Bio & Medical

Engineering Polymers for Medical Devices *Merit*	Polymers are large molecules made of repeating subunits and make up many materials we use in everyday life. Polymers play a huge role in building life-saving medical devices used in medical procedures. It's our job as engineers in the medical device field to create products that help people recover from illnesses and live healthy lives. Engineering the materials that make up medical devices is one way to create devices with optimal performance. This workshop will cover materials science and engineering and how engineers use these engineering fundamentals to create all kinds of devices. We will discuss polymers and how they can be engineered to exhibit specific properties, and then students will get to engineer their own polymer slime!
Scientist for a day! *Nelson Labs*	Here at Nelson Laboratories, we test medical devices. Everything from a band aid to an artificial heart—we test these products to show they are safe for us to use! Come learn about the microorganisms we look for, and a hands-on demonstration of how we test these devices. We will have lab coats for you to wear as you walk through a day at Nelson Laboratories.
Nothing Fits Better Than a Perfect Pair of Genes *BioEyes*	Have you ever wondered why your hair is straight or curly, or what makes your eyes blue or brown? It is your genes! Come and learn about genetics using zebrafish. Conduct an experiment to determine what genes zebrafish adults have by examining their offspring (babies). See the beating heart of a baby zebrafish and learn why zebrafish make excellent models for human development. Unleash your inner scientist!
AQUARIUMS: Not Just For Fish! *Loveland Living Planet Aquarium*	Could you train a dragon, if you had one? Would you know how to even take care of one? Join the Loveland Living Planet Aquarium's education team for some animal edu-tainment. Don't expect to see fish, but be prepared for some other scaly, slimy and even furry critters to help us introduce you to the world of animal education. Join us for water quality tests, animal presentations, and even learn to train your classmates! Come explore, discover, and learn with us as we dive into the world of animal care, training, and education.

Code Your World

Girl(Code) *MATC*	YOU live in a world surrounded by technology, wouldn't it be great to learn how that technology works and how YOU can tell it what to do? Join us for a fun and exciting session to learn how easy it is to write your own CODE! This session is HANDS-ON, FUN and Exciting. Come learn how much fun it is when girls(code)!
Candy Code *Lucid*	Come to this "sweet" workshop and learn how to encode your name in binary using candy. No programming knowledge required. We'll make Smarties out of all of you!
Game Design: Program a Medieval Fireball Launcher *Spy Hop*	Learn how to program games using the game design software Unity3D and Javascript. Learn how to program: pickups, launching fireballs and creating an upgrade system. You will be able to download the Unity project files created in class to use in your own games.
Learning STEM Experience *Because Learning*	Come see demos of a Laser Alarm and learn how to code your name so it displays on a OLED screen!
Computer Science Unplugged *Weber State*	Computer Science is no more about computers than astronomy is about telescopes - Michael R. Fellows, Ian Parberry (1993). Are you interested in games, puzzles, and running around? Learn the basic fundamentals of computer science without a computer. Join us and learn concepts without having any prior knowledge of programming. It's the ideas that count!

Tech up Your Life

So, you want to be a hacker?: Intro to computer security and BASH scripting *vSchool*	Come learn more about malware, computer security, hacking and how to start communicating with your machine using BASH.
Pick Your Place in Technology *Ancestry*	Did you know that working in technology is not just coding? You don't have to be a scientist or mathematician, you just have to be creative with the drive to get things done. Let us show you all the different roles you can play in the tech industry that help bring technology to the masses. From DNA research to predictive forecasting to owning the executive track, you'll see why we love the tech industry and why we know there is a place for you! This is a fun, interactive session to prepare you for the diversity of roles available to you in technology.
Using Eye-Tracking Tools to Measure and Improve User Experience Design *BYU*	When creating websites, we need to try to make it easy for users to find what they are looking for. Eye-tracking tools can be used along with other tools of user experience design to track how users are actually using the website. We can improve the design based on these results.
The Latest In Tech Gadgets *Weber EAST*	Get to play with and demo new technology that is available, affordable and fun. Dr. Alex Lawrence from Weber State University will showcase some of the latest retail gadgets available.
Animation Lip Sync *Spy Hop*	Do you love animation? Would you like to learn how to create a mouth rig for lip syncs? In this session, you will learn how to sync lip movements in the industry standard software Adobe After Effects. Lip sync is an important aspect of animation with many career paths beyond cartoons in the corporate realm, like making animation how-to videos and motion graphics.
Cybersecurity: Silicon Slopes Here We Come! *SUU*	Dr. Shalini Kesar and her undergraduate students (Z. Christensen and J. Porter) will create an interactive experience to teach different aspects of security including safe practices when using the Internet.
Spark *Adobe*	Come learn how to use this free online and mobile graphic design app. Easily create beautiful images, videos, and web pages that make you stand out on social.
Hello My Name Is... *Pluralsight*	They say getting a job is all about who you know. Yes, you still have to know your stuff, but getting to know people in your field will provide more opportunities. Building connections in your industry will not only help you learn more about the path you want to pursue but you will also open doors to your desired future. Come to this workshop to learn how to identify key players in your industry, how to reach out, and how to build a real connection.

