



Engineering C&DE News

A newsletter of Engineering Continuing & Distance Education

Volume 1, Number 1, June 2007

Welcome!

Welcome to the inaugural issue of *C&DE News*. We plan to publish and distribute this newsletter at least once a semester to inform the College of Engineering faculty and others about continuing and distance activities in the College of Engineering and elsewhere. The activities highlighted are representative of the many varied and exciting outreach activities taking place in the College. I hope that you will find the articles interesting, informative, and thought provoking. At the end of most articles, there is a link to a web site with more information about the topic.

Perhaps you will find ideas and techniques here that you would like to incorporate into your research, teaching, and outreach. If so, please contact the Continuing & Distance Education office at the address at the end of the newsletter. We would be happy to assist you.

Finally, please send me any comments you have about the newsletter – what you like, what you don't like, and what you want to see in future issues. Suggestions for future articles are always welcome.

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A Brief Glossary

Distance Education - the teaching of courses via technology to students who are not physically present in a classroom with the instructor.

Continuing Education - knowledge transfer to working professionals or the public to extend and improve skills and knowledge.

DISTANCE EDUCATION

Distance Version of E MCH 13 Being Offered This Summer

Dr. Andrew Pytel, (right) and the C&DE staff have developed and implemented a distance version of E MCH 13, Strength of Materials. This version of the course is of value to students who wish to take a course over the summer or while they are away from campus. It can also help students keep in sequence, when other scheduling options aren't available. This summer marks the first public offering of the distance version of the course. Students have access through the Internet and ANGEL to course materials, including:



- general course information
- on-demand video lectures, tutorials, and problem solutions
- videos of laboratory demonstrations
- instructor notes
- homework assignments
- a discussion forum

Students study independently within a prescribed course schedule, contacting the instructor with questions through e-mail, phone, or the discussion forum. Examinations are taken in the presence of an acceptable local proctor and are mailed to the instructor for grading.

<http://www.engr.psu.edu/cde/courses/emch13/index.htm>

Nuclear Engineering's Distance M.Eng. Program

Nuclear Engineering's distance M.Eng. program allows working professionals to pursue an M.Eng. degree and acquire advanced knowledge at their home or workplace, without interrupting their careers. Currently, 67 students are participating in the program which is entering its sixth year. The first students graduated from the program in December 2006.



Students view lectures through on-demand video, interactive video conferencing, or live streaming over

the internet. To reduce development time and effort, lectures are captured during resident classes and broadcast synchronously and asynchronously for the distance students. Four courses are being offered this summer and four are planned for the fall.

<http://www.engr.psu.edu/cde/nuce/index.html>

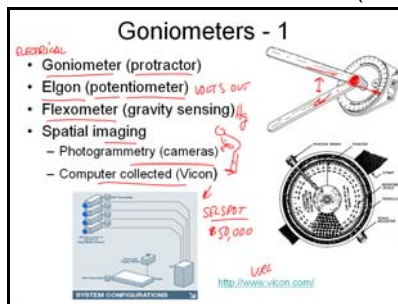
Industrial Engineering Offers Distance Courses

Dr. Andris Freivalds has worked with the Engineering C&DE office to develop and offer several IE courses in a distance format.

Two are undergraduate courses: IE 327, Introduction to Work Design, and IE 419, Work Design, Productivity and Safety. IE 327 is a basic introductory industrial engineering course in work measurement and design that is required of all students. IE 419 is one of two follow-up courses to IE 327, and students are required to take one of them.

The other courses are IE 553, Engineering of Human Work and IE 552, Mechanics of the Musculoskeletal System. Both are part of the graduate certificate in Human Factors and Ergonomics that is being developed to serve working professionals, who want to further their education or shift their job focus to the occupational safety and health field.

The distant students access the course materials through the internet and ANGEL. The lectures, which are available as on-demand videos, were captured during normal instruction of the resident sections. Dr. Freivalds uses a tablet PC to present and annotate his PowerPoint lecture slides (see example below).



In addition to lectures, the courses include laboratory demonstrations and exercises. <http://www.engr.psu.edu/cde/distance/distance.html>

Distance Course Offerings

Summer - ongoing

- E E 305, Intro. to Electronic Measuring Systems
- E Mch 13, Strength of Materials
- I E 327, Intro. to Work Design
- I E 419, Work Design - Productivity and Safety
- Nuc E 497A, Fundamentals of Nuclear Engineering
- Nuc E 497C, Radiation Measurement Lab (on-site at UP)
- Nuc E 512, Fuel Management
- Nuc E 597C, Professional Topics in Nuclear Engineering

Fall – planned

- Nuc E 408, Radiation Shielding

- Nuc E 428, Radioactive Waste Control
 - Nuc E 525, Monte Carlo Methods
 - M E 515, Heat Transfer - Radiation
- <http://www.engr.psu.edu/cde/distance/distance.html>

Many Engineering faculty have found that the tools and techniques they use in the design and delivery of a distance course improve the resident version of the course.

