



STEM on CAMPus - UMSL 2017

Class Catalog

Event Contacts

Name	Title	Phone	Email
Sarah Hines	STEM Executive	314-256-3076	sarah.hines@scouting.org
Tom Kroenung	STEM Director - contact on	314.361.0600	tom.kroenung@scouting.org

Registration opens January 20, 2017
Visit www.scoutingevent.com/312-stemoncampusumsl2017 to register



Class Catalog

STEM on CAMPus - UMSL 2017: STEM on CAMPus at University of Missouri- St. Louis

Stem Novas (Scheduled Classes)

STNO103 1-5 PM



Designed to Crunch

Math based Nova

Days: Fr

This module is designed to help you explore how math affects your life each day.

<http://www.scouting.org/stem/Awards/BoyScouts.aspx#designedtocrunch>

Maximum number of participants: 20

Prerequisites: 1,2

STNO100 8-12 PM



Shoot

Science based nova

Days: Fr

This module is designed to help you explore how science affects your life each day.

<http://www.scouting.org/stem/Awards/BoyScouts.aspx#shoot>

Maximum number of participants: 20

Prerequisites: 1,2

STNO101 8-12 PM



Start Your Engines

Technology based Nova

Days: Th

This module is designed to help you explore how technology affects your life each day.

<http://www.scouting.org/stem/Awards/BoyScouts.aspx#start>

Maximum number of participants: 20

Prerequisites: 1,2

STNO102 1-5 PM



Whoosh!

Engineering based nova

Days: Sa

Maximum number of participants: 20

Prerequisites: 1,2

NOTE: 1,2

Class Catalog

STEM on CAMPus - UMSL 2017: STEM on CAMPus at University of Missouri- St. Louis

Stem on CAMPus UMSL (Scheduled Classes)

UMSL13 8-12 PM
5



Animation

Maximum number of participants: 10

Prerequisites: 1b and 5; Bring a pack of unruled 3x5 cards and pencils

Optional: If the Scout plans to do stop-motion animation, they should bring modeling clay, model magic, or Lego figures and vehicles, plus a camera.

NOTE: 1b and 5; Bring a pack of unruled 3x5 cards and pencils

Optional: If the scout plans to do stop-motion animation, they should bring modeling clay, model magic, or Lego figures and vehicles, plus a camera.

Greg Renkey
Days: Fr

UMSL10 1-5 PM
0



Astronomy

In learning about astronomy, Scouts study how activities in space affect our own planet and bear witness to the wonders of the night sky: the nebulae, or giant clouds of gas and dust where new stars are born; old stars dying and exploding; meteor showers and shooting stars; the moon, planets, and a dazzling array of stars.

Maximum number of participants: 20

Prerequisites: 4a,c

5d

6b

NOTE: 4a, c, 5d, 6b

Fred Held
Days: Th

UMSL13 8-12 PM
6



Automotive Maintenance

Maximum number of participants: 20

Prerequisites: Essay on career in automotive field.

NOTE: Essay on career in automotive field

Jeff Allen
Days: Sa

UMSL10 8-4 PM
2



Chess

Chess builds critical thinking, forward thinking, and proper sportsmanship in young people.

Maximum number of participants: 20

Prerequisites: Read the Chess MB Booklet, bring a chess set if you have one.

NOTE: Read the Chess MB Booklet, bring a chess set if you have one

Ed Samuels
Days: Th

UMSL10 8-4 PM
3



Communication

This clear and concise definition comes from the U.S. Department of Education:

"Communication focuses on how people use messages to generate meanings within and across various contexts, cultures, channels, and media. The field of communication promotes the effective and ethical practice of human communication."

Maximum number of participants: 20

Prerequisites: 3,5,6,7,8,9

NOTE: 3, 5, 6, 7, 8 and 9

Requirements can be completed during class, but the boys need to prepare for the requirements.

3-The boys need to write a 5 minute speech, and can give the speech during class

6-The boys can teach a skill during class, but I want them to have an organized plan (teaching aids) for the skill.

9-The boys need to find 3 careers in the field of communication, and present 1 career (education, training, and experience) during the class.

Charlotte Deroy
Days: Fr

Class Catalog

STEM on CAMPus - UMSL 2017: STEM on CAMPus at University of Missouri- St. Louis

UMSL10 8-12 PM
6

Dan O'Sullivan
Days: Sa



Digital Technology

Technology has come a long way since Computers merit badge was first introduced in 1967. This badge will teach Scouts about technology in the digital age.

Maximum number of participants: 20

Prerequisites: 1,9

NOTE: TBD

UMSL13 8-12 PM
8

Charlie Disano
Days: Fr



Drafting

Maximum number of participants: 10

Prerequisites: 1, 2, 3, 6, 7

NOTE: 1, 2, 3, 6, 7

UMSL10 8-12 PM
8

Dan O'Sullivan
Days: Th



Electronics

Electronics is the science that controls the behavior of electrons so that some type of useful function is performed. Today, electronics is a fast-changing and exciting field.

