EAPS WEEKLY NEWSLETTER
5 Dec. 2016 | EAPS on Facebook | EAPS on Twitter

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Meetings/Events & Dept. News.................................1
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DEPARTMENT NEWS

EAPS COLLOQUIA
Douglas R. Schmitt
University of Alberta
(Faculty Candidate)
Monday, Dec. 5, 2016
9:30 AM
HAMP 2201

EAPS MEETINGS & EVENTS

CoS SPRING FACULTY MEETINGS
February 14, 2017
April 18, 2017
3:30-4:30 PM
LWSN 1142

CoS-FALL/SPRING FACULTY MEETINGS
December 6, 2016
January 31, 2017
February 28, 2017
March 28, 2017
May 2, 2017
3:00 PM
HAMP 3201

AGU RECEPTION
(ALUMNI & FRIENDS RECEPTION)
December 15, 2016
ThirstyBear, Billar Room
7:00-9:00 PM
San Francisco, CA

CoS COMMENCEMENT
December 18, 2016
9:30 AM
Elliott Hall of Music

EAPS MINI-FACULTY RETREAT
January 6, 2017
9:00 AM-Noon
HAMP 2244

EAPS AWARDS BANQUET
April 17, 2017
5:30 PM
Ross-Ade Pavilion, Buchanan Club

EAPS ALUMNI ADVISORY BOARD
April 18, 2017
8:30 AM-4:00 PM
HAMP 2201

EAPS STAFF HOLIDAY SCHEDULE
(MAIN OFFICE CLOSINGS)
Christmas: Dec. 23-26, 2016
Winter recess: Dec. 27, 28, 29, 2016
President’s Designated Holiday: Dec. 30, 2016
New Year’s Holiday: Jan. 2, 2017

STUDENT NEWS

HAZARDOUS WEATHER TESTBED RESEARCH ASSOCIATE POSITION
The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at the University of Oklahoma (OU) is currently looking for a Research Associate to provide scientific and

http://www.eaps.purdue.edu/
meteorological expertise, and technical support for annual NOAA/Hazardous Weather Testbed (HWT) Spring Forecasting Experiments (SFEs), and real-time, year-round experimental prediction systems.

To apply for the position, please forward your resume, cover letter and list of three references to: Tracy Reinke, Executive Director, Finance and Operations
University of Oklahoma CIMMS
120 David L. Boren Blvd., Suite 2100
Norman, OK 73072-7304
treinke@ou.edu
Attn: HWT

Please see attachment for more details.

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**EAPS GSA & PUGS FOOD DRIVE**

This year EAPS GSA & PUGS are holding a food drive to help local families in need during the holiday season. Our student organizations will be working with the Tippecanoe County United Food Pantry which is a non-profit group estimated to help over 24,000 people this year.

Any non-perishable food items (canned goods, boxed food items) and/or monetary donations (checks payable to Tippecanoe County United Food Pantry) are accepted. All donations are tax-deductible.

Please bring in any items or donations to HAMP 3263 by **December 12th** - beginning of finals week. Items can also be picked up from your lab if you contact Tim via email. Their goal is collect >250 items this year. Please help in this endeavor where possible!

Tim Henderson
Graduate Student | EAPS GSA President
hende103@purdue.edu

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**ISAMPLES EARLY CAREER SAMPLE MANAGEMENT WORKSHOP 2016 AGU FALL MEETING**

They invite early career scientists (within 5 years of PhD completion) and graduate and undergraduate students to participate in a workshop during the 2016 AGU annual meeting to learn about sample management best practices and to design sample management plans for use in their own labs and to share with students. The workshop is sponsored by the NSF EarthCube Research Coordination Network iSamples (the Internet of Samples in the Earth Sciences), a group working toward planning and developing an "internet of physical samples" for the Earth sciences.

The workshop will include tutorials on sample management tools and techniques, from field work to research collections, repositories and archiving, including a tutorial on obtaining and using the International Geo Sample Number (IGSN) and how to cite samples properly in publications. Participants will begin preparing their own sample management plans that can be used to fulfill NSF Data Management and new publication requirements to make data and physical sample information widely available.

**When:** **Wednesday, December 14, 4:00 - 5:30 pm**
**Where:** Golden Gate University, Room #5224
536 Mission St, San Francisco, CA 94105
10 minute walk from the Moscone Center

Dinner will be provided for participants after the workshop at a location to be announced. Please register for the workshop by emailing Ben Hallett (hallettb@uwosh.edu) or Ashlee Dere (adere@unomaha.edu) with 1) your name, 2) institution, 3) type of physical samples you typically work with, and 4) whether you would like to join us for dinner, by **November 30, 2016**. Participants will be notified via email with additional information about the workshop. Please contact Ben, Ashlee, or Megan Carter (mcarter@deo.columbia.edu) with any questions.

To learn more about iSamples, please visit https://www.earthcube.org/group/isamples.

