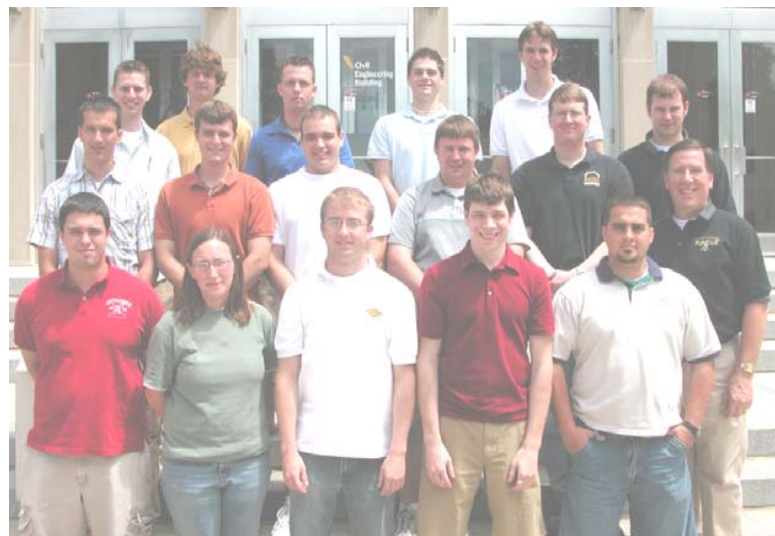


Purdue Students in the Field

Chip Thompson	–Tippecanoe County Surveyor’s Office <i>Lafayette, IN</i>
Nick Schmitt	–Gohmann Asphalt and Const. Inc. <i>Clarksville, IN</i>
John Kinkle	–Krieger Brothers Excavating Co. <i>West Lafayette, IN</i>
Gene Gosewehr	–Butler, Fairmen & Seufert <i>Indianapolis, IN</i>
Kris Eichhorn	–INDOT <i>Greenfield, IN</i>
Kevin Redelman	–Preferred Surveying Company <i>Cincinnati, OH</i>
Clint Roos	–The Schneider Corp. <i>Lafayette, IN</i>
Jeff Fox	–The Schneider Corp. <i>Lafayette, IN</i>
Ashley Rose	–Wiser Company <i>Murfreesboro, TN</i>
Kelly Miller	–Nick Miller, Inc. <i>Palm Beach Gardens, FL</i>
Matt Healy	–RQAW <i>Indianapolis, IN</i>
Dave Carmien	–Rieth-Riley <i>Gary, IN</i>
Joe Cross	–Manhard Consulting <i>Vernon Hills, IL</i>
Ryan Henderson	–Intech <i>Chicago, IL</i>
Andrew Kincaid	–Butler, Fairman and Seufert <i>Indianapolis, IN</i>
Aaron Carl	–Karst Surveying <i>Fort Wayne, IN</i>
Anthony Squellati	–Andregg Geomatics <i>Auburn, CA</i>
Mike Judt	–Richard E. Ward & Assoc. <i>Anderson, IN</i>
Matt Thomas	–Woolpert, Inc. <i>Indianapolis, IN</i>
Scott Wilkinson	–Manhard Consulting <i>Lombard, IL</i>

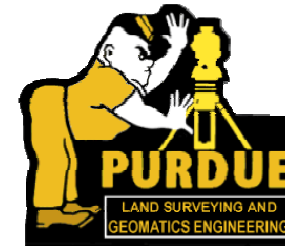
SUMMER 2004 LS400 CLASS



2006 Graduates

Aaron Carl, LSGE	(Huntington, IN)
Dave Carmien, CE/LSGE	(Huntington, IN)
Kristopher Eichhorn, CE/LSGE	(Middletown, IN)
Gene Gosewehr, CE/LSGE	(Lebanon, IN)
Matt Healy, CE/LSGE	(Jasper, IN)
John Kinkle, CE/LSGE	(Princeton, IN)
Kelly Miller, CE/LSGE	(Valparaiso, IN)
Nick Schmitt, CE/LSGE	(New Albany, IN)
Chip Thompson, CE/LSGE	(Lowell, IN)
Chris DeYoung, CE/LSGE*	(South Holland, IL)
Kevin Redelman, LSGE*	(Dover, IN)
Mike Judt, LSGE**	(Anderson, IN)

