

Friday Events: An experience in Science



Wisconsin Science Olympiad

Color Key

Blue	= Optional lecture sit-ins
Pink	= Off-campus industry visits
Green	= Hands-on classroom demo or lab
Red	= Speaker series



9:05 - 10:00	10:10 - 11:05	11:15 - 12:10	12:20 - 1:15	1:30 - 2:00	2:00 - 2:30	2:30 - 3:25	3:35 - 4:30	4:30 - 5:00
Organic Chem I (JHSW 112)	Cell Biology (JHSW 110)	Atomic Force 1 (JHSA 250)	Physics I (JHSA 142)	Instrumental 1 (JHSA 347)		Chemistry I (JHSW 112)	Human Bio. (JHSW 110)	
Campus Tour 1 (Meet at Registration)	Ecology (JHSW 114)	Speaker 1 (MSC: Cedar Maple)	Materials Chemistry (JHSW 114)	Electrodes (208 Harvey) 1:25-3:00				
Plastics (JHTW 170)	Physics II (JHSA 146)		Neuroscience (JHSW 266)		Phillips Plastics Tour 1 (2:00) Tour 2 (3:15)			
	Video Gaming (JHSW 216)		Food-OMICS (JHSW 147) 1:00 - 3:00			Cell Culture (JHSA 267)		
			Coach's Sem. (MSC: Northwoods)	Electrophoresis (JHSA 267) 1:30-3:30				
	Big Dot: Tour 1 (10:15)				Instrumental 2 (JHSA 347)	Atomic Force 2 (JHSA 250)		
	Campus Tour 2 (Meet at Registration)	Big Dot: Tour 2 (11:30)					Panel 1(MSC: Northwoods)	Speaker 3: (MSC: Northwoods)

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EVENT DESCRIPTIONS AND DINING OPTIONS ON CAMPUS:

Speaker Series: Get a glimpse of what professionals are doing in science!

Speaker 1: “3M Engineering Speakers: An inside look at Innovative Technology for a Changing World”

Speaker 2: “Stephanie Pronschinske: ‘The Science of Ecommerce Marketing’ - How a website gets found and gets a customer to take action.”

Speaker 3: “Dr. Penovich: Pharmacy in the real world”

Panel: Red Cedar Health professionals from radiology, physical therapy, occupational therapy, and anesthesia speak candidly about their careers

Coach’s Workshop: Techniques and strategies for coaching Science Olympiad teams to be presented by Steve Schultz, coach of 1999 WSO State Champs and WSO State Director, Emeritus.

University Lecture Sit-ins: See what real college classes are like!

1. **CHEM 201: Organic Chemistry** (Jarvis Hall-Sci Wing RM 112)

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides.

2. **BIO 136: Molecular Cell Biology** (Jarvis Hall-Sci Wing RM 110)

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills.

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3. **BIO 350: Ecology** (Jarvis Hall-Sci Wing RM 114)
Interrelationships of organisms with their abiotic and biotic environments.
4. **PHYS 282: University Physics II** (Jarvis Hall-Sci Addition RM 146)
Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.
5. **PHYS 241: College Physics I** (Jarvis Hall-Sci Addition RM142)
Calculus-based general physics course: mechanics and thermodynamics
6. **CHEM 341: Chemistry of Materials** (Jarvis Hall-Sci Wing RM 114)
Relationship of the chemistry and microstructure of structural materials (metals, polymers and ceramics) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics.
7. **CHEM 135: College Chemistry I** (Jarvis Hall-Sci Wing RM 112)
Principles of inorganic chemistry, properties of important elements and compounds.
8. **BIO 132: Human Biology** (Jarvis Hall-Sci Wing RM 110)
Basic concepts of physiological processes and anatomy of all organ systems of humans, based on dissection of a cat; embryological development.

Hands-on Classroom Demos/Labs: Get your hands into Stout's state-of-the-art laboratories!

1. **Exploring and Using Plastics with Plastics Engineering** (Jarvis Hall Tech Wing RM 170)
Explore the fundamentals of how plastics are produced, where and how they are used, and some unusual properties that make plastics different than other materials. Students will also explore some ways that raw plastic material is made into everyday products.
2. **Video Game Programming** (Jarvis Hall-Sci Wing 216 computer lab)
Learn how your favorite computer games are programmed.

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3. BIO 360: Neuroscience (Jarvis Hall-Sci. Wing RM 266)

Join a neuroscience class to explore the structures of a real human brain and spinal cord while learning about blood flow to these organs and the production of cerebrospinal fluid.

4. Food-Omics: Use of MALDI TOF Mass Spectrometry to Analyze Food Components (Jarvis Hall-Sci Wing RM 147)

Use simple sample preparation techniques to prepare a food extract suitable for MALDI TOF mass spectrometric analysis and acquire data on their samples. This is part of an on-going research effort in an interdisciplinary field casually called 'food-omics'.