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**NASA EARTH AND SPACE SCIENCE FELLOWSHIP (NESSF) PROGRAM**

NASA announces a call for graduate fellowship proposals to the NASA Earth and Space Science Fellowship (NESSF) program for the 2017-2018 academic year. This call for fellowship proposals
solicits applications from accredited U.S. universities on behalf of individuals pursuing Master of Science (M.Sc.) or Doctoral (Ph.D.) degrees in Earth and space sciences, or related disciplines. The purpose of NESSF is to ensure continued training of a highly qualified workforce in disciplines needed to achieve NASA’s scientific goals. Awards resulting from this competitive selection will be made in the form of training grants to the respective universities.

The deadline for NEW applications is February 1, 2017, and the deadline for RENEWAL applications is March 15, 2017.

The NESSF call for proposals and submission instructions are located at the NESSF 17 solicitation index page at http://nspires.nasaprs.com/- click on "Solicitations" then click on "Open Solicitations" then select the "NESSF17" announcement. Also refer to “Program Specific Questions” and “Frequently Asked Questions” listed under “Other Documents” on the NESSF17 solicitation index page.

All proposals must be submitted in electronic format only through the NASA NSPIRES system. The faculty advisor has an active role in the submission of the fellowship proposal. To use the NSPIRES system, the faculty advisor, the student, and the university must all register. Extended instructions on how to submit an electronic proposal package are posted on the NESSF 17 solicitation index page listed above. You can register in NSPIRES at http://nspires.nasaprs.com/.

For further information contact Claire Macaulay, Program Administrator for NESSF Earth Science Research, Telephone: (202) 358-0151, E-mail: claire.i.macaulay@nasa.gov or Dolores Holland, Program Administrator for NESSF Heliophysics Research, Planetary Science Research, and Astrophysics Research, Telephone: (202) 358-0734, E-mail: hq-nessf-space@nasa.gov.

http://www.eaps.purdue.edu/
Purdue University operates under the IRS accountable plan. This plan allows the University to reimburse employees for business travel expenses without reporting them as taxable income as long as the traveler adequately accounts for these expenses in a reasonable period of time. The reasonable period of time has been determined to be 120 days from the end of the trip. The application of this rule has been inconsistent in the past due to the manual effort of tracking these items. A new process has been put in place to identify these payments and tax them accordingly.

Per the University travel rules and guidelines regarding adequately accounting for travel expenses, an expense report must be submitted in Concur Travel and Expense within 120 days after the end of the trip.

Contact Information: Linda Ford, travel administrator, Procurement Services-Travel, 41699
Mondays 6:00 – 9:00 PM
Latino Cultural Center
Tuesdays 6:00 – 9:00 PM
Mechanical Engineering (ME) 2nd Floor
Rooms 2138 & 2142

STEM EDUCATION CONFERENCE AT PURDUE
1/12/17
9:00 AM - 4:30 PM

Purdue will be hosting the 2nd Annual Indiana STEM Education Conference at Purdue on 1/12/17 from 9:00 AM to 4:30 PM. Proposals are due by 10/15/16. Email to carlacjohnson@purdue.edu. You will be notified of the decision on your proposal by 11/4/16.

Presenters will need to register for the conference at: https://goo.gl/5KbfKP

HIGH-PERFORMANCE COMPUTING WORKSHOP
WILL FOCUS ON GPU PROGRAMMING WITH OPENACC
Dec. 6, 2016

Purdue will host a free workshop on Tuesday, Dec. 6, for faculty, staff and students looking to gain skills in GPU programming with OpenACC, an application programming interface designed for easier portability among different operating systems and processors and for taking advantage of accelerators to speed research computing jobs.

Questions: rcac-help@purdue.edu.

2017 COLLEGIATE LEADERS IN ENVIRONMENTAL HEALTH (CLEH) SUMMER PROGRAM

The Centers for Disease Control and Prevention (CDC), National Center for Environmental Health (NCEH) and the Agency for Toxic Substances and Disease Registry (ATSDR) in Atlanta, Georgia, are accepting applications for their Collegiate Leaders in Environmental Health (CLEH) Summer Program.

Over the course of the summer, fellows will be exposed to a broad overview of environmental public health issues at the federal level. Fellows will participate in a comprehensive program including environmental health project assignments, interaction with federal officials and scientists, and visits to important environmental health sites in and around Atlanta. Other activities include “brown-bag” lunches with CDC staff, as well as attending lectures from prominent environmental health leaders in the Atlanta area. In addition, interns will be able to attend the many seminars offered by CDC during the summer. For examples of past CLEH internship projects, please review at https://www.cdc.gov/nceh/summerinternships/experience.htm.

Qualifications:

• Must be a currently enrolled full-time undergraduate who will be a junior or senior in Fall 2017. Students graduating in spring 2017 are not eligible.
• Minimum cumulative GPA of 3.0 on a 4.0 scale

http://www.eaps.purdue.edu/
• Academic major or demonstrated coursework concentration in environmental studies; physical, biological, chemical and/or environmental health to also include emergency preparedness, environmental justice, sustainability, and/or global health environmental studies; environmental, physical, biological chemical and/or social sciences; applicants not majoring in one of these areas may be considered.