Maximum number of participants: 20

NOTE: TBD

UMSL11 8-12 PM
0

Steven Bumbera
Days: Fr



Engineering

Engineers use both science and technology to turn ideas into reality, devising all sorts of things, ranging from a tiny, low-cost battery for your cell phone to a gigantic dam across the mighty Yangtze River in China.

Maximum number of participants: 20

Prerequisites: 1,2

NOTE: TBD

UMSL11 8-4 PM
1

Days: Sa



Environmental Science

While earning the Environmental Science merit badge, Scouts will get a taste of what it is like to be an environmental scientist, making observations and carrying out experiments to investigate the natural world.

Maximum number of participants: 20

Prerequisites: 3e-1,

3f-2,

4

NOTE: 3. Do ONE activity in EACH of the following categories (using the activities in this {the merit badge} pamphlet as the basis for planning and carving out your projects)

e. Endangered Species

UMSL14 1-5 PM
4

Days: Fr



Fingerprinting AND Disability Awareness

This session will cover both Merit Badges within the allotted time.

Maximum number of participants: 20

Prerequisites: Fingerprinting: no prereqs

Disability Awareness: 2, 4

UMSL14 8-12 PM
0

Chris Spiegel
Days: Fr



Game Design

Maximum number of participants: 20







Prerequisites: 5, 6, 7, 8

Requirement can be completed during class, but the boys need to prepare for the requirement. Bring your completed game prototype, and be prepared to discuss requirements. 8 - The boys need to find 3 careers in game development and present 1 career (education, training, and experience).

NOTE: 5, 6, 7, 8

Class Catalog

STEM on CAMPus - UMSL 2017: STEM on CAMPus at University of Missouri- St. Louis

UMSL14 1 Fred Held Days: Sa	1-5 PM 	 Genealogy Maximum number of participants: 20 Prerequisites: 2, 3, 4b, 5, 6, 7 NOTE: 2, 3, 4b, 5, 6, 7
UMSL14 2 Days: Th	1-5 PM 	 Geology Maximum number of participants: 20 Prerequisites: 3, 6d; prepare a presentation on your state fossil (MO is the crinoid). NOTE: 3, 6d; prepare a presentation on your state fossil (MO is crinoid)
UMSL11 3 Steven Bumbera Days: Fr	1-5 PM 	 Inventing Inventing involves finding technological solutions to real-world problems. Inventors understand the importance of inventing to society because they creatively think of ways to improve the lives of others. Explore the world of inventing through this new merit badge, and discover your inner inventiveness. Maximum number of participants: 20 Prerequisites: 2,6,7,8 NOTE: TBD
UMSL11 4 Eric Hayes Days: Th	8-12 PM 	 Medicine The practice of medicine has a rich history that spans several centuries. Since the first use of plants and other items as simple medicines and balms, many men and women have contributed to the advancement of the "healing arts." Maximum number of participants: 20 Prerequisites: Read merit badge book and be ready for discussion. Req 10,complete and be ready to provide details of your event. NOTE: 10
UMSL11 4 Days: Fr	1-5 PM 	 Medicine The practice of medicine has a rich history that spans several centuries. Since the first use of plants and other items as simple medicines and balms, many men and women have contributed to the advancement of the "healing arts." Maximum number of participants: 20 Prerequisites: Read merit badge book and be ready for discussion. Req 10,complete and be ready to provide details of your event. NOTE: 10
UMSL14 3 Tim Thorndike Days: Sa	8-12 PM 	 Music Maximum number of participants: 20 Prerequisites: 3, 4, documentation that these are complete nad ready to share with the class. Also, bring your instrument to play; if your instrument is not played in the trebel clef, contact Mr. Thorndike at 314-984-8884. NOTE: 3, 4, documentation that these are complete, and be ready to share with the class. Also, bring your instrument to play; if your instrument doesn't not play in the treble clef, contact Mr. Thorndike at 314-984-8884.
UMSL14 3 Mark Beyke Days: Fr	1-5 PM 	 Music Maximum number of participants: 20 Prerequisites: 3, 4, documentation that these are complete nad ready to share with the class. Also, bring your instrument to play; if your instrument is not played in the trebel clef, contact Mr. Thorndike at 314-984-8884. NOTE: 3, 4, documentation that these are complete, and be ready to share with the class. Also, bring your instrument to play; if your instrument doesn't not play in the treble clef, contact Mr. Thorndike at 314-984-8884.

Class Catalog

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UMSL11 8-12 PM
8

Thomas Voller
Days: Fr



Nuclear Science

Nuclear science gives us a simple explanation of the natural world. The ultimate goal of nuclear science is to find out if there is one fundamental rule that explains how matter and forces interact. Earning the Nuclear Science merit badge is a chance for Scouts to learn about this exciting field at the cutting edge of science today.

