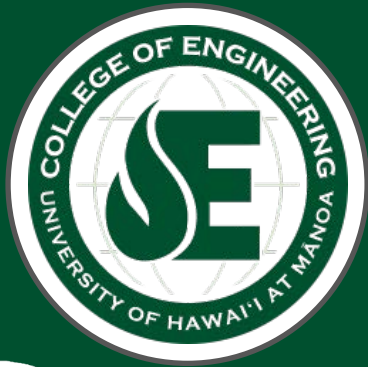


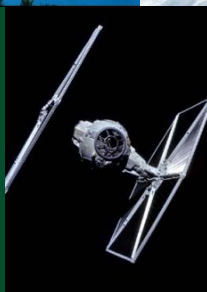
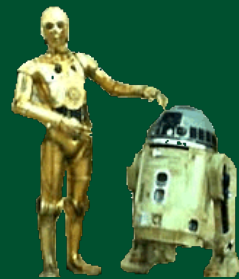
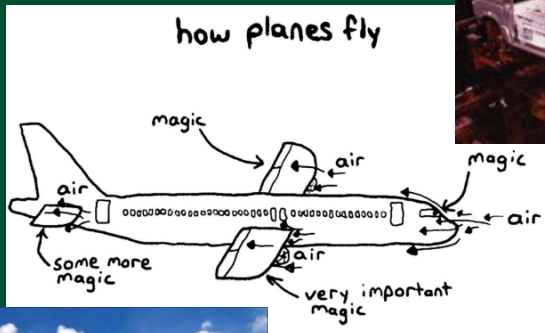
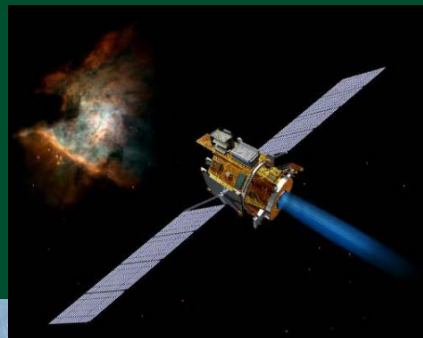
UHM College of Engineering Talk Story Session 1 & 2

12/02/2021 & 12/05/2021

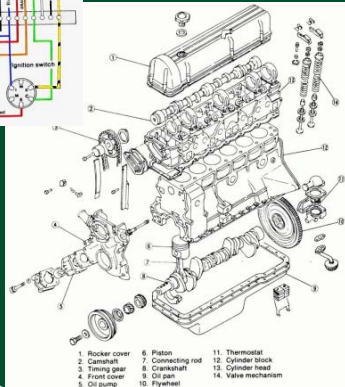
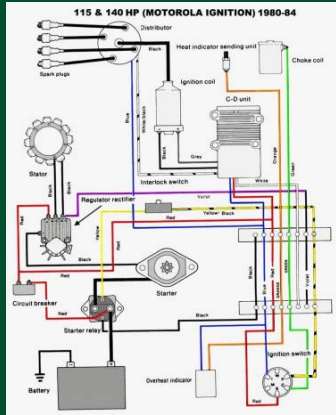


Brennon T Morioka, Dean
Song K Choi, Assistant Dean
Jill Nakatsu, Director of Advising
Kimberly Perez Hults, Director of Marketing
Engineering Student Ambassadors

What is Engineering???



UHM College of Engineering - Programs



Simply: Engineering is the application of **mathematics** and **science** to create ideas, products, and processes that benefit and enhance our society. Degree Programs:

- Civil Engineering (BS/MS/PhD)
- Computer Engineering (BS)
- Construction Engineering (BS)
- Electrical Engineering (BS/MS/PhD)
- Mechanical Engineering (BS/MS/PhD)
 - Aerospace Engineering
- Engineering Science (BS, in incubation)
 - Biomedical Engineering
 - Ocean Engineering

UHM College of Engineering - Fast Facts



Total Enrollment: ~**1394** students

Graduate: ~**192** students; BAM - 30

Pre-Engineering: ~**220** students

*estimates from Fall 2021



Average Grad Rate: **4.5** years

Depends on Student (amount of credits prior, internships, exchange programs, work)



Largest Discipline: **Mechanical**

25% Female Students

Student/Faculty Ratio: **15:1**

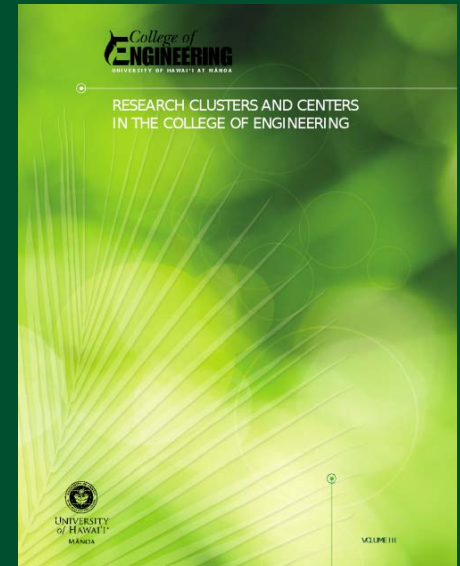


Internationally & Nationally Renowned Faculty

- **90%** of courses taught by instructors with Ph.D.
- 2 former NAE Members
- 6 NSF PYI & CAREER Awardees
- AY2020 over \$17M in research funding

