# Bachelor of Science (BS) in Molecular Biosciences and Biotechnology

**Specialization:** Environmental and Microbial Biotechnology

**Admissions:** Open  
**Process:** Declaration  
**Min. Total Credits:** 120 (111 in core & major + 9 in electives)

## UHM General Education Core Requirements

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<th>Foundations</th>
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<th>Diversification</th>
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* See degree, college and major requirements for courses that can also fulfill these.

## UHM Graduation Requirements

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<th>Focus</th>
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<td>❑ E (300+)</td>
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### Hawaiian / Second Language
- Any four-course combination of language or 2 social sciences courses and 2 biological or physical science courses
  - [ ] [ ] [ ] [ ]

### Credit Minimums
- 120 total applicable
- 30 in residence at UHM
- 45 upper division (300+ level) credits

### Grade Point Average
- 2.0 cumulative or higher *(Note: Other GPAs may be required)*
- Good academic standing

## College Requirements

<table>
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<tr>
<th>CTAHR Required Set of Interrelated Courses</th>
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<tr>
<td>❑ NREM 310</td>
<td>❑ Internship or capstone course (MBBE/PEPS/TPSS 499)</td>
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### Credit Minimums
- 120 total applicable

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*This program sheet was prepared to provide information and does not constitute a contract. See back for major requirements.  
Meet regularly with your major advisor.*
**Major Requirements for BS in Molecular Biosciences and Biotechnology**

Specialization: Environmental and Microbial Biotechnology  
Admission: Open  
Application: NA  
Min. major credits: 73-77 (80-84 with related requirements)  
Min. exit GPA: 2.0 in the major

### Requirements

#### Molecular Biosciences and Biotechnology Related Requirements (7 credits)
- MATH 215* or 241*  
- NREM 220*

#### Molecular Biosciences and Biotechnology Core Courses (50 credits)
- BIOL 171* / BIOL 171L  
- BIOL 172* / BIOL 172L  
- BIOL 275* / BIOL 275L  
- CHEM 161* / CHEM 161L  
- CHEM 162* / CHEM 162L  
- CHEM 272* / CHEM 272L  
- MBBE 304*  
- MBBE 401  
- MBBE 402 / MBBE 402L  
- ANSC 446, BIOL 375, or PEPS 371  
- PHYS 100* / PHYS 151* or PHYS 151L  
- MBBE/PEPS/TPSS 499

#### Environmental and Microbial Required Courses (8 credits)
- CHEM 273 / CHEM 273L  
- MICR 351 / MICR 351L

#### Environmental and Microbial Elective Courses (15-19 credits)
**15 credits of the following:**
- BE 431  
- CHEM 274/274L  
- CHEM 445  
- GEOG 101/101L  
- MICR 461/461L  
- MICR 475/475L  
- PEPS 405  
- MBBE/PEPS/TPSS 499 credits beyond 3

### Notes

CTAHR Office of Academic and Student Affairs: Gilmore 210; (808) 956-8183/(808) 956-6733; acadaff@ctahr.hawaii.edu; www.ctahr.hawaii.edu  
MBBE Program: Gilmore 211; (808) 956-6997  
MBBE Undergraduate Advisor: Harry Ako, PhD; AgSci 218; (808) 956-2012; hako@hawaii.edu

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