Our Vision:

Flexibility in facility design to make the space meet the capabilities and capacities of our current and future workforce.
UHWO STEM Center of Excellence

- Visible Community Based Science and Mathematics
  - STEM Portal
  - Solar System Stroll
  - Green Water Station
- Engineering Foundations
  - 4 Semesters of Mathematics
  - 6 Semesters of Sciences
  - 4 Semesters of Engineering Foundations
  - Industry/Energy
- Interdisciplinary Professional Development
  - For Educators
  - For Industry
- Engineering Foundation for Facilities Management
- Information Technology and Information Security
UHWO STEM Portal: Making STEM Visible
Making STEM Place Based
Making STEM Real
Making STEM Relevant

55 in Monitor visible in the Laboratory Hallway
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Solar System Stroll
A UHWO project to bring science to the community
What is the Solar System Stroll?

Have you ever tried to imagine how large the solar system is? The distance between the sun and the planets is almost too vast to comprehend. Or we could shrink the solar system down to a scale where 1 foot was the same as 1,000,000 Kilometers, in the 30 minutes it will take you to walk from the Sun to Pluto, you would travel nearly 6 billion Kilometers (about 4 billion miles).

The Solar System Stroll was designed to give everyone a better appreciation for the vastness of space. Just imagine, at this Scale the nearest star beyond our Sun would be about 4500 miles east from Hawaii.

Enjoy your stroll though our solar system and remember that with each step you travel over 3,000,000 Kilometers.
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## Green Water Station

### Making STEM Visible
### Making STEM Place Based
### Making STEM Real
### Making STEM Relevant

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The STEM Center of Excellence should not only have the courses in the sciences, the Maths, Engineering, Design, and Facilities Management that represent what magazines, such as the Economist, are calling the third industrial revolution . . .

“the ability to design, fabricate, and maintain products”

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We also need to be a center where the current and future workforce can learn together on state of the art Process Control systems as well as through virtual learning and modeling.

- Middle Level and Secondary Education (Mathematics, General Science, and Biology) (anticipated start Fall 2015)
- BA Degrees in Mathematics, Biology, Environmental Science (anticipated start Fall 2016)
- New BAS concentration proposal (anticipated start Fall 2015)
- Interdisciplinary Workforce Development Focus
  - Business
  - Science/Engineering/Math
  - Industry/Energy
- Industry Support - Navy, IFMA, Hawaii Energy (hotel industry, residential housing, commercial buildings, government & military facilities)
- Graduates will have wide range of knowledge and should be very employable
Information Technology and Information Security

Prepare Native Hawaiian, local, and regional students for employment in the information technology and information security career fields upon graduation (Mission).

Establish and expand the UHWO Cyber Security Coordination Center as a Center of Academic Excellence in information security and assurance (Vision).

Bachelor of Applied Science with concentrations in:

- Information Technology (IT)
- Computing, Electronics, and Networking Technology (CENT)
- Information Security and Assurance (ISA)

Course offerings include: IT Project Management, Management of Information Security, Proactive System Security, Digital Forensics, Modern Cyber Conflicts, Fundamentals of Secure Software Programming; closely tied to community college programs
Open Concept Laboratory Space for Virtual and Simulated Engineering Systems

University of Virginia
Design Lab in a "Flex Concept" Lab
Community Outreach and Professional Development

Where Central and Leeward Oahu Teachers and Students can Developed:

- Process and Product Visualization Skills
- Skills using 3-D Printers and (CAD) Software
- Skills using Computer Aided Manufacturing (CAM) software
- Skills operating Computer Numerically Controlled (CNC) machines to cut out 3-D wooden, metal, and plastic parts
- Product finishing skills on wood, metal, and plastic parts
- Assembling and testing complete projects like this Hawaiian Steel Guitar

Hands-on STEM for Everyone

Neil Scott, CRDG, University of Hawaii