Spring 2019 SIU Day activity options:

Students can choose two of the sessions below. Some sessions are offered only during one time-frame and others are offered during both times. Students will receive an agenda once they arrive on campus.

Sesssions listed here, but not listed on the registration form, have reached maximum capacity.

Admissions Office: (Session 1 & Session 2) Enjoy a guided tour of SIU's beautiful campus.

**SESSION FULL** Anthropology - What can bones tell us? (Session 1) Find out in this interactive forensic anthropology and bioarchaeology presentation. Forensic anthropology aids law enforcement in identifying victims of crimes by creating a biological profile: assessing age, sex, stature, and ancestry from human skeletal remains. Bioarchaeology uses the same methods to help us understand more about people of the past. We'll demonstrate one of our most common challenges—differentiating between animal and human bones and give you the chance to decide which is which. You will also learn how to estimate sex and stature on skeletal casts, how to determine types of skeletal trauma and pathology and evaluate skulls for injury and disease.

Art and Design - Get to Know the School of Art and Design: (Students choosing one of these options will be registered for both and will travel to the Art and Design facilities for Session 1, lunch, and Session 2.) Find your voice as an artist or a designer. The School of Art and Design is the ideal place to do just that. Come get a peek at what we have to offer as you enjoy tours of our metalsmithing/blacksmithing, ceramics, design, glass, painting, drawing and sculpture studios and facilities.

Automotive Technology and Aviation Technologies, Management, & Flight at the Transportation Education Center (TEC) (Students choosing one of these options will be registered for both and will travel to the TEC for Session 1, lunch, and Session 2):

**Automotive Technology - Saluki Racing Experience:** Visit the Saluki racing teams and experience various facets of our top-notch automotive technology program, located in SIU's state-of-the-art Transportation Education Center. Here's your chance to start up their racecars and watch live airbag deployment and vehicle dynamometer demonstrations.

**Aviation Technologies, Management, & Flight - Flying a Cessna 172 Flight Simulator and Flying Unmanned Aerial Vehicles through an Obstacle Course:** SIU's state-of-the-art Transportation Education Center is home to our nationally recognized aviation programs. Here you'll find the most technologically advanced simulators, offering first-hand experience in what it's like to fly a Cessna 172. You can also fly an unmanned aerial vehicle (drone) through an obstacle course.

Chemistry and Biochemistry - Art of Printing a Lab on a Plastic-Chip: (Session 1 & Session 2) There's so much you can do with a desktop printer. They aren't just good for printing worksheets and posters. They've also proven their power constructing small chips on paper and plastics that can be used to detect deadly diseases. Such low-cost platforms are in high demand in resource-limited settings. You will get a hands-on experience printing such devices during this session.
Chemistry and Biochemistry - Detecting Malfunctioning Genes on a Chip: (Session 1 & Session 2) Our genes contain our life codes. These codes define not just our physical structure but also what diseases we may be prone to. Some diseases, mainly affecting the function of our nerves and muscles and therefore called neuromuscular diseases, are actually caused by uncontrolled repetition of certain types of codes. Learn an easy method to detect the unique electrical response of these genes on a small chip during this workshop.

Chemistry & Biochemistry - Identification of Controlled Substances Using Gas Chromatography - Mass Spectrometry: (Session 1 & Session 2) Forensic drug chemistry is a vital part of our legal system. Simply put, it's the identification of controlled substances within the criminal justice system. Tour the SIU Mass Spectrometry Facility and watch a demonstration of a gas chromatograph - mass spectrometer (GCMS) collecting data on a host of controlled substance standards including methamphetamine, cocaine, heroin and morphine. Learn how to recognize these standards and how unknown controlled substances are identified, then take on a challenge. Can you identify a series of unknowns using presumptive color test results and confirmatory GCMS data?

Chemistry and Biochemistry - Polymerize Your Head! - A Photolithography Demonstration: (Session 1 & Session 2) You will create a polymer silhouette of your own shadow using the concept of photolithography. This technique uses light and a pre-fabricated photomask to generate polymer structures that match the details of the photomask upon polymerization of an irradiated monomer solution. It all starts when we take a digital image of your shadow. Then we process that image into a photomask and allow you to create (and keep) a polymeric version of your shadow on a 2" by 3" glass slide. We will also have premade photomasks that contain logos of SIU and other professional sports teams if you would rather create alternative polymer-based shapes. End the session with a tour of an active organic chemistry research laboratory.

