Mission: The University of Hawai‘i System includes 10 campuses and educational, training and research centers across the Hawaiian Islands. As the public system of higher education in Hawai‘i, UH offers unique and diverse opportunities. Economic development: UH is the State’s leading engine for economic growth and diversification, stimulating the local economy with jobs, research and skilled workers. Opportunity: UH academic offerings range from certificate and vocational through doctoral programs.

University Website: http://hawaii.edu

UH System Profile:

- Total Enrollment (Fall 2016)*: 48,430
  - % Women: 57%
  - % Native Hawaiian: 24%
- Degrees and Certificates Awarded (2015-16):
  - Certificate of Achievement: 1,072
  - Associate: 4,113
  - Bachelor’s: 4,841
  - Masters: 1,126
  - Doctorate: 206
  - Professional/Other: 322

UH System STEM Profile:

- Total STEM Enrollment (Fall 2016): 8,392
  - % Women: 42%
  - % Native Hawaiian: 16%
- STEM Degrees and Certificates Awarded (2015-16):
  - Certificate of Achievement: 149
  - Associate: 325
  - Bachelor’s: 919
  - Masters: 190
  - Doctorate: 84
  - Other: 4

STEM Education Funding since FY2012: $119,940,222*
Selected STEM Education Projects and Activities

*University of Hawaiʻi Strategic Directions relating to STEM Education:*

**Hawaiʻi Graduation Initiative (HGI)**
The goal of HGI is to increase the educational capital of the state by increasing the participation and completion of students, particularly Native Hawaiians, low-income students and those from underserved regions and populations and preparing them for success in the workforce and their communities.

**The Hawaiʻi Innovation Initiative (HI2)**
The goal of HI2 is to create more high-quality jobs and diversify Hawaiʻi's economy by leading the development of a $1 billion innovation, research, education and training enterprise that addresses the challenges and opportunities faced by Hawaiʻi and the world.

**Office of STEM Education:**
The University of Hawaiʻi Office of STEM Education (OSE) provides leadership and support for STEM (science, Technology, Engineering and Mathematics) activities at UH and in Hawaiʻi. The OSE partners with campus, state, and national agencies to develop and support initiatives designed to improve the quality of STEM education and increase the diversity of talented students pursuing STEM careers. The OSE hosts and supports multiple services and activities throughout the UH community designed to strengthen, enrich and diversify the STEM faculty, staff and students at UH. The office works closely Hawaiʻi STEM K-12 leadership, Hawaiʻi’s STEM industry, UH Foundation and local and state and national government to ensure alignment and sustainability of programs, personnel and opportunities. OSE serves all 10 campuses in the UH System.

- **STEM Pathways:**
  Design and develop clear, comprehensive, articulated and purposeful academic pathways to promote STEM success from K-12 to higher education to workforce

- **Hawaiʻi STEM Network:**
  The Network actively seeks to blend UH research with education and outreach initiatives throughout Hawaiʻi and enables researchers to include strong Broader Impact statements and activities in their research proposals

- **SEARCH – STEM Education Assets and Resources Clearinghouse:**
  Inventory of projects, personnel, and assets related to STEM education.

- **Diversity and Inclusion:**
  Broaden participation to prepare a diverse, globally-engaged STEM workforce through coordinated UH grants and initiatives

- **Workforce Development:**
  Engaging business and industry and using labor market information to drive education and training to build Hawaiʻi’s STEM talent pipeline

**STEM Pre-Academy:**
The STEM Pre-Academy fosters inspiration and relevance in Science, Technology, Engineering and Mathematics primarily through initiatives, such as teacher workshops, technical focus sessions, and collaborative interaction between middle school teachers and subject matter experts. This teacher-driven multidisciplinary program helps middle school public educators develop and implement research and technology based student curriculum including lessons, activities and projects. The STEM Pre-Academy is a state-funded program, focused on public middle school teachers in Hawaiʻi. [http://stempreacademy.hawaii.edu](http://stempreacademy.hawaii.edu)
To learn more about these STEM Education projects, please contact: Dr. Tiffany Tsang (tmtsang@hawaii.edu); 808-587-4085

**College Access Challenge Grant Program – Hawai‘i:**
The goal of the College Access Challenge Grant (CACG) is to encourage and help more low-income students in Hawai‘i to prepare and succeed in post-secondary education. Working closely with the Hawai‘i Department of Education, UH and community partners, CACG activities focus on developing students’ content knowledge, key cognitive strategies, and college knowledge through academic enrichment programs, financial aid and college applications workshops, STEM activities, project-based learning opportunities, and the college access web portal.

**Strategic Synergies: Developing Grade 6 to Sophomore Success Pipelines for Students Underrepresented in STEM:**
Faculty and researchers from EPSCoR, Campus Compact, and SENCER programs will form jurisdictional teams and attend the three-day SENCER Summer Institute (SSI) followed by the one day EPSCoR workshop.