5. Instrumental Lab Introduction (Jarvis Hall-Sci Addition RM 347)

Learn how scientists use important instruments like nuclear magnetic resonance and infrared spectroscopy.

6. Stem Cell Culturing (Jarvis Hall-Sci Addition RM 247)

Learn about creating genetically modified cell and organisms while observing cell organelles on a fluorescent microscope. Students will learn about human cells grown in the lab, learn how to prepare their own wet mount of the cells, apply stains to visualize the nucleus and mitochondria, and observe the cells under the microscope.

7. Mind Reading Using Electrophysiology (Location TBA)

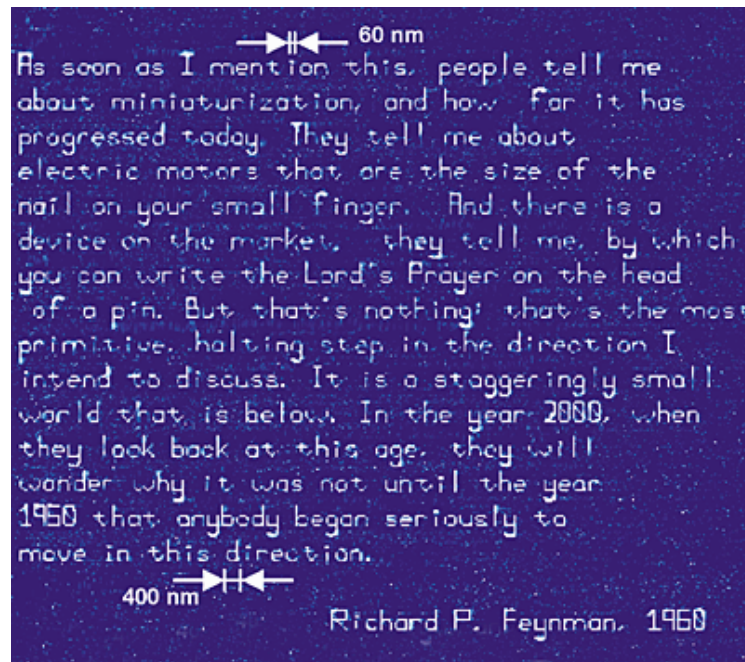
Measure your and others emotional responses to different sounds by measuring the electrical potentials produced by the motor neurons innervating facial muscles and changes in the amount of sweat on the surface of your skin.

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8. Seeing the Super-Small: Atomic Force Microscopy (JHSA 250)

How do you look at objects that are many thousands of times smaller than a human hair? How do biologists know what nucleic acids and other biomolecules look like in cells? How do chemists know that they can create a nanotube or nanowire that is only about 10 atoms wide? How can physicists create nanometer-sized objects with very fine control like in the image below? We will explore the technique that makes all of this possible, Atomic Force Microscopy, through a series of hands-on activities. We will also see an atomic force microscope in action and get a closer look at the part of the microscope that allows such clear images on the nanoscale and high-precision atom manipulation.



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Off-Campus Industry Tours: See what science looks like in the real world

(No transportation will be provided to off-campus locations. Maps/direction will be provided on day of event)

1. **Big Dot:** “How an Ecommerce (Online Website) Business works behind the scenes”

Tour 1: 11:30 AM – 12:00 PM

Tour 2: 12:15 PM – 12:45 PM

2. **Phillips Plastics Tours:** Campus tour of industry (30-40 minutes) followed by presentation on the molding and assembly process

Tour 1: 2:00 PM – 3:00 PM

Tour 2: 3:15 PM- 4:15 PM

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Food Options on Campus: We encourage teams to enjoy the dining options our campus has to offer. They are all very close to Jarvis, where most activities will be taking place on Friday.

For **lunch or dinner on Friday** try the following options:

1. **The Commons** where many college students get their meals “cafeteria style” with a reasonable cash price. See website for menu/prices/further details.

<http://www.uwstout.edu/campuslife/dining/services/commons-dining-hall.cfm>

2. The **Memorial Student Center (MSC)** also has a variety of options for all tastes. The Skylight Market is open late on Friday, which will be a nice option since the Friday night activities will be taking place there. See below link for further details. Note the tabs for the separate locations (Fireside Café and Skylight Market) on this page.

http://www.uwstout.edu/campuslife/dining/services/studentcenter.cfm#iTab_1

If the students would like to get a true “college experience,” we’d recommend going to lunch at the Commons, since this is a very popular lunch cafeteria for students and getting food at the MSC for dinner/late evening snacks. Either way, there are many options.

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