 160
    - THEA 101, 170, 220, 221, 222, 230, 240, 260, 262, 280
  - Diversification Humanities (DH)
    - AMST 201, 202
    - ASAN 203, 204
    - HIST 231, 232, 241, 242, 251, 260, 281, 282, 284
    - ICS 170
    - IS 250H
    - LING 102
    - MUS 106
    - PHIL 100, 101, 102, 211
    - REL 151, 200, 201, 202, 204, 205, 207, 210
  - Diversification Literature (DL)
    - AMST 201, 202
    - ASAN 203, 204
    - HWST 107 (recommended)
    - HIST 231, 232, 241, 242, 251, 260, 281, 282, 284
    - ICS 170
    - IS 250H
    - LING 102
    - MUS 106
    - PHIL 100, 101, 102, 211
    - REL 151, 200, 201, 202, 204, 205, 207, 210
    - THEA 101, 170, 220, 221, 222, 230, 240, 260, 262, 280
- Diversification Natural Sciences (DB/DP/DY)
  - Select 1 course from list below
    - Diversification Biological (DB)
      - BIOL 171 required for Biological Sciences track.
      - ANTH 215
      - BIOL 100, 101, 124, 130, 171, 172, 200, 265, 275
      - BOT 101, 130
      - ENSN 185
      - HORT 110
      - MIRC 130
      - PBT 141, 200, 264
      - ZOOL 101, 141, 142, 200
- Diversification Physical (DP)
  - CHEM 161
- Diversification Laboratory (DY)
  - CHEM 161L

Total Diversification Credits 10-13

Total Gen Ed Credits 23-26

Concentration Requirements

Biological Sciences: 18-19 credits

Course Alpha Course Title Credits
- CHEM 162 General Chemistry II 3
- CHEM 162L General Chemistry II Lab 1
- BIOL 171L Introduction to Biology I Lab 1
- BIOL 172 Introduction to Biology II 3
- BIOL 172L Introduction to Biology II Lab 1
- CHEM 272 Organic Chemistry I 3
- CHEM 272L Organic Chemistry I Lab 2
- BIOL 265/265L Ecology & Evolutionary Biology (w/Lab) (4-5) or BIOL 275/275L (w/Lab) (5)

Total Concentration Credits 18-19

Natural Science Electives

Select classes required for your program which are not chosen above.

- ASTR 110
- BIOC 141, 251
- BIOL 171, 171L, 172, 172L, 200, 200L, 265, 265L, 275, 275L
- BOT 101, 101L, 130, 130L
- CE 270, 271
- CHEM 162L, 272, 272L, 273, 273L
- EE 150, 211, 233, 260
- GG 101, 101L, 103
- HORT 110, 110L
- ICS 111, 141, 211, 212, 215, 241
- MATH 206, 231, 232
- ME 213
- MIRC 130, 140
- OCN 101, 201, 201L
- PBT 100, 141, 200, 200L, 264, 275
- PHRM 203
- PHYS 151, 151L, 152, 152L, (Biological Science students only)
- PHYS 170, 170L, 272, 272L, 274
- ZOOL 101, 101L, 200, 200L, 141, 141L, 142, 142L
- or other STEM course as appropriate with approval

Hawaiian Asian Pacific (HAP)

1 course required

Optional Electives

Biological Sciences students may take up to two sequential semesters of Hawaiian or Second Language (HSL) courses.

Source: Leeward Community College Catalog 2016-17