Megamaterials

Chemistry in Action: We're all about that base (and acid) *UVU*	We will be discussing careers and applications of chemistry- how is chemistry applied to everyday life, what do chemists do and why choose chemistry? This is followed by a hands-on workshop that examines the acid/base chemistry of some every day materials. We will be delving into the definition and properties of acids and bases. What in our homes is acidic? Basic? And, how does this relate to our homes and our biochemistry?
Chemistry: The Science and Fun Behind Cosmetic Formulation *NuSkin*	How are shampoos and lotions made? Come learn about what goes on behind the scenes in ideating and producing your personal care and cosmetic products!
Exploring the wonderful, tasty world of Confectionery Science *Sweet Candy*	Come learn how phase transitions in fat and sugar impact quality and development of popular confectionery items, from candy to chocolate. Come make crystals with us! Taste, feel, and see various confectionery products characteristics and unwrap their secrets using chemistry and physics principles. Learn about polymorphic structures, chocolate bloom, glass transitions, water activity and how sugar crystals and other ingredients play together to produce the vast number of confectionery products that we all love.

Drip, Drop, Dunk *BYU*	Do you like playing with water? The students and professors in the BYU Fluids Group sure do, and we want to bring our world to you! Why can some animals run on water but we sink? Why does the water coming out of your shower head look like a smooth stream at first and then become little drops before it hits you in the face? And do you know how to keep an object completely dry, no matter how much water you throw at it? We do! Come and learn our watery secrets and explore some of them for yourself!
Chemistry in Action: We're all about that base (and acid) *UVU*	We will be discussing careers and applications of chemistry- how is chemistry applied to everyday life, what do chemists do and why choose chemistry? This is followed by a hands-on workshop that examines the acid/base chemistry of some every day materials. We will be delving into the definition and properties of acids and bases. What in our homes is acidic? Basic? And, how does this relate to our homes and our biochemistry?
Diamonds are a Girl's Best Friend: The Chemistry of Diamonds *US Synthetics*	Come learn about the amazing properties of diamonds, learn how we make diamonds and their many industrial and cosmetic uses. See gem diamonds of fancy pink, blue, green and purple. You may even walk away with your own diamond!
Rapid Prototyping *MATC*	How the Manufacturing Industry is using 3D printers to more efficiently and quickly prototype new products or services. We will go over the basics of 3D modeling, splicing, and how to set up an object to 3D print.

Rockets & Robots

3-2-1 Blast off! *Orbital ATK*	Soar to new heights in this rocket propulsion workshop. Learn how a rocket lifting off is an application of Newton's Laws of Motion. Build your own rockets and see how high and how far you can go. Learn how variables such as fin shape and weight affect how high the rocket will fly.
DT Car Bots *Dealertrack*	You'll enjoy a hands-on experience learning how to program the DT Car Bots to do a variety of things, including maneuvering through obstacles. By combining the right technology with the right people, Dealertrack DMS helps automotive dealerships achieve more. Come learn how technology can be amazing and fun!
Cardboard Robot Build *Leonardo*	Students will use comparative anatomy and engineering skills to build a robotic hand. We will discuss adaptive equipment like 3-d prosthetics. We will use simple machines and engineering design to build robotic limbs. This workshop will involve group collaboration and collaborative build challenges.
Intro to Rocket Science *Leonardo*	Participate in this awesome hands-on workshop! We will learn about aerodynamics and flight. Build and test a paper rocket using an air compressed rocket launcher! Try for distance and accuracy. This workshop will give you the plans to build your own rocket launcher at home.
Discover your future with Electrical Automation & Robotics Technology *UVU*	Discover EART and what it can do for your future. Find out what is going on in Robotics & Automation. Learn how you can get involved in the expanding industry. Hands on material includes unipolar motor, robotic arms and fun.