

SESSION DESCRIPTIONS:

AGRICULTURE

Introduction to Native Stream Animals on Maui (AG1)

Wonder why `Iao Valley Stream is so important? This session will talk about the history of Iao Stream and the return of water since October 2014. Learn about stream animals and their life cycle known as amphidromy. We will follow the journey of larvae that hatch in streams which sometimes carries them to the ocean and their return migration upstream. Take a journey through our streams and learn about native species (ʻoʻopu, opae, Tahitian prawn and opae oe ha`a and hihiwai) and the important role flowing streams keep stream populations healthy and abundant.

Presented by: Skippy Hau, Division of Aquatic Resources, Department of Land & Natural Resources

Technology in Agriculture – Genes, Bugs & Satellites (AG2)

Technology has played a big role in developing the agricultural industry. Come, learn and experience the different technologies used in agriculture, such as Global Positioning System (GPS), Geographic Information System (GIS), imaging systems used to gauge soil and plant conditions (SIS), Biotechnology, and finally the use of Variable Rate Technology (VRT).

Presented by: Paola Espinoza, Kai Pelayo, Don Henne, Monsanto

CODING

Breakout EDU (C1)

Breakout EDU is an open source platform for immersive learning games. In a Breakout EDU game, players have a set amount of time to move around the room, work together and solve a series of engaging critical thinking puzzles in order to unlock a mystery box. Games are designed for learners of all ages and abilities and are used to reinforce and teach academic skills and content.

Presented by: Terry Holck, Nanakuli-Waianae Complex Area

Creative Programming & Taking Things Not So Seriously (C2)

We love programming and it's what we do for a living but it's not always the business side of things that we love about it. It's the creative ability and problem solving nature of coding that keeps us coming back for more. Sometimes we need to get away from "work" and just have fun with the medium that we love. In this track, we will take an exploration into creative programming and some of the free tools available for anything from video/image processing, artistic exploration, or music composition.

The format of this track will include brief presentations of different tools and their purpose as well as a series of interactive demos showing some of the things we can do with these tools.

Presented by: Jason Sewell, DevLeague LLC

Cryptography – Toy Ciphers, Secret Codes & More! (C3)

What is Cryptography? And how do we use it every day? Using skills in math and computer science, we will try to understand a secret message! During this workshop students will learn about importance of encryption and experiment with toy ciphers like Caesar cipher and Rail Fence. Students will use skytale and cryptowheels to help them reveal the secret message.

Presented by: Elizabeth Kleiman, Jitka Stehnova, Mount Mercy University, Explore U

Drawing for Designers (C4)

This session will help students communicate their ideas for Robotics, biology, industrial ideas etc. Students will learn three modes of drawing to help visualize their ideas. *Presented by: Nancy Young, retired Lahainaluna Digital Media teacher*

Hour of Code (C5)

On completion of the Hour of Code you will be able to demonstrate the basics of software programming to others by getting them to use your beautiful fun game! As an attendee of the Hour Of Code you will build a game that uses “if”, “for” as well as interactive touch. Upon completion your friends will be able to interact with your game on their phones! *Presented by: Sam Stokes, Microsoft*

Introduction to Basic Programming (C6)

Learn basic programming concepts, languages and ideas through hands on learning.

Presented by: Michael Reeves, Jeremie Amano, King Kekaulike High School STEMworks Lab

Making Minecraft Mods (C7)

This session is to encourage students into coding. You will learn about JavaScript to create new and interesting mods for the popular game Minecraft. This workshop will use professional tools and teach real coding skills used in the industry today. This will be open to students of all skill levels, whether you've never typed code in your life to those who feel like they are code masters. We are looking for students interested in asking questions, making things and discovering new skills.

Presented by: Charles Nguyen, DevLeague LLC

Multiplayer Game Development (C8)

Students will set up the environment for a simple multiplayer game, and then learn to program simple game levels that can be played by other students.

Presented by: Jon & Kelli Borgonia, Goma Games LLC

Tinkering with the Web & the Internet of Things (C9)

Our world is becoming ever more connected and the way we think about building web applications is changing by the day. For the past several years the focus has been on building mobile phone and tablet apps as primary input devices, but the ability we have to create our own devices now with cheap and accessible hardware is opening a world of possibilities.