Ideal candidates would have extra-curricular activities or volunteer work that is related to the field of environmental health or the environment, including holding positions in these organizations or activities. Undergraduate students must show a dedication to environmental and/or health issues via their coursework or extra-curricular activities.

For complete eligibility information and instructions to apply, please visit: https://www.zintellect.com/Posting/details/2773; ORISE Posting Number CDC-NCEH-2017-0020. For any additional information, please contact Marilyn Duffoo, myr4@cdc.gov. Application deadline is January 27, 2017.

2017 GRADUATE ENVIRONMENTAL HEALTH (GEH) SUMMER PROGRAM

The Centers for Disease Control and Prevention (CDC), National Center for Environmental Health (NCEH) and the Agency for Toxic Substances and Disease Registry (ATSDR) in Atlanta, Georgia, are accepting applications for their Graduate Environmental Health (GEH) Summer Program.

Over the course of the summer, students will be engaged in environmental health projects. They will be exposed to a broad overview of environmental health issues at the Federal level. Students will have the opportunity to participate in a number of activities during the internship to include reading and helping to guide weekly journal club discussions, attending and participating in weekly subject matter expert (SME) briefings, attending and participating in weekly field trip activities, preparing and presenting on assigned environmental health projects, participating in professional development trainings including career development, communication, leadership and inquiry and analysis. Students will be matched with a project supervisor based on their experience and skill set. Students will also have the opportunity to meet and collaborate with seasoned environmental health professionals and scientists during this internship. For examples of past GEH internship projects, please review at https://www.cdc.gov/nceh/summerinternships/experience.htm

Qualifications:

• Graduate student (enrolled in a Masters or Doctoral program) with an academic major or demonstrated concentration in environmental studies, environment, public health, physical, biological, chemical, medical, and/or social sciences.
• Students enrolled in a doctoral-level clinical degree program (such as MD/DD, DVM, DDS, Pharm D) will also be considered.
• Students who will graduate in spring 2017 are not eligible.
• Minimum cumulative GPA of 3.0 on a 4.0 scale.

Ideal candidates would have extra-curricular activities or volunteer work that is related to the field of environmental health or the environment, including holding positions of leadership in these organizations or activities. Students should have a passion for the environment and an eagerness to learn about the environment's link to human health.

For complete eligibility information and instructions to apply, please visit: https://www.zintellect.com/Posting/details/2775; ORISE Posting Number: CDC-NCEH-2017-0021. For any additional information, please contact Marilyn Duffoo, myr4@cdc.gov. Application deadline February 3, 2017.

BIRTHDAYS

Darryl Granger Dec. 5
Fallon McQuern Dec. 9
IMPORTANT NOTICE ABOUT THIS NEWSLETTER

This newsletter is used as the primary information source for current and upcoming events, announcements, awards, grant opportunities, and other happenings in our department and around campus. Active links to additional information will be provided as needed. Individual email announcements will no longer be sent unless the content is time-sensitive. We will continue to include our publications, presentations and other recent news items as well.

Those using paper copies of the newsletter should go to our newsletter archive on the EAPS website at http://www.eaps.purdue.edu/news/newsletters.html and Click on News to access active links as needed. Material for inclusion in the newsletter should be submitted to Fallon McQuem (fmcquem@purdue.edu) by 5:00pm on Thursday of each week for inclusion in the Monday issue.

If it is in the newsletter, we assume you know about it and no other reminders are needed. For answers to common technology questions and the latest updates from the EAPS Technology Support staff, please visit: http://www.eaps.purdue.edu/resources/information_technology/index.htm

Also, as an additional resource for information about departmental events, seminars, etc., see our departmental calendar at http://www.EAPS.purdue.edu/events-calendar.html
9th Annual PURDUE RECEPTION at the AGU Fall Meeting

Thursday, December 15
7:00 PM - 9:00 PM

ThirstyBear Restaurant, Billar Room
661 Howard Street, San Francisco

Complimentary heavy hors d’oeuvres

Co-sponsored by:
Department of Earth, Atmospheric, and Planetary Sciences (EAPS)
and
Purdue Climate Change Research Center (PCCRC)
Abstract: Having a solid understanding of the mechanical properties of rock and rock masses is becoming increasingly important in the search for and production of hydrocarbon and geothermal energy on one hand and the disposal of produced fluids and greenhouse gases on the other. One general assumption used in many geomechanical investigations is that the rock is isotropic, i.e., its physical properties do not vary with direction. It is generally recognized, however, that this is not reality, and that many rocks are anisotropic. One problem is that there are actually very few measurements of the anisotropy of rocks. Here we describe some examples of such measurements from the laboratory and the field. Laboratory measurements of the directional elastic properties of a variety of ‘shales’ from the Western Canada Sedimentary Basin that are important targets for unconventional exploitation (e.g Nordegg, Duvernay) have recently been published. Strains and ultrasonic wave speeds are measured in strategic directions on prisms carefully machined from core and allow for comparison between static and dynamic moduli. The implications of these observations to our ability to infer stress states from sonic logs, among other observations, is illustrated by a direct comparison. A possible linkage between the concentration of crustal stress in such anisotropic formations and induced seismicity is explored.
PURDUE UNIVERSITY
Department of Earth, Atmospheric, and Planetary Sciences
Colloquia – Fall 2016
Thursdays at 3:30 PM, Room 1252 HAMP (unless noted)

