### University of Hawai‘i at Mānoa

**College of Tropical Agriculture and Human Resources Program Sheet 2013-2014**

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

**Specialization: Aquaculture and Animal Biotechnology**

**Admissions: Open**  **Process: Declaration**

**Min. Total Credits: 120 (117 in core & major + 3 in electives)**

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<tr>
<th>UHM General Education Core Requirements</th>
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<td><strong>Foundations</strong></td>
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* See degree, college and major requirements for courses that can also fulfill these.

### UHM Graduation Requirements

#### Focus

- ❑ H
- ❑ E (300+)
- ❑ O (300+)
- ❑ W
- ❑ W
- ❑ W
- ❑ W (300+)
- ❑ W (300+)

#### 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

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<thead>
<tr>
<th>College Requirements</th>
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<tbody>
<tr>
<td><strong>CTAHR Required Set of Interrelated Courses</strong></td>
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<td>❑ NREM 310</td>
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<td>❑ Internship or capstone course (MBBE/PEPS/TPSS 499)</td>
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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: Aquaculture and Animal Biotechnology  
Admission: Open  
Application: NA  
Min. major credits: 78-82 (89 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* or 171L*  
- BIOL 172* or 172L*  
- BIOL 275* or 275L*  
- CHEM 161* or 161L*  
- CHEM 162* or 162L*  
- CHEM 272* or 272L*  
- MBBE 304*  
- MBBE 401  
- MBBE 402 or 402L  
- ANSC 446, BIOL 375, or PEPS 371  
- PHYS 100* or 100L* or 151* or 151L* and 152* or 152L*  
- MBBE/PEPS/TPSS 499

#### Aquaculture and Animal Biotechnology Required Courses (12 credits)
- BE 431  
- BIOL 265/265L  
- ZOOL 320 or 320L

#### (MBBE) Aquaculture and Animal Biotechnology Elective Courses (16-20 credits)
16 credits of the following:
- ANSC 460  
- BE 460  
- BIOL 301/301L  
- OCN 210  
- OCN 331  
- ZOOL 475/475L  
- 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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