In this session, we will talk briefly about what is the "internet of things", how the physical hardware and web software worlds work together, what kind of hardware is available (Arduino, Raspberry Pi, microprocessors, sensors, etc..) and explore some live interactive demos with robots, brain wave sensors and more.

Presented by: Jason Sewell, DevLeague LLC

DIGITAL MEDIA

After Effects - Basic (DM1)

This Session will provide a detailed introduction to the industry standard for motion graphics – Adobe After Effects. In this workshop, we will be focusing on motion graphics and creating animations within After Effects. No footage will be required as we are diving into the visual effects aspect of After Effects, but if there is time, we can start the basics of VFX.

Presented by: Renezel Lagran, Christian Cadiz, Austin Alimbuyuguen, Maui High School ACOM

Blender - Basic (DM2)

Learn the basics of animation in Blender. Blender is an open source (free) 3D animation program.

Presented by: Tate Romero, King Kekaulike High School STEMworks Lab

What does it take to become a Filmmaker (DM3)

So you think you want to be a Filmmaker.. What does that mean today and how can you realize your goal? We'll take a hard look at what kind of activities and studies can improve your chance of making media professionally down the road as well as what realistic professions are viable and available to Filmmakers in Hawaii.

Presented by: Jess Cole, Jess Cole Films

(HipHop x STEM): A Technology of The Breaks (DM4)

This presentation and workshop will look at the ways that science, technology, engineering & mathematics informs HipHop culture and how HipHop culture informs STEM. From digital sampling to turntables-as-instruments to building one's own outdoor sound system. HipHop has always been involved with STEM, just not in the "textbooks & worksheets" way that most people think of it.

This workshop will culminate in hands-on experience using Adobe Illustrator to **Hack the Alphabet into Technical Graffiti.**

Presented by: David Goldberg



Illustrator - Beginner (DM5)

This session will teach participants the foundation of Adobe Illustrator, including the lessons on the functions of different tools, tutorials & artistic tips. As well as the ways for the participants to integrate the knowledge into other interests such as: Photoshop, computer graphic programming (processing), advertisements, web design, game development, animations, story telling & more.

Presented by: Thanthawat Moengchaisong, King Kekaulike High School STEMworks Lab

Illustrator - Advanced (DM6)

This session will build upon what is taught in the beginners and provide tips and tricks. *Presented by: Thanthawat Moengchaisong, King Kekaulike High School STEMworks Lab*

InDesign - Basic (DM7)

Adobe InDesign is the industry standard desktop publishing software for print publications, digital magazines, ebooks, & interactive PDF documents. Through hands-on activities, students will learn the basic tools, the workspace, and workflow to create a basic two page spread for print.

Presented by: Kulea Sado, Maui High School ACOM

Photoshop - Beginners (DM8)

Session will cover basic foundation in using Adobe Photoshop. Learn about special affects, image & photo manipulation.

Presented by: Chris Nishioka, UH Hilo Continuing Education

Ready, Set, Animate! (DM9)

Presented by: Shane Asselstine, Momilani Elementary

Before Minecraft, there was LEGO! Before movies there were pictures! Engage students in an activity that can span any content area or standard while allowing students to express learning through creative stop motion animations. During this hands on workshop participants will use the LEGO Movie Maker iOS app to create short stop motion animations. You bring the device with the app installed, I will bring the LEGO, together we will make learning entertaining!

ENGINEERING

3D Printing (E1)

Bringing 3D into the physical world. This session will give a brief introduction to CAD. The workshop will focus on how to obtain a high quality print after the CAD is finished. You will learn how to setup and slice files, create rough drafts to high quality projects. Learn about the different bed & nozzle temperatures that affect printing. Session will showcase two different printers. You will learn how to adjust the settings, modifying 3D files to allow for easier printing, benefits and disadvantages of each printer and the final products each can design and print. Each student will have a file to print. We will demonstrate the different calibration and leveling techniques used in printing. No CAD experience necessary.