Sept. 1  Joel Saylor, University of Houston
“Integrating Stable Isotopes and Basin Analysis for a Paleogene-
Neogene Paleoelevation History of Southern Peru”
Host: Ridgway

Sept. 8  William McKinnon, Washington University in St. Louis
“Pluto Revealed! Results from NASA’s New Horizons Mission”
Host: Melosh

Sept. 13 Wanchen Wu, PhD Candidate
“The Effects of Continental Aerosols on the Eyewall of a Typhoon”
Tuesday, 4:00PM, Room 2201/HAMP
Advisor: Tung

Sept. 15 Peter Colarco, NASA Goddard Space Flight Center
“Aerosol Modeling Applications in the NASA GEOS-5 Earth
System Model”
Host: Harshvardhan

Sept. 22 Oliver Boyd, U.S. Geological Survey
“Seismic Hazard and Geodesy in the New Madrid Seismic Zone”
Host: Gilbert/Freed

Sept. 27 Sarah Bischoff, PhD Candidate
“Breaking Down the Impact of Strength Heterogeneity on Deformation
of the India-Eurasia Collision: A Numerical Modeling Approach”
Tuesday, 4:00PM, Room 2201/HAMP
Advisor: Flesch

Sept. 29 Kevin Reed, SUNY-StonyBrook
“High-resolution Global Simulations from Reduced Complexity
to Future Projections”
Host: Chavas

Oct. 4  Wendell Walters, PhD Candidate
“Unraveling the “Fingerprints” of Nitrogen Oxides using Stable Isotopes:
Implications for Source Partitioning and Evaluation of Atmospheric
Oxidation Pathways”
Tuesday, 4:00PM, Room 2201/HAMP
Advisor: Flesch

Oct. 20 Fan-Chi Lin, University of Utah
“Imaging the Yellowstone Magmatic and Hydrothermal System
Using Seismic Tomography”
Host: Nowack

Oct. 25 Logan Dawson, PhD Candidate
“Examination of Mesoscale Feedbacks on Convective Scale
Predictability During MPEX”
Tuesday, 4:00PM, Room 2201/HAMP
Advisor: Baldwin

Oct. 27 Allison Wing, Lamont-Doherty Earth Observatory
“Clouds, Circulation, and Climate Sensitivity in Cloud Resolving
Model Simulations of Self-Aggregation of Convection”
Host: Chavas

Nov. 1  Shaoqing Liu, PhD Candidate
“Quantifying Terrestrial Ecosystem Carbon Dynamics with
Mechanistically-based Biogeochemistry Models and In Situ and
Remotely Sensed Data”
Tuesday, 4:00PM, Room 2201/HAMP
Advisor: Zhuang
<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker &amp; Affiliation</th>
<th>Title</th>
<th>Room &amp; Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov. 3</td>
<td>Kristin Morell, University of Victoria</td>
<td>“Lessons in the Landscape: Mountain Building and Seismic Hazards in Cascadia and the Himalaya”</td>
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<td>Nov. 10</td>
<td>Jessica Larsen, University of Alaska, Fairbanks</td>
<td>“The 2008 Eruption of Okmok Volcano, Alaska: Geological Perspectives”</td>
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<tr>
<td>Nov. 15</td>
<td>Adam Stepanek, PhD Candidate</td>
<td>“Predictions of Severe Weather Environments by the Climate Forecast System Version 2 Model Suite”</td>
<td>Tuesday, 4:00PM, Room 2201/HAMP</td>
</tr>
<tr>
<td>Nov. 17</td>
<td>Michael King, LASP</td>
<td>“Spatial and Temporal Distribution of Tropospheric Clouds Observed by MODIS on Board the Terra and Aqua Satellites”</td>
<td>Host: Harshvardhan</td>
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<tr>
<td>Nov. 28</td>
<td>Tim Marshall, Haag Engineering</td>
<td>“El Reno Tornado and Damage Survey”</td>
<td>Host: Tanamachi</td>
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<tr>
<td>Dec. 1</td>
<td>Andy Davis, University of Chicago</td>
<td>“Stardust in the Laboratory with CHILI”</td>
<td>Host: Caffee</td>
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<tr>
<td>Dec. 6</td>
<td>Christy Gibson, PhD Candidate</td>
<td>“ ”</td>
<td>Advisor: Filley</td>
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</table>
We are still accepting applications for Winter-break 2016.