Chemistry and Biochemistry - Probing Molecular Structure with Nuclear Magnetic Resonance; The Science Behind MRI: (Session 2) What is a molecule made of? Dive in to a hands-on examination of molecular structure using nuclear magnetic resonance (NMR). You'll get to prepare NMR samples, use state-of-the-art instrumentation to acquire NMR spectra and determine molecular structures. You will also learn about new MRI methods for imaging disease. (Warning for individuals with medical implants: this lab contains strong magnets.)

Cinema and Photography - How to Be a Clever Critic: (Session 1) Put to the test Socrates' dictum, "the unexamined life is not worth living." Practice the art of scholarly criticism. Learn to apply academic methods (sociology, philosophy, history, psychology) to artworks (literature, film, painting, music, theater, photography, television). See for yourself how this creates new knowledge in the world.

Civil and Environmental Engineering - Build-A-Bridge: (Session 1) Have you taken a road trip recently? If so, you've probably crossed many bridges on the way. You likely traverse bridges on a near-daily basis. But do you know how these bridges are designed, who designs them, and where these professionals are trained to create safe, beautiful bridges? Here's your chance to find out with hands-on demonstrations. You can even design and build your very own bridge, using specialized computer software, then test your design expertise by "driving" a truck across it.

Civil and Environmental Engineering - Water Water Everywhere: (Session 2) Have you thought about what happens when structures such as dams or piers are placed in fast-flowing river water? See for yourself during this fast-paced exploration of the power of water forces. Civil engineering, the oldest and broadest field of engineering, involves building and maintaining our vast infrastructure to protect the health, safety and welfare of the public on a daily basis and much more. Check out the hands-on demonstrations in our labs to learn more about civil engineering.

Counseling, Quantitative Methods, and Special Education - The Importance of Special Education Teachers: (Session 1 & Session 2) This session highlights the importance of special education teachers and their work. The worldwide
phenomenon of Special Olympics traces its roots to SIU’s Touch of Nature Environmental Center, and we'll relate the types of instruction students with disabilities receive in public schools to Special Olympics athletes, touching on content area and functional academics, social skills, emotional development, and community-based instruction.

**Crop, Soil and Environmental Sciences - Biotechnology in Agriculture: (Session 2)** Farming is big business these days, not a simple seed and soil operation. Experience agriculture in the modern world through hands-on activities and demonstrations in our innovative crop labs.

**Curriculum & Instruction - It All Starts in an Early Childhood Classroom; Doctors and Lawyers and Chemists...Oh My!: (Session 2)** This session illustrates how early childhood programs pave the way to success in multitudes of career paths. Tour our Child Development Lab, learn what a lab school is and what happens here, and explore the multitude of opportunities it offers, including practicums, volunteer options, student work and internships.

**Curriculum & Instruction: Exploring the World of 3D Design and Art to Transform STEM Education: (Session 1 & Session 2)** Explore the world of 3D design and art and how it transforms STEM education. Our design to learn and teach model makes learning enjoyable through fun, 3D designs.

**Electrical & Computer Engineering - An Internet-of-Things based Virtualized Environment and Accelerate Video Analytics: (Session 1 & Session 2)** This demonstration begins by utilizing a Microsoft Hololens device and interacts with physical objects via virtual switches. An Internet-of-Things based service, running in the background, is responsible for handing the requests and activating/deactivating the devices. Wearing augmented reality glasses enables you to see virtual objects, and by virtually touching these objects, you can interact with the physical world.

The goal of the second part of the demonstrations is to accelerate video-based services and analytics with internet-of-things. Conventional approaches require cloud-based solutions to process the video and return the result back to the user. However, this introduces undesired latency. The solution is to off-load computational heavy parts on intermediate devices reducing the delay and achieving better frames-per-second.

**SESSION FULL Electrical & Computer Engineering - Cooperation of Induction Motors and Synchronous Generators in Power Systems: (Session 1 & Session 2)** The goal of this demo is to provide a hands-on experience for visitors to work with 3-phase induction motors and synchronous generators. At first, a three-phase AC source will be implemented on an induction motor to observe its output energy leading to the rotation of a mechanical load. The performance of the motor will be validated when 1) a higher pressure is applied from the mechanical load and 2) a larger input current is injected from the AC source.

After verifying the effectiveness of the induction motor, it will be employed as the prime mover of a synchronous generator. In this phase, the efficiency of the generator will be evaluated when a larger mechanical input energy is applied on the shaft of the generator. Finally, the visitors will observe the cooperation between the induction motor and the synchronous generator, leading to the production of electric current which will be utilized to supply a 3-phase resistive-inductive-capacitive load.