Presented by: Christian Fillazar, Brendan Geffe, Maui High School STEMworks Lab



Active Noise Control (E2)

The class will be two hours long with a short introduction to acoustics followed by hardware experiments that will demonstrate how to implement active feedback and feed forward noise control. The hardware includes microphones, speakers, ducts and graphical programming of a digital signal processor to implement control laws. Some background in acoustics is preferred, but not necessary. Students will be introduced to concepts that enable active headphones and active noise cancellation in cars and airplanes. *Presented by: Steve Griffin, David Bloyer, Scott Ibara, Boeing Co.*

From Here to There (E3)

Participants will work with air trolleys to define terms, gather & graph data, and analyze outcomes. They analyze graphic representations of races between several different competitors in both print & multimedia formats. Also, they will modify their air trolley based on certain constraints.

Presented by: Maggie Ostler, Delta Education/FOSS

Imaging Through Turbulence (E4)

Explore the technique of adaptive optics (AO) with scientists at the Advanced Maui Optical & Supercomputing Site! Learn some basic principles of optics, how imagery is affected by turbulence, and how scientists use AO to remove effects of the turbulent atmosphere in real-time. Students will participate in a turbulence "sensing" station, a "correction" station, and an entire system demonstration station, where basic engineering concepts will also be addressed. A short synthesis and Q&A will follow the hands-on activities. *Presented by: Ryan Swindle, Stacie Williams, Air Force*

Motors and more (E5)

Join Maui Electric's electrical engineers for a hands-on activity. You will learn about various power sources and build your own motor.

Presented by: Curtis Omuro, Leonardo Lunario, Maui Electric

STEM in Action: Bottle Cap Projectile Launchers (E6)

Students will be introduced to math and science concepts through the Engineering Design Process as they design, create, and test objects in real world situations. The challenge will be to defend yourself against the Zombie Apocalypse by designing a hand-held launcher with everyday materials to make it out of town to safety.

Presented by: Charles Souza, Ryan Saito, Elemental Minds

MAPPING

Mapping Made Easy GIS/GPS (M1)

Build your own customized map. Our database contains a comprehensive collection of items (layers) that can be customized, printed, saved, and even emailed and shared with your colleagues. Using publicly available data, we'll walk you through mapping out your own backyard or creating a special school project using ArcGIS Explorer online. *Presented by: Chris Nishioka, UH Hilo Continuing Education*

Pirate Vector Maps (M2)

Students will create a pirate treasure map & include their own directions from a starting point to the treasure! But...what happens when all of the directions get mixed up? Will you ever be able to find the treasure? This activity incorporates math & physical science standards while allowing artistic freedom when creating their pirate maps. **Recommended for 6th to 9th grade.** *Presented by: Cindy Tanaka, Hilo High School*

sUAS – Small Unmanned Aerial Systems (M3)

Learn about sUAS commonly known as Drones. What AMA and FAA rules and regulations are. Up and coming exciting careers using sUAS. Be part of a racing drone team and see what a simulator can do. *Presented by: George Purdy, Scot Refsland*

SCIENCE

AFRL Planetarium (S1)

Explore the heavens from the Air Force Research laboratory's portable planetarium! Learn about popular night-sky objects that you can see from your backyard, either with the naked eye or the aid of a small telescope or binoculars. This digital planetarium show will teach you how to understand astronomical coordinate systems, use important points to find stars, planets, constellations, and even satellites! *Presented by: Ryan Swindle, Stacie Williams, Air Force Research Laboratory*

Common items, Uncommon results! (S2)

Join us for Hardware Science and learn how ordinary items from a hardware store come together in extraordinary ways! You will build the world's simplest electric motor, make your own air canon, explore chemical reactions and leave with a few tricks up your sleeve! Wow your friends, impress your teachers and do science like a BOSS! *Presented by: Carrera Catugal, Tammy Gomes, HouseMart/Ben Franklin Crafts*

Island Energy Inquiry: Moving Light Around Us (S3)

Get your bodies, minds, and eyes busy to discover for yourself what humans need, in order to see. You'll be working with sets of mirrors and prisms, plus assorted lights, to target your friends—in the dark? Learn how we humans have mastered the art of changing light's pathways. *Presented by: Graham DeVey, MEDB*

LIFE & SOCIAL SKILLS

Art of Networking (LS1)

Whether you're wanting to make new friends, create study groups or make a career connection, networking can help facilitate those needs. In this session will provide strategies for students to become familiar with effective ways of networking and will be able to "role play" those strategies from sample scenarios provided. We will also touch on professional communication styles in this ever growing world of social media. Whether you are the most shy of the group or well versed with people skills, you're bound to learn something new in this session.