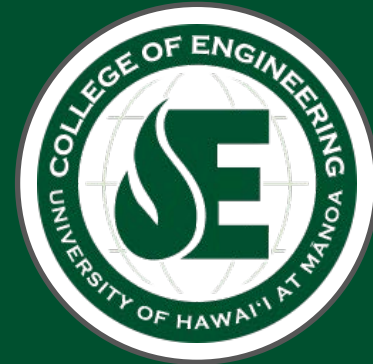
UHM College of Engineering – Research Expertise

- Biomedical Engineering (ECE, ME, CEE)
- Food/Energy/Water (CEE, ECE, ME)
- Structural Monitoring, Geotech. Eng., Transportation, Pavement (CEE)
- Materials & Manufacturing (ME, CEE)
- Advanced Communications (HAWTI)
- Cybersecurity and Big Data (ECE, CEng)
- Autonomous Vehicles (ME, ECE, CEE)



UHM College of Engineering – Undergraduate Opportunities

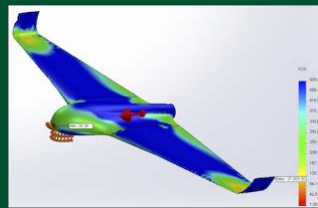
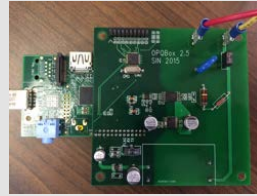
- Vertically Integrated Program (VIP)
 - Project based learning
 - Teamwork
- Undergraduate Research Opportunity Program (UROP)
- Community Innovation Mentorship Program (CIMP)
- Breakthrough Innovation Competition (BIC)
- Pacific Asian Center for Entrepreneurship (PACE)
- Capstone Projects
- Club Projects



UHM CoE – VIP Teams

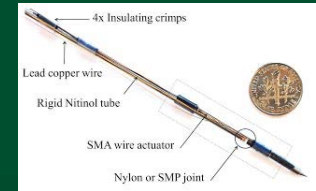
Autonomous and Other Vehicles

- Space & Aerial Robotics
- Kanaloa
- Unmanned Aircraft Systems (UAS) Applications and Security
- Fixed-Wing UAVs
- HI Engaged STEM Pathways (HESTEMP)
- Aerospace Technologies
- Robot Autonomy and Navigation



Renewable Energy

- Smart Campus Energy Lab
- Open Power Quality
- Renewable Energy Design



Other

- Cyber Security
- Smart Needle
- Manoa Astronomical Technologies
- Microrobotics
- Liquid-Metal Electronics
- Harvest Ikehū (HIKE)
- Applied Materials and Nanosystems

UHM CoE – Student Scholarships/Funds

- Scholarships for undergraduates and graduates (over \$450,000/year)
- Fellowships for undergraduates and graduates (HECO, PHNSY, NGC, Raytheon, Boeing, etc.)
- Research funding (~\$17M)
- Engineering Innovation and Entrepreneurship



UHM CoE – Classroom & Beyond, Get Involved!!!



- One-on-One Faculty **Advising**
- **Tutoring** by Honor Societies
- **Mentoring** Programs
- *Native Hawaiian Engineering Mentoring Program* (NHSEMP)
- **Join** Student Engineering Organizations
- **Participate** in Outreach Recruiting & Retention Events
- **Visit** CoE Career Days (This year it is virtual!!!)
- Get Internships/Research **Experience**



UHM CoE – Student Accolades

Anthony B Zerba Award
and
Carl T. Koerner Recipients:

- Kendall Ching
- Aaron Ohta
- Blaine Murakami
- Monte Watanabe
- Larry Martin

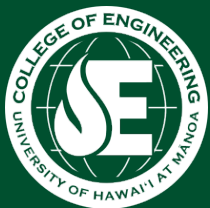
NSF Research Fellowship
Recipients:

- Aaron Ohta
- George Zhang
- Pooja Nuti
- Sasha Yamada
- Nicholas Yama
- Kevin Kam

Global Student Entrepreneur Award Qualifier:

- Austin Yoshino & Manaola Innovations





STUDENT ATHLETES



Engineering Opportunities in Hawaii

- 
- 
- Biomedical
 - Civil
 - Computer Science
 - Construction Management
 - Electrical
 - Electro-Optical
 - Electro-Mechanical
 - Environmental
 - Geotechnical
 - Industrial
 - Manufacturing
 - Marine
 - Mechanical
 - Metallurgical/Materials
 - Microwave
 - Nuclear
 - Ocean
 - Radio Frequency
 - Systems
 - Structural
 - Transportation

Freshman Admissions Requirements

Fill out the online application
<https://manoa.hawaii.edu/admissions/>



SAT and ACT will not be required
to apply to UHM due to COVID-
19

Admissions Requirements
**B or better in High School
Courses:**



Precalc/Trig or
Calculus (preferred)



Physics



Chemistry



Transfer Admissions Requirements (2 pathways)

UH Community Colleges ASNS in Pre-Engineering



Graduate with ASNS in Pre-Engineering

- Automatic Admission to UHM Engineering Major
- Finish Freshmen/Sophomore level courses for engr. at the UH CCs
- Kaieie Dual Enrollment Program

Outside College/Univ. Transfers & Non UH ASNS Transfers



Eng 100



Math 241 and 242



Physics 170/170L



Chemistry 161/161L and 162

Overall GPA of 3.0 or higher

Fill out the online application
<https://manoa.hawaii.edu/admissions/>

Curriculum



Curriculum Checksheets (4 yr plans) available at <https://www.eng.hawaii.edu/student-students/curriculum/#checksheets>

Sample Freshman Course Schedule

First Semester (Fall) - 14 credits

- **ENG 100** (3) Composition I
- **HIST 151** (3) World History
- **CHEM 161** (3) General Chemistry I
- **CHEM 161L** (1) General Chemistry Lab I
- **MATH 141** (4) Calculus I

Second Semester (Spring) - 16 credits

- **EE 160** (4) Engineering Programming
- **PHYS 170** (4) General Physics I
- **PHYS 170L** (1) General Physics I Lab
- **MATH 242** (4) Calculus II
- **CHEM 162** (3) General Chemistry II

Beyond ~

- **Discipline specific core courses**
- **Built in Design Experience courses**
- **Opportunities to focus on areas**
 - **Biomedical**
 - **Sustainability**
 - **Renewable Energy**
 - **Aerospace**
 - **Structural**

Student Academic Services

Degrees Awarded ~ approx 250-290 BS degrees each year

Common Minors - Math, Business, Communicology, Languages, Music

<https://manoa.hawaii.edu/catalog/degrees-minors-certificates/>

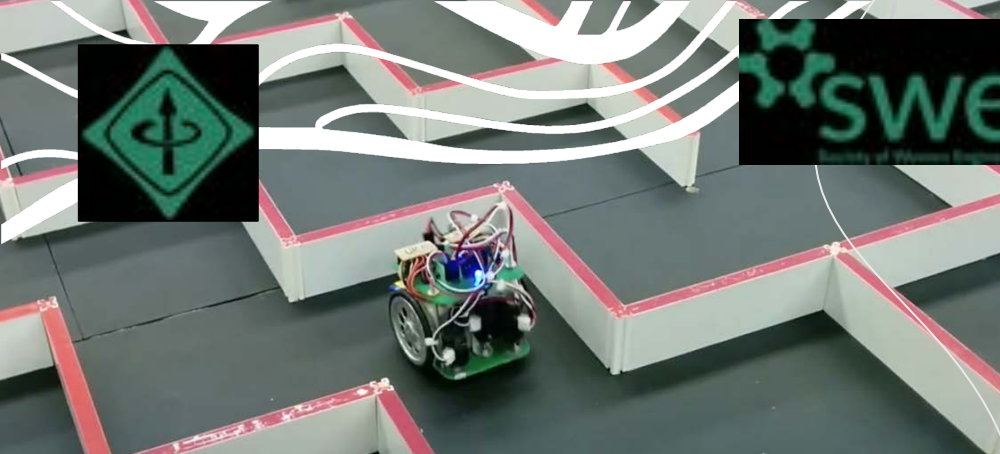
MIX and Study Abroad - International Exchange & earn engr. credits

Career Fair - Each semester, Internships/Full-time employment

Tutoring - Math/Science Tutoring Center and Engr Honor Societies

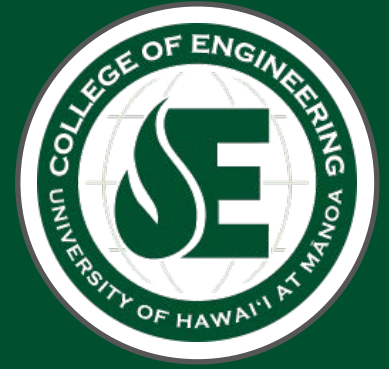
Advising - Engineering faculty guidance





Undergraduate Student Clubs/Projects





ESA Stories