**NSF Islands of Opportunity Alliance Louis Stokes Alliance for Minority Participation:**
IOA LSAMP in an NSF program aimed at increasing the numbers of underrepresented minority (URM) students graduating with Bachelors degrees in STEM programs. Led by UH Hilo, the IOA LSAMP includes 17 alliance partner institutions including:
- UH Manoa
- UH Maui College
- All 7 UH Community Colleges (CC)
- Chaminade University
- Hawaii Pacific University
- University of Guam
- American Samoa Community College
- College of Marshals Islands
- College of Micronesia
- Guam Community College
- Northern Marianas Community College
- Palau Community College

**Hawaii’s Pre-Engineering Education Collaboration (PEEC):**
Kapi‘olani CC developed a "Pre-engineering Education Collaborative" that supported 125 Native Hawaiian students completing baccalaureates at UHM College of Engineering. This is an NSF grant within Tribal Colleges and Universities Program (TCUP). Participating campuses:
- UH Mānoa – College of Engineering
- Honolulu Community College
- Kapi‘olani Community College (lead campus)
- Leeward Community College
- Maui College
- Windward Community College

System-wide, multi-campus grants and programs:
Exclusion of STEM disciplines:

**Digital Media Discipline**

While Digital Media is listed under the DHS STEM Designated Degree list, the Office of STEM Education has determined not to include it as a STEM discipline at this time. Most Digital Media faculty require a non-STEM, fine arts degree and the Digital Media curricula does not require core STEM courses such as calculus or chemistry. With the development of the Information and Communication Technology (ICT) STEM pathway for the entire UH System, Digital Media may be included within that pathway. Thus, STEM enrollments and degrees reported have Digital Media numbers removed from UH Mānoa, Hawai‘i Community College, and Leeward Community College.

**UH Office of Public Health Studies**

Within the Office of Public Health Studies, the PhD in Epidemiology is the only discipline considered STEM based on the DHS STEM list. At this time, we are unable to identify STEM education programs or activities that support students beyond their traditional academic and research pursuits. Future editions may include activities and programs sponsored by the Office of Public Health Studies or directly enhance Epidemiology PhD students.
Other STEM-related department and disciplines:

**College of Social Sciences**

**Program for Civic Engagement (PCE)/ACCESS:**
In addition to working with faculty on including STEM, sustainability, and civic engagement components in their syllabi where applicable, PCE runs a number of service-learning programs with STEM foci. We contribute leadership, faculty know-how, college student labor and creativity, federal work-study employees, and other resources to our community partners, who in turn help give our students an experiential understanding of multiple issues. The PCE is a close partner with the System Sustainability Office and supporting curriculum development and sustainability designation efforts. It is also supporting transfer students with a combined interest in social, natural, and indigenous sciences. The programs below are used as a pedagogical tool by faculty from multiple CSS disciplines, who in this way also have a STEM component in their courses.

**The Pālolo Pipeline Program (PPP):**
The Pālolo Pipeline Program is an umbrella service-learning program supporting community development and education for underserved residents of public housing areas in urban Honolulu. It includes afterschool programs, P-12 educational entities, tenants associations, housing administration units, and many other partners. PPP has had a focus on supporting the STEM disciplines at our numerous partner institutions since 2004 and it continues to be a focus of new creative interdisciplinary programs.

**C-STEM (Cultural-Science, Technology, Engineering and Math: Professional Development for the DOE’s Kupuna Program)**
This award from NOAA for an 18-mo period of workshop, field trip, and in-class mentoring-based training to share new materials and science background for the Department of Education’s Hawaiian Studies Kupuna Program in Waikiki-area Title 1 public schools.

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**Cancer Center**

**R25T CURE Supplement:**
This minority supplement will support a postdoctoral fellow in Nutritional & Behavioral Cancer Prevention in a multiethnic population led by faculty at the Cancer Research Center of Hawai‘i and collaborators elsewhere at the University and health care organizations in Honolulu.

**University of Hawai‘i Cancer Center CCSG CURE Supplement:**
The purpose of the P30 CURE Supplement is to engage the scientific curiosity and promote the potential cancer research careers of promising young high school and undergraduate students.

**University of Guam/Cancer Research Center of Hawaii Partnership:**
The overarching goal of our University of Guam (UOG) and the University of Hawaii Cancer Center (UHCC) Comprehensive Partnership to Achieve Health Equity is to establish our Partnership as the national and international leader in advancing cancer health equity in Pacific Islanders. The relevance of this University of Guam/University of Hawaii Cancer Center Partnership is to address cancer health disparities in Americans of Pacific Islander ancestry, one of the most underserved minority populations in this country.

**Cancer Research Center of Hawaii Traineeship:**
The Meiji CRCH Traineeship is provided through contributions to the UH Foundation by the Meiji Life Insurance Company and trains high school students in the areas of research and education.

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Science Education for New Civic Engagements and Responsibilities (SENCER):
From August 2012, CSS has been the leading force in a statewide collaboration with the SENCER initiative under the National Center for Science and Civic Engagement (NCSCE). SENCER has been continuously funded by – and is an unofficial think tank for – the National Science Foundation. We help faculty establish and maintain collaborative network and interdisciplinary and inter-institutional civic-engagement programs, as well as “sencerizing” their courses (create curricula teaching to current, complex, capacious issues such as climate change).

EPSCoR 'Ike Wai: Securing Hawai‘i’s Water Future
The National Science Foundation has awarded $20 million to UH to do a five-year, groundbreaking study of water sustainability issues through a collaboration called 'Ike Wai, which symbolizes knowledge ('ike) of water (wai) that informs values, policies, and practices for managing this resource. The project spans geophysics, microbiology, cyberinfrastructure, data modeling, indigenous knowledge and economic forecasting. UH, state and federal agencies and community groups will partner to address critical gaps in the understanding of Hawai‘i’s water supply that limit decision making, planning, and crisis responses.

School of Nursing and Dental Hygiene
For more than 75 years, the University of Hawai‘i School of Nursing and Dental Hygiene (SONDH) has prepared future health professionals and leaders for successful careers in the fields of nursing and dental hygiene.

At the time of publication, it was determined that Nursing and Dental Hygiene majors are not considered part of the strict definition of STEM as defined by the DHS STEM Designated Degree list. Thus, the School of Nursing and Dental Hygiene is listed as STEM-related.