CONTINUING EDUCATION

30th Annual Airport Conference Attracts 600+ Attendees

The 30th Annual Airport Conference, sponsored by Penn State's College of Engineering and the Federal Aviation Administration - Eastern Region, was held at the Hershey Lodge and Convention Center. More than 600 attendees (representing airport owners, operations, engineering firms, equipment and service vendors, and the FAA) participated in technical sessions, exhibits, and networking functions. Dr. Barnes McCormick arranged a pre-conference workshop on wake turbulence.



http://www.faa.gov/airports_airtraffic/airports/regional_guidance/ea-stern/airports_news_events/

Wanted – proposals for a pre-conference workshop for the 2008 Airport conference.

The content should be of interest to airport land-side personnel and give them a perspective on new Penn State research or techniques. Potential topics include construction, facilities, airport infrastructure, and environmental issues. Contact T. J. Reed, tjr10@psu.edu by June 30, if you would like to propose a workshop on a topic of interest to this audience.

Upcoming Engineering Short Courses and Conferences

- Corrosion Short Course
- Teacher Workshop in Advanced Transportation and Alternative Energies
- Rotary Wing Technology
- Implanting Change - The Ethics of Neural Prosthetics

<http://www.engr.psu.edu/cde/Short/short-courses-current.htm>

OTHER ITEMS OF INTEREST

Service Learning Journal Publishes Third Edition



The *International Journal for Service Learning in Engineering*, edited by Dr. Thomas Colledge, has just published its third issue. This peer-reviewed, on-line journal was founded by Dr. Colledge, with

support from the Engineering C&DE office. The journal provides a forum for the publication of timely information on engineering service learning projects.

The latest issue features articles on a wind-powered LED lighting system for a Nairobi slum and a project where students apply heat transfer principles to the insulation of low-income dwellings in Detroit.

<http://www.engr.psu.edu/ijlse/home.htm>

On-Line Video Educates Public Officials and Water Managers

Dr. Sunil Sinha recently worked with WPSU and Penn State's World Campus on an EPA-funded project to produce *Bridging the Gap*, a ground-breaking on-line video designed to help elected officials and water and wastewater managers make smart choices as they address water and wastewater infrastructure issues. The video outlines the key steps to developing an asset management plan for both novice and experienced professionals. The hosting website provides an on-line learning experience with an extensive array of reference materials to support the central concepts and real-world examples of emerging best practices and innovations in water asset management. The video and related materials are available at:



https://courses.worldcampus.psu.edu/public/buried_assets

The Engineering C&DE 2005-2006 Annual

Report is on the web at

<http://www.engr.psu.edu/cde/Faculty/Annual-Report-2005-06-for-web.pdf>

ANGEL Update – If you use the ANGEL course management system, be aware that ANGEL was upgraded to version 7.1 on May 20. Since then, we have encountered major problems with course material that was created in version 6.0 and then went through the upgrade. For example, we use redundant linking to give students access to folders from several pages. This no longer works. Also, links within a table no longer work. If you are planning to import any ANGEL 6.0 content into ANGEL for Fall

semester courses, start early and check all your links often!

What's Happening in Other Colleges

The Eberly College of Science is again offering Action Potential Science Experience, their world-renowned series of summer science camps for children. The camps, for kids in grades kindergarten through 12, are designed to pique interest in science and in science careers. Topics ranging from chemistry to astronomy to crime scene investigation are explored through a series of structured and engaging activities. <http://www.sciencecamps.psu.edu/>

The College of the Liberal Arts is offering a Summer Intensive Language Institute from June 18 to August 10. The programs included in the institute are designed for individuals who want to develop proficiency in a foreign or second language in a short time frame over the summer. Languages include: Arabic, Chinese, French, German, Japanese, Latin, Russian, and Spanish. Emphasis is on the development of communicative competence.

<http://www.outreach.psu.edu/programs/intensive-language/>

Engineering Continuing & Distance Education

This newsletter is produced by the Engineering Continuing & Distance Education Office. We facilitate continuing and distance education programs for faculty and staff of the College, providing support in the areas of:

- program design
- instructional design
- program development
- program delivery
- program coordination
- interfacing with Penn State Outreach
- outreach proposal development
- video capture
- videoconferencing

If you are planning or would like to plan and present a continuing education or distance education program similar to those described in this newsletter, please contact our office. We can provide valuable assistance and guidance in the design and implementation of the program.

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This publication is available in alternative media on request. Penn State is committed to affirmative action, equal opportunity, and the diversity of its workforce.