**Engineering Technology - Sights and Sounds of Electricity: (Session 1 & Session 2)** Observe the wave shapes of electric signals and hear what each sound like. During a laboratory activity and basic test, instruments produce and display common electrical signals. You can connect a signal source to a display device and observe how changing signal parameters affects the shape of the displayed signal. When these signals are injected into an audio amplifier, you can hear what each wave shape sounds like and get an auditory representation of each signal. This is a great way to get acquainted with basic electronic laboratory instruments and learn about their usage, too.
English - (Creative) Writing in a Digital Age: (Session 1) Virtual reality, podcasts, Twine: digital media and platforms are reshaping the ways that writers write, what they write, and how writers connect with audiences. Come learn about the opportunities SIU English students have to hone their craft for the digital age.

English - Harry Potter Goes to College: (Session 2) Colleges across the country now offer courses on J.K. Rowling's Harry Potter novels. Come see how and why we study Harry Potter at SIU.

Exercise Science - Kinesiology - Blast Off with Exercise Science; the Launch Pad Major: (Session 1 & Session 2) Tour our exercise science hands-on lab areas and discuss with faculty how exercise science can be the launch pad into careers in medicine, physical therapy, occupational therapy, athletic training, strength and conditioning, coaching, personal training and corporate fitness.

Fermentation Science Institute - Introduction to Fermentation Science: (Session 1 & Session 2) Learn what fermentation science is all about - its history, current practices and future. You'll get an overview of the plethora of value-added beverages, food and industrial products produced by fermentation. Enjoy a guided tasting of fermented foods and beverages and a tour of the Fermentation Science Institute as well.

Finance - Bloomberg Demonstration: (Session 1 & Session 2) Experience innovation and the future of business as you view a Bloomberg technology demonstration - which provides state-of-the-art real-time commodities and financial trading simulations. Meet bigtime investment managers - a student panel comprised of Saluki Student Investment Fund members who manage a $2.4 million portfolio for the university.

Fisheries and Aquaculture - Aquaculture Research: (Session 1 & Session 2) Tour SIU's state-or-the-art aquaculture facilities where fish, invertebrates and other animals are raised and maintained. Learn about ongoing research projects related to aquaculture, conservation and toxicology.

Forestry - Wildlife Survey Techniques: (Session 2) Wildlife surveys protect living creatures and their habitats. Find out how as you participate in an interactive overview of common wildlife survey techniques for mammals, birds and herpetofauna (aka reptiles and amphibians).

Geology - Dinosaurs and Minerals: (Session 1) Check out the new dinosaur exhibit and discover the link between dinosaur remains and mythology, courtesy of our Department of Geology. Experiment with our virtual reality sandbox to get a better understand of mapping concepts and examine mineral specimens, too.

Hospitality and Tourism Administration; Department of Animal Science, Food and Nutrition - Dress for Success on a Dime: (Session 1 & Session 2) You only get one chance to make a first impression. Making a great first impression is important in everything you do- from meeting new people to starting your career. We'll show you how, on a small budget, to set yourself apart from the crowd. Enjoy a fun demonstration as SIU students showcase professional attire and talk with you.

IMAGE center and Department of Chemistry and Biochemistry - Imaging at Microscopic Scale: (Session 1 & Session 2) Seeing is believing, even at the tiniest level. Experience imaging at the nanoscale level utilizing our state-of-the-art electron microscopes. Thanks to 3D imaging with electrons you can observe features at thousands to millions of times smaller than what your naked eyes can see.

Linguistics - Forensic Linguistics: (Session 1 & Session 2) Forensic linguistics uncovered J.K. Rowling as the author of the crime novel "The Cuckoo's Calling," despite Robert Galbraith's name given as the writer. It solves numerous other mysteries and crimes as well. Learn the basic skills of forensic linguistics during this presentation by the Departments of Criminology and Criminal Justice & Linguistics, and see how these techniques apply to real criminal cases.
Management - The Process Improvement: (Session 1 & Session 2) Operating a business of any size requires management skills. Participate in an exercise demonstrating process management, process improvement, customer/supplier relations, group decision making and critical thinking. You'll also learn from management department professionals how to interpret what's happening and apply that knowledge to other management concepts.

SESSION FULL Marketing - A Blind Taste Test: Brand Comparisons: (Session 1 & Session 2) Companies frequently use a blind taste test to compare their brand to another brand or develop new products. We will demonstrate how consumers are vulnerable to brand perceptions during this session. You can take part in a blind taste test where a popular name brand soft drink and a less expensive generic brand are compared, using a seven-point Qualtrics scale on your smartphone. See the preference results on the spot and determine if there is a taste preference.