Approved Course: Caribbean Ecosystem Field Studies
Please Distribute This Winter-Break 2016-17 Session Flyer

Can you please help me by distributing this flyer or the below information to students who may be interested? Or, feel free to forward this on to anyone who may be interested.

We are accepting applications for our winter-break field course: Caribbean Ecosystem Field Studies. This course (ENST 391) is approved for 3 undergraduate semester credits through the Environmental Studies Program of the University of Montana at Missoula and is open to students in an ecosystem related department or major.

Thank you for considering to make this rewarding field opportunity available to your students. This is our 10th year of programming to over 450 satisfied students and we hope to serve some of yours. Please email me with any questions.

Thank you!
- Prof. Steve Johnson
WINTER-BREAK 3-CREDIT FIELD COURSE OPPORTUNITY!

Caribbean Ecosystem Field Studies - Full Details - http://www.ecofs.org

- Study, snorkel & SCUBA dive along the Caribbean coast of Mexico *
  December 28, 2016 - January 16, 2017

An opportunity to apply your classroom & textbook learning while immersed in an incredible marine ecosystem setting!

- Gain valuable career skills in hands-on scientific field research *
- Earn 3 undergraduate transfer credits *
- SCUBA and snorkel daily to study the coral reef ecosystem *

Open to students from all universities & majors | Accredited by the University of Montana at Missoula's Environmental Studies | Program: ENST 391- for 3 undergraduate semester transfer credits.

Direct questions to Professor Steve Johnson, Course Director at steve@EcoFS.org

Ecosystem Field Studies
303-859-0173 | steve@ecofs.org | Visit Our Site

Ecosystem Field Studies, PO Box 1967, Boulder, CO 80305
SafeUnsubscribe™ barbara@purdue.edu
Draft of Mission Statement

The Certificate in Environmental and Sustainability Studies (CESS) will give students working in multiple disciplines across Purdue a broad exposure to how environmental and sustainability challenges and solutions are conceived, represented, and researched in the Humanities, Social Sciences, Agriculture, and STEM disciplines. The CESS program will introduce students to a wide range of environmental issues from diverse perspectives so that they may more thoroughly comprehend and critically evaluate today’s environmental and sustainability challenges.

Draft of Learning Outcomes

Students acquiring the Certificate in Environmental and Sustainability Studies (CESS) will be expected to achieve the following learning outcomes:

1) **KNOWLEDGE**: Students will be able to identify, describe, and relate the diverse causes (social, cultural, political, economic, historical, scientific) and consequences of pressing environmental and sustainability challenges, such as climate change, resource scarcity, biodiversity, population growth).

2) **COMPREHENSION**: Students will be able to distinguish, paraphrase, and translate different disciplinary perspectives on these key environmental and sustainability challenges.

3) **ANALYSIS**: Students will familiarize themselves with the efficacies, and learn to push the boundaries, of different disciplinary approaches by comparing and contrasting solutions to environmental issues (scientific, technical, engineered, social, economic, historic, and ethical components).

4) **SYNTHESIS**: Students will learn to combine different disciplinary approaches by synthesizing, reorganizing, and reformulating diverse viewpoints.

5) **APPLICATION**: Students will demonstrate ability to communicate across disciplines on environmental and sustainability problems through the production of appropriate interdisciplinary instructional assignments. Students will illustrate their diversity of knowledge by applying their work in multi-disciplinary teams on sustainability challenges.

6) **EVALUATION**: Students will estimate the efficacy of different disciplinary approaches through assessing that efficacy in real-world applications.
Preliminary Draft Plan of Study

Summary

1) **Required 3-credit course: Core Concepts in Environmental and Sustainability Studies.** (New, team-taught interdisciplinary course introducing diverse perspectives on Environment and Sustainability problems, and skills in interdisciplinary communication and teamwork. This would be an annual course, offered every year starting in fall 2017).

2) **Required 9 additional credits: 3 additional courses required from selection of existing or new classes across departments in three categories:**

   - **Social, Economic, and Political Dimensions**
   - **Stewardship, Conservation, and Management Dimensions**
   - **Science, Engineering, and Technological Dimensions**

   One course required from each area. The plan is for these courses to be able to count for both the certificate and other existing academic requirements.

3) **Program to be administered by Discovery Park Center for the Environment, in consultation with sponsor college (CLA),** following administrative model of Burton Morgan Center Certificate in Entrepreneurship.

Detailed Course Options

Students participating in the Certificate in Environmental and Sustainability Studies are required to complete at least one course under each of the following three categories. By doing so, students will learn about the diversity of causes and consequences of environmental and sustainability challenges, and about the different disciplinary approaches to addressing these issues.

A preliminary list of courses that count towards each category is provided on the following page. Other courses may be counted, with the approval of the certificate administrator, provided that they meet the criteria defining one of the categories.

*Category 1: Social, Economic, and Political Dimensions*

This category emphasizes how knowledge of human behavior furthers our understanding of environmental and sustainability impacts. It includes courses that examine human interaction with the environment on a range of scales, from individual decision-making to regional, national, or global institutions. Courses relate to environmental outcomes and sustainability, focusing on economics; ethics and values;
individual and societal behaviors and interactions; and politics, policy analysis, or decision-making.