Presented by: Myhraliza Aala, UH Manoa, College of Engineering

Body Lingo Bingo: What your body language is telling others (LS2)

One of the most pervasive forms of communication is not the spoken word, but our body language. Body Lingo Bingo will explore non-verbal communication including body posture, gestures, eye contact and facial expressions. Learn how to walk into a room with confidence and read other people's body language. This extremely interactive workshop will give you more confidence and teach you how to read other people's body language. Ever wonder what it means when someone scratches their nose? *Presented by: Alexis Dascoulias, OnStage Maui*

Change the Way You See Everything: Asset Based Thinking (LS3)

This refreshing new way to shift your mindset creates monumental results. Making small shifts in your day to day thinking is proven to promote greater resilience, optimism and confidence. Many outcomes in our lives are the result of our perception and thinking – so keep them positive and powerful.

This workshop is specifically designed for high school juniors and seniors.

Presented by: Alexis Dascoulias, Camp CenterStage/Maui OnStage

Is That Really What You Said? (LS4)

Effective communication, listening and speaking. Have you ever arrived at the end of your day to discover that something you said before your first class has been completely turned around? This workshop will guide you through steps to help you become a more effective communicator by developing your speaking AND listening skills. Practice the important act of mirroring and reflecting when listening and how to check in with someone if you are doing all the talking.

Presented by: Alexis Dascoulias, Camp CenterStage/Maui OnStage

Risk Taking: When is it the right choice to out on a limb? (LS5)

Risk taking can create great, positive and wonderfully unforeseen outcomes. It can also lead to disaster. Unlike negative risks, which are usually impulsive and driven by emotions, positive risks are calculated and to bring us incredibly positive results. This workshop will help you identify how to take positive risks and how to strategic plan so that you can think through and anticipate all that could happen before you jump!

Presented by: Alexis Dascoulias, Camp CenterStage/Maui OnStage

Show Me The \$\$ (LS6)

Learn to compare local community college to university costs. Understand the educational and financial decisions of becoming a college student and the impact of your family needs. Participants will gain valuable financial tips to benefit their career and life goals. Show me the \$\$ MONEY \$\$

Presented by: Juli Patao, Hoku Hobbs, Crystal Ceballos, UH Maui College-Career Link



Startup Ideation Bootcamp (LS7)

If you have an idea for a startup that could use some refinement, then join us for the Startup Ideation Bootcamp. In just one hour, this intensive workshop will help you improve your idea, come up with new ideas and even recruit potential co-founders. What are the components of a great idea? How do you know if you are working in an attractive market? How do you validate that your idea is great?

Presented by: Russel Cheng, DevLeague LLC

STEMworks College Tool Kit (LS8)

It is never too early to start planning! This session will provide you with a booklet outlining the steps you need to take to jump start your college planning. This session will also cover resources for scholarships, mentorship programs and important deadlines. *Presented by: Isla Young, Women in Technology - STEMworks*

Story Boarding Your Life: Setting Realistic Goals & Achieving Them! (LS9)

Take a goal, any goal (getting into your top choice college, landing that great summer internship) and work as a film director to create a story board for accomplishing that goal. Pre-visualize your life and goals with images, words, illustrations and even interactive media. Leave this session with a story board & fantastic tools!

Presented by: Alexis Dascoulias, Camp CenterStage/Maui OnStage

True Colors: What Makes You Successful (LS10)

Identify your true colors and personality traits by recognizing your values, motivations, strengths and stressors. Then use this knowledge as a tool to build better understanding and rapport with diverse groups. Understand better ways to communicate your ideas and relate to others. This is a true team building workshop.

Presented by: Alexis Dascoulias, Camp CenterStage/Maui OnStage

Hacking the Profession: Building Skills & Career Paths for Women in Cybersecurity (LS11)

What skills do you need to have to be successful in cybersecurity? What resources exist to help young women enhance existing skills and address gender gaps? How do you become a successful women "hacker"? Come and hear about this exciting and upcoming career from Jodi Ito, Information Security Officer for the University of Hawaii. *Presented by: Jodi Ito, University of Hawaii*