Mathematics - Puzzles, Games, and Applications in Math: (Session 1 & Session 2) Math is fun. Come enjoy mathematical puzzles and games, and see how mathematics is used in real world applications.

Mechanical Engineering - Animal Behavior Tracking System and its Brain Activities: (Session 1) Check out this fascinating lab demonstration of devices that track animal behavior and image animal brain activity.

Mechanical Engineering - Force Mediated Stem Cell Differentiation into Functional Body Cells: (Session 1 & Session 2) Discover intriguing SIU cancer and stem cell research involving force-mediated stem cell differentiation and functioning body cells.

Mechanical Engineering - SIU Formula Race Team (Racecar): (Session 1 & Session 2) Formula SAE is a premier collegiate design competition in North America, and team members say the FSAE competition is one of the greatest learning experiences in an engineer's college career. The goal of this team is to design and build a complete Formula-style racecar. The team has adopted three goals they incorporate into their cars: reliability (design the car to withstand the highest stresses and function optimally), weight (make the lightest, most efficient vehicle possible), and ergonomics (make the car so it's understandable by various people). Come see SIU's Formula racecar, and talk with students who design and race it.

Mechanical Engineering - SIU Rover Design Team (Moonbuggy): (Session 1 & Session 2) Each year SIU Engineering creates a "moonbuggy" and competes in the NASA-sponsored Human Exploration Rover Challenge at NASA's Space and Rocket Center in Huntsville, Alabama. Our buggy won't travel on the moon, but it must traverse ¾ mile of a simulated lunar terrain. Come see the Rover (Moonbuggy) and talk with students who design it and compete in this elite contest.

Office of Teacher Education - The Good, the Bad, and the Magnificence of Teaching: (Session 1) This is an engaging, interactive opportunity to connect with current SIU student teachers and share how SIU's teacher education programs prepare them to shape the future through teaching.

Performance Studies - Post-apocalyptic Puppet Show & Workshop: (Session 2) Here’s your chance to get an up-close look at the world of theater and discover exciting student opportunities in the Department of Communication Studies. See elements of the upcoming Kleinau Theater show, "Depressme Street," which weaves together literature, pop-culture, personal narrative and lore. Observe a scene first-hand, participate in a puppet workshop, and learn more about exciting student opportunities in the Department of Communication Studies.

Physics - Interested in Physics: (Session 1 & Session 2) Do you like science? It began with physics. Discover the ins and outs of physics, what a bachelor's degree entails, what classes are involved, what careers are possible and what a bachelor's degree in physics is worth.
Physiology - Frog Leg Action Potential and Human Cadaver Organs: (Session 2) Experience an interactive laboratory utilizing a dissected frog leg. This is an interesting activity illustrating how the action potential of skeletal muscle is generated and how this results in physical movement. You can also view and handle human organs from our cadaver laboratory.

Psychology - Career Interest "Party" - See an Example of a Counseling Psychology Intervention: (Session 1 & Session 2) Participate in a live-action career interest "party," talking to undergraduate students with majors reflecting different career interest types: realistic, investigative, artistic, social, enterprise, conventional. As you chat you'll get a "Holland code," an interest code that you can use to find career information online through the U.S. Department of Labor’s O*Net Online career exploration tool. We'll share the resources and instructions you need to make your "code" work for you. If you're interested in helping others through psychology or if you're undecided about your career goals and/or major, this workshop from psychology/College of Liberal Arts is for you. We'll help you explore your interests and learn how to use those interests to narrow career options and choose a major.

Psychology - From Neurons to Nations - The Science of Psychology: (Session 1 & Session 2) Explore a wide range of psychology topics through exciting, hands-on demonstrations. Delve into the psychology of prejudice with special activities and discussions. Learn about neuroscience with interactive demonstrations. Meet psychology faculty and students as you discover why this is one of the strongest and most diverse programs SIU offers!

Public Health - Opportunities in Public Health: (Session 1 & Session 2) Recreation, public health and wellness are growing fields, offering numerous career opportunities and jobs. We'll introduce you to our public health and recreation program and highlight the crossovers between the two programs (healthy living, exercise, emotional/mental wellness, etc.). Then you can check out the Dawg Lounge and other cool features of SIU's Student Health Center/Wellness and Health Promotions, as well as our Student Recreation Center. Learn about mental health, physical activity and careers that relate to these areas of public health. If time allows, we'll introduce you to our Sustainability Office, located at the Student Center.