Category 2: Stewardship, Conservation, and Management Dimensions

This category focuses on the application of sustainability or environmental principles to planning and managing human interactions with the environment. This may include courses relate to conservation biology; natural resource management; population and community ecology; restoration of ecosystem services; land use and urban planning; sustainable agriculture; and climate change adaptation or mitigation.

Category 3: Science, Engineering, and Technological Dimensions

This category focuses on the scientific and technological tools needed to understand and address environmental and sustainability challenges, particularly in the engineered and built environment. This may include coursework related directly to basic and applied ecology and environmental science, the development of emerging technologies for renewable energy, energy efficiency, or sustainable construction; it may also include instruction in systems analysis tools with applications to environmental or sustainability challenges, such as integrated assessment modeling or lifecycle assessment, or study of interactions between the environment and infrastructure.

Courses qualifying for each category:

Category 1: Social, Economic, and Political Dimensions

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ABE 32500</td>
<td>Agriculture Soil and Water Resource Engineering</td>
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<tr>
<td>AD 39700</td>
<td>Liberal Arts Sustainability in the Built Environment</td>
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<tr>
<td>AGEC 20400</td>
<td>Agriculture Introduction to Resource Economics &amp; Env Policy</td>
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<tr>
<td>AGEC 25000</td>
<td>Agricultural Economics Geography of World Food and Resources</td>
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<tr>
<td>AGEC 40600</td>
<td>Agricultural Natural Resource &amp; Environmental Economics</td>
</tr>
<tr>
<td>AGEC 52500</td>
<td>Agricultural Environmental Policy Analysis</td>
</tr>
<tr>
<td>ANTH 23500</td>
<td>Liberal Arts Great Apes and Conservation</td>
</tr>
<tr>
<td>ANTH 31300</td>
<td>Liberal Arts Archaeology of North America</td>
</tr>
<tr>
<td>ANTH 32700</td>
<td>Liberal Arts Environment and Culture</td>
</tr>
<tr>
<td>ANTH 33500</td>
<td>Liberal Arts Primate Behavior</td>
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<tr>
<td>ANTH 37700</td>
<td>Liberal Arts Anthropology of Hunter-Gatherer Societies</td>
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<tr>
<td>ANTH 37900</td>
<td>Liberal Arts Native American Cultures</td>
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<tr>
<td>ANTH 59200</td>
<td>Liberal Arts GIS for Social Scientists</td>
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<tr>
<td>CE 59700</td>
<td>Engineering Dynamics of Social-Ecological and Technological Systems</td>
</tr>
<tr>
<td>EAPS 36000</td>
<td>Science Great Issues in Science and Society</td>
</tr>
<tr>
<td>ENG 23400</td>
<td>Liberal Arts Ecological Literature</td>
</tr>
<tr>
<td>ENG 34100</td>
<td>Liberal Arts Humans, the Environment, and the End(s) of Nature</td>
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Category 2: Stewardship, Conservation, and Management Dimensions

AGRY 29000 Agriculture Introduction to Environmental Science
BTNY 21100 Agriculture Plants and the Environment
CE/EEE 35500 Engineering Engineering Environmental Sustainability
EAPS 11300 Science Introduction to Environmental Science
EAPS 32700 Science Climate, Science and Society
FNR 10300 Agriculture Introduction to Environmental Conservation
FNR 37500 Agriculture Human Dimensions of Natural Resource Management
FNR 40800 Agriculture Natural Resources Planning
FNR 47000 Agriculture Fundamentals of Planning
HORT 42200 Agriculture Vegetable and Herb Production
HORT 44200 Agriculture Sustainability in the Managed Landscape
HTM 37000 HHS Sustainable Tourism And Responsible Travel
MET 42400 Polytechnic Green Processes and Sustainability
NRES 45000 Agriculture Soil Conservation & Water Management
TECH 52200 Polytechnic Sustainability Foundations

Category 3: Science, Engineering, and Technological Dimensions

ABE 32500 Agriculture Soil and Water Resource Engineering
AGEC 59600 Agriculture Global Change & the Challenge of Sustainably Feeding a Growing Planet
AGRY 28500 Agriculture World Crop Adaptation and Distribution
ASM 33600 Agriculture Environmental Systems Management
BCM 41900 Polytechnic Sustainability Construction
BIOL 48300 Science Environmental & Conservation Biology
BTNY 21100 Agriculture Plants and the Environment
CE/EEE 35500 Engineering Engineering Environmental Sustainability
CE 49700 Engineering Community Resilience: From Urban to Rural
<table>
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<tr>
<th>Course Code</th>
<th>Course Area</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAPS 10000</td>
<td>Science</td>
<td>Planet Earth</td>
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<tr>
<td>EAPS 32000</td>
<td>Science</td>
<td>Physics of Climate</td>
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<tr>
<td>EAPS 37500</td>
<td>Science</td>
<td>Great Issues: Fossil Fuels, Energy &amp; Society</td>
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<tr>
<td>EAPS 52700</td>
<td>Science</td>
<td>Principles of Terrestrial Ecosystem Ecology</td>
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Hazardous Weather Testbed Research Associate