Maximum number of participants: 20

NOTE: 1c, 2b, 3b

UMSL11 8-4 PM
9

Days: Sa



Personal Management

Personal management is about mapping a plan for your life that will involve setting short-range and long-range goals and investigating different ways to reach those goals. Education, training, and experience all help make your goals become a reality. To achieve your goals, you will choose the best path and make a commitment to it, while remaining flexible enough to deal with changes and new opportunities.

Maximum number of participants: 15

Prerequisites: 2a, 8

NOTE: 2a, and 8

UMSL12 1-5 PM
0

Timothy Krueger
Days: Th



Photography

Beyond capturing family memories, photography offers a chance to be creative. Many photographers use photography to express their creativity, using lighting, composition, depth, color, and content to make their photographs into more than snapshots. Good photographs tell us about a person, a news event, a product, a place, a scientific breakthrough, an endangered animal, or a time in history.

Maximum number of participants: 20

NOTE: 5. Photograph 3 of the following, then share your work with your counselor.

- a. close-up of a person
 - b. 2 to 3 people interacting
 - c. Action Shot
 - d. Animal Shot
 - e. Nature Shot
 - f. picture of a person-candid, posed or camera aware.
6. Describe how software allows you to enhance your photograph after is taken. Select a photo you have taken, the do ONE of the following, and share what you have done with your counselor.
- a. Crop your photograph
 - b. Adjust the exposure or make a color correction
 - c. Show another way you could improve your picture for impact.
7. Using images other than those created for requirements 4, 5, or 6, produce a visual story to document an event to photograph OR choose a topic that interests you to photograph. Do the following:

- a. Plan the images you need to photograph for your story.
- b. Share your plan with your counselor, and get your counselor's input and approval before you proceed.
- c. Select 8-12 images that best tell your story. Arrange your images in order and mount the prints on a poster board, OR create an electronic presentation. Share your visual story with your counselor.

UMSL14 8-12 PM
5

TV Venkatesh
Days: Sa



Plant Science

Maximum number of participants: 20

Prerequisites: Req. 6; also collect 5 types of grains and 5 types of lentils, and research different geographies where they are grown in the world. Bring your collections in small ziplock bags (a spoonful of each grain/lentil will suffice).

NOTE: Req. 6; also collect 5 types of grains and 5 types of lentils and research different geographies where they are grown in the world. Bring a spoonful of each in small ziplock bags.

Class Catalog

STEM on CAMPus - UMSL 2017: STEM on CAMPus at University of Missouri- St. Louis

UMSL12 8-4 PM
1

Jarvis Wu
Days: Th



Programming

Programming Merit Badge.

Maximum number of participants: 20

Prerequisites: 1a

5(work through as much of this as you can, there will be time in class to get help and complete it if necessary)

NOTE: TBD

UMSL14 1-5 PM
6

Greg Webb
Days: Sa



Public Health

Maximum number of participants: 20

Prerequisites: 7

NOTE: 7

UMSL14 1-5 PM
7

Cathy Johns
Days: Sa



Public Speaking

Maximum number of participants: 15

Prerequisites: 4 (be ready to present your 8-10 min speech); Read about parliamentary procedure before camp.

NOTE: 4; be ready to present your 8-10 minute speech. Read about parliamentary procedure before camp.

UMSL14 8-4 PM
8

Thomas Dougherty
Days: Fr



Radio

Maximum number of participants: 20

Prerequisites: Read and bring the Merit Badge book with you.

NOTE: Read and bring the merit badge book with you

UMSL12 8-12 PM
3

Joe Wolf
Days: Sa



Robotics

Earning the Robotics merit badge requires a Scout to understand how robots move (actuators), sense the environment (sensors), and understand what to do (programming); he should demonstrate robot design in building a robot. You should help ensure that the Scout has sufficiently explored the field of robotics to understand what it is about, and to discover whether this may be a field of interest for him as a career.

Maximum number of participants: 20

Prerequisites: 6

NOTE: TBD

UMSL12 8-12 PM
4

Dan O'Sullivan
Days: Sa



Space Exploration

Space is mysterious. We explore space for many reasons, not least because we don't know what is out there, it is vast, and humans are full of curiosity. Each time we send explorers into space, we learn something we didn't know before. We discover a little more of what is there.

Maximum number of participants: 20

NOTE: TBD

UMSL12 1-5 PM
6

Ben Birgen
Days: Fr



Weather

Meteorology is the study of Earth's atmosphere and its weather and the ways in which temperature, wind, and moisture act together in the environment. In addition to learning how everyday weather is predicted, Scouts can learn about extreme weather such as thunderstorms, tornadoes, and hurricanes, and how to stay safe.

Maximum number of participants: 10

Prerequisites: 10 must be completed before class with a letter from an adult stating it was completed.

NOTE: 10 - must be completed before class and a letter from an adult stating it was completed must be brought to class.

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