Public Relations - Kim Kardashian and Kanye: A Public Relations 💕 Story: (Session 1) Public Relations (PR) is one of the fastest growing professions in the United States. With Kim and Kanye as reference points, we'll highlight PR career opportunities and courses. Current PR students and an alum, who works in New York City on Morgan Stanley's human resource innovation team, will lead the discussion. Come learn how to represent a large brand or people like Kim and Kanye!

Radio, Television, & Digital Media - Live and On the Air: (Session 1) Join a television news team for the day. Learn how a nightly TV newscast is created and broadcast. Try out your skills in the anchor chair, at the "weather wall," running a studio camera, or pushing the buttons in the control room.

Recreation - We're in the Business of Having Fun: An Introduction to Recreation Professions: (Session 1 & Session 2) That's how we feel about recreation professions, and we invite you to participate in an interactive presentation providing an introduction to our three areas of specialization: outdoor recreation, therapeutic recreation, and recreation management.

Rehabilitation Institute - Showcase of the SIUC Center for Autism Spectrum Disorders: (Session 1) Tour the labs of our renowned Center for Autism Spectrum Disorders and Communication Disorders Lab. Experience the life-changing work our behavior analysis and therapy and our communication disorders students get involved in.
School of Accountancy - See Your Future! Meet a Successful Saluki: (Session 1 & Session 2) You can meet successful business executives from around the globe who are originally from Southern Illinois, and who launched their successful careers by studying accounting at SIU. You can chat with them in small groups and ask them questions about their journeys. Come see what the future could hold for you!

School of Allied Health - Experience and Tour Health Career Labs: (Session 1 & Session 2) SIU’s School of Allied Health is the gateway to a wide variety of programs and careers in the health care field: dental hygiene, health care management, mortuary science and funeral service, physical therapist assistant and radiologic sciences. Visit and tour our health career labs and our dental hygiene clinic.

School of Architecture - Designing with Digital Fabrication: (Session 1 & Session 2) Learn how to design for the future as you tour the School of Architecture’s Digital Fabrication Lab and visit the gallery where you can view examples of what digital fabrication enables designers to create and what might be possible in the future. Assemble a precut model from the Digital Fabrication Lab and experience an interactive Post-Up the Future activity, too.

School of Architecture - Project Runway SIU: (Session 1 & Session 2) It’s Project Runway time at SIU. Experience what it’s like to plan, organize and create a custom look as you use unconventional materials to construct a garment.

School of Information Systems and Applied Technologies - Android Programming with App Inventor: (Session 1 & Session 2) You can create an app! Learn about concepts for developing applications that run on the Android platform. Get first-hand experience creating mobile applications using App Inventor, an open-source visual development tool.

School of Law - Mock Trial Team: (Session 1 & Session 2) “So You Want to be a Lawyer” provides students with a courtroom tour and the chance to experience a mock trial.

School of Music - Drum Circle: (Session 1 & Session 2) Interested in music? Come check out the School of Music at Altgeld Hall for a "hands-on" musical experience. Through the power of drumming, you will develop a deeper understanding of rhythm and groove while also learning about the cultural history of various unique percussion instruments, including djembes, congas, bongos, frame drums and more. No formal musical background is required in order to enjoy this session.

SESSION FULL Social Work - Social Workers Making a Difference: (Session 2) Social work makes a difference, and we'll show you how. Current and former social work students will facilitate a hands-on service project showing how they make a positive difference in people’s lives.

Sociology - Girl's Rock Carbondale Study: (Session 1) Experience the empowerment of "Girls Rock," a youth-centered Carbondale program that instills participants with a sense of identity based on shared musical experiences.

SESSION FULL Sports Administration - Kinesiology - Make Your Dreams a Reality; Explore Career Opportunities in Sport Administration: (Session 1) Tour SIU’s athletic facilities, including the Saluki Stadium and the SIU Arena. Explore career opportunities in sport administration, including sports media, facility and event management, athlete management and athletic director.

Student Panels: (Session 1 & Session 2) Hear what college life is really like as SIU students share their college experiences in and outside of the classroom and meet leaders of campus Registered Student Organizations.

Student Support Services: (Session 1 & Session 2) Learn about the many services SIU offers its students to help them adjust to college life, complete their degrees and plan for success. That includes individualized tutoring, connecting students to cultural, social and educational opportunities and help with choosing careers, courses and majors.