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at the University of Oklahoma (OU) is currently looking for a Research Associate to provide scientific and meteorological expertise, and technical support for annual NOAA/Hazardous Weather Testbed (HWT) Spring Forecasting Experiments (SFEs), and real-time, year-round experimental prediction systems. A key focus will include development of web-based visualization tools to support/enhance SFE activities and post-experiment analysis and verification of convection-allowing ensembles used in the SFEs. The position will be based at the National Severe Storms Laboratory (NSSL) in Norman, OK within the National Weather Center, a high collaborative forecasting, research, and academic environment containing a number of NOAA and OU organizations. As this unique position will serve the interests of both the NSSL and Storm Prediction Center (SPC), the incumbent will work directly with research scientists at NSSL and development meteorologists/operational forecasters at SPC.

The principal duties of this position are:
1. Enhance and develop web-based visualization of real-time ensemble data for NOAA/HWT SFEs, as well as real-time, year-round systems like the Storm Scale Ensemble of Opportunity (SSEO) and NSSL-WRF.
2. Conduct post-experiment analyses/verification of convection-allowing ensembles from Community Leveraged Unified Ensemble (CLUE) experiments, subjective model evaluations, and other experimental and operational systems used in the SFE.
3. Support, develop, and enhance SFE core activities including acceleration of new tools from research to operations, inspiring new initiatives for operationally relevant research, and identifying and documenting sensitivities and performance of state-of-the-art convection-allowing models and ensembles.
4. As needed, represent CIMMS/NSSL/SPC by contributing to scientific publications and attending off-site conferences, workshops, symposia and hazardous-weather-related outreach events.

The minimum qualifications for the position are:
1. A Master’s Degree in Meteorology, Atmospheric Science, or related area.
2. Emphasis will be placed on applicants with knowledge and experience in web design and model visualization, as well as knowledge in severe storms meteorology, numerical weather prediction models/ensemble systems including convection-allowing models and application of statistical techniques for forecast verification.

Excellent oral and written communication and public speaking skills are highly desired, as well as proficiency in Python, and a strong understanding of JavaScript, PHP, CSS stylesheets, and how to implement dynamic data visualizations through D3. Applicants should identify experience in web development, graphic design/visualization, programming and scripting languages, numerical weather prediction, and Linux (Unix) environments including AWIPS/N-AWIPS.

Normal working hours will be observed except for occasional irregular hours during data collection, warning/forecast experiments or workshops conducted at remote sites. CIMMS staff will provide general supervision with technical oversight provided by NSSL and SPC scientific staff and management. The incumbent works under general supervision, but is expected to work independently and determine action to be taken in handling all but unusual situations.

The beginning salary is commensurate with educational background and experience, with OU benefits. Information on OU benefits can be found at http://hr.ou.edu/employees/New-Employees-at-OU/OU-Benefits-Overview.

To apply for the position, please forward your resume, cover letter and list of three references to:

Tracy Reinke, Executive Director, Finance and Operations
University of Oklahoma CIMMS
120 David L. Boren Blvd., Suite 2100
Norman, OK 73072-7304
treinke@ou.edu
Attn: HWT

The University of Oklahoma is an Equal Opportunity/Affirmative Action employer.
VII EARTH SCIENCES CONVENTION
EXHIBITION OF PRODUCTS, NEW TECHNOLOGIES AND SERVICES

XII Geology Congress (GEOLOGIA ’2017)
IX Geophysics Congress (GEOFISICA ’2017)
VII Mining Congress (MINERIA ’2017)
VI Oil and Gas Congress (PETROGAS ’2017)
XIII Informatics and Geosciences Congress (GEOINFO ’2017)

The Cuban Geological Society (SCG) is pleased to invite scientists, professionals, technicians and university students of Geology, Geophysics, Mining and related Geosciences, to participate in the VII Earth Sciences Convention, and Exhibition of Products, New Technologies and Services, to be held at the International Conference Center of Havana, Cuba on April 3-7, 2017.

The convention welcomes presentations about Cuba, the Caribbean and other regions or in general about the geology, geophysics and mining experiences in the search and management of natural resources, including minerals (metals, industrial), water, oil and gas, construction, earthquake research and other geohazards, education of geosciences; as well as any other related to the sustainable exploitation of natural resources.

We invite professional societies, institutions and non-government organizations to organize workshops, round tables and meetings during the Convention.

Dr. Manuel A. Iturralde Vinient
President of the Cuban Geological Society

www.scg.cu; www.cubacienciasdelatierra.com
geociencias@mnhnc.inf.cu
Hello, we’d like to take this time to update you on Writing Lab news.

We now offer online appointments for clients, who can easily schedule one-to-one consultations at https://cla.purdue.edu/wlschedule. Clients can select convenient times and choose one of our highly trained consultants for face-to-face or online feedback.

In addition, we’ve been working with Purdue’s Institutional Research office to learn more about Writing Lab users. Our initial results indicate that when students have sessions with tutors in the Writing Lab, especially those who are enrolled in English 106, they have significantly higher semester GPAs than their peers who do not come to the Writing Lab.

We are always looking for ways to collaborate with faculty to support writers across disciplines. If you’d like to discuss how we can work with you and your students, please contact us.

Best wishes for a great semester.

Harry C. Denny, Ph.D. • hdenny@purdue.edu
Associate Professor of English and Writing Lab Director

Tammy Conard-Salvo • tcsalvo@purdue.edu
Associate Director

**Featured FAQ**

**What appointment options do you offer?**

Students can choose from three appointment types for one-to-one consultations:

- **In-person**: students meet face-to-face with one of our tutors in the Writing Lab or a satellite location.
- **Online**: Students can discuss their work with a tutor in real time using a text-based chat interface.
- **eTutoring**: Also known as asynchronous tutoring, students upload their documents in advance and receive comments at the appointed time.

More online at owl.english.purdue.edu/writinglab/facultyfaq

**Main Location**

Heavilon Hall Room 226
Monday – Thursday 9:00 AM – 6:00 PM
Fridays 9:00 AM – 1:00 PM

Appointments:
https://cla.purdue.edu/wlschedule

**Satellite Locations**

- **HSSE Library Collaborative Study Center**
  Mondays 6:00 – 9:00 PM
- **Latino Cultural Center**
  Tuesdays 6:00 – 9:00 PM
- **Mechanical Engineering (ME) 2nd Floor**
  Rooms 2138 & 2142
  Wednesdays 6:00 – 9:00 PM

Writing Lab services are FREE and available to all Purdue students, faculty, and staff.

Heavilon Hall Room 226 • (765) 494-3723 • https://owl.english.purdue.edu/writinglab

@PurdueWLab • /PurdueUniversityWritingLab
One-on-One Tutorials
We offer free tutorials on an appointment basis. Writers can bring any document to the Writing Lab, at any stage of the writing process. Sessions commonly help with the following:

- Clarification: understanding an assignment
- Invention: brainstorming, coming up with ideas, discovering a focus
- Organization: ordering ideas, building an argument
- Revision: revising for clarity and coherence

Our graduate tutors can assist students with a variety of writing tasks, including writing in the disciplines. Our business and professional writing consultants are specialists in employment writing, memos, personal statements, and reports. Our undergraduate teaching assistants help students taking first year composition courses (English 106 and 108). All of our tutors undergo rigorous training.

The student FAQs at https://owl.english.purdue.edu/writinglab/policies answer common questions about our tutorial sessions and offer tips on how best to prepare for sessions.

Students can now schedule appointments online. In addition, our satellite locations offer drop-in hours in the evenings at various locations. Please see https://owl.english.purdue.edu/writinglab for hours of operation and location information.

ESL Services
The Purdue Writing Lab offers a range of services to non-native speakers of English, covering writing and reading skills and conversational fluency:

- Tutorials for feedback on writing projects
- Self-study resources (books, CD-ROMs) for language skills practice
- Daily conversation groups (open to all non-native speakers enrolled at Purdue) for improving oral fluency

For more information on in-lab services for ESL learners, see https://owl.english.purdue.edu/writinglab/esl.

Course-specific Resources
The Writing Lab is committed to Writing Across the Curriculum at Purdue, and we welcome ideas for collaboration with other disciplines in the university. We encourage you to submit your course syllabus and assignment descriptions to the Writing Lab to help us better assist your students in their tutorials. We are also available to consult with instructors about assigning and responding to student papers, encouraging students' use of the Writing Lab, and developing ideas for special projects connected with writing. To learn more or request a consultation, visit https://owl.english.purdue.edu/writinglab/consultation.

Experienced tutors are also available to provide your class with interactive presentations on the resources available to students at the Writing Lab. We also offer classroom workshops on writing topics that can be tailored to specific class projects on a limited basis. You can learn more and request a workshop for your class at https://owl.english.purdue.edu/writinglab/workshops/index.php.

Purdue’s Online Writing Lab (OWL)
The Purdue OWL (https://owl.english.purdue.edu) offers a wide variety of materials, presentations, and YouTube videos (https://www.youtube.com/OWLPurdue) to the Purdue University community and to users around the globe. The Purdue OWL also posts updates on Writing Lab events and produces the Purdue OWL News (https://owl.english.purdue.edu/purdueowlnews). Instructors and students use the OWL to:

- Access regularly-updated handouts on writing process, basic writing, and document design
- Find resources for English as a Second Language students
- Download classroom-ready PowerPoint presentations on a number of writing topics

Heavilion Hall Room 226 • (765) 494-3723 • https://owl.english.purdue.edu/writinglab

@PurdueWLab • /PurdueUniversityWritingLab