* Denotes August 2006 Graduates
 ** Denotes December 2006 Graduate



THE BLUNDER

Publication by the Purdue Student Chapter of ACSM/ISPLS

Volume 22, Issue 1

November 2005

2005 Scholarship & Award Winners

- John G. McEntyre Scholarship
Kelly Miller
- Margaret Cunningham Scholarship
Kelly Miller
- Jud and Betty Rouch Scholarship
Ashley Rose
- Falk PLI Scholarship
Casey Menschoffer
- Faculty Recognition Award
Jennifer Hanigosky & Devin Keeler
- Outstanding Senior Award
Scott Thompson

Fall 2005

Guest Speakers

- Aug. 31: Pat Cunningham
Vester & Associates
- Oct. 9: Kevin O’ Conner & Matt Shinsky
Atwell-Hicks, Inc.
- Oct. 27: David Withaar, Dan Schueller,
Becky Popeck, and Tracy Keown
Manhard Consulting.

The 2005 year was a fairly good and productive year for the members of the Purdue Student Chapter of ACSM/ISPLS. In Spring 2005 we sent our students to the ISPLS convention in Indianapolis and to the National ACSM convention in Las Vegas, NV. Both proved to be vital opportunities to represent the Land Surveying and Geomatics Engineering program here at Purdue. It also gave the students that attended an opportunity to meet with professionals and possible future employers. In addition to attending these conventions we held our annual Spring Recognition Banquet to honor our graduating seniors and to recognize the 2005 scholarship recipients.

So far during Fall 2005, we have held our usual monthly meetings with guest speakers. We held our annual fundraiser this year at The Feast of the Hunters Moon, manning the center gate during the entire event. This was a great opportunity to raise funds for our chapter while helping out the community. In addition to this, we participated in Homecoming ceremonies by showing our display and setting up a total station. We handed out information about LSGE in an attempt to spread the word about our unique program. Once again this year an open house was held during Family Day and our members talked to freshmen and their parents about the program. It was a successful turnout once again thanks to everyone involved. Currently, we are planning several social events to round out the year and are in the process of ordering merchandise with the new LSGE logo on it.

In conclusion, we would like to thank everyone who has helped make our chapter the success that it has been this past year. Special thanks goes out to everyone who made a donation to us for the 2005 year and purchased merchandise. Without your contributions we would not be able to send our students to either the state or national conventions. Finally, a special thanks goes out to Dr. Steven Johnson and Ron Wharry, PLS whose commitment and guidance to our program allows us the opportunities that we have and helps make our chapter the success that it is.

2004-2005 Chapter Officers

President:	Kelly Miller
Vice President:	Chip Thompson
Secretary:	Clint Roos
Treasurer:	Kevin Redelman
Representatives:	Dave Carmien Nick Schmitt Gene Gosewehr



Purdue ACSM WEBSITE
<http://bridge.ecn.purdue.edu/~acsm>

LS 400 — Summer Geomatics Design Course Summer 2005

Fifteen students in the Land Surveying and Geomatics Engineering program at Purdue University participated in a unique learning experience over four weeks during the summer of 2005. LS 400, the Summer Geomatics Engineering Design Project (May 16th-June 10th), was a balancing act between the desire to be out in the wild blue yonder on a nice summer day and the necessity to plan and design a proper survey. The course is an integral part of the surveying design sequence, and it provided the students with a full serving of theoretical survey engineering along with a side dish of field work, and sprinkle of poison ivy and sunburn to boot.

The course project was a continuation of survey work at the Sycamore Valley Girl Scout Camp east of Lafayette, Indiana. The project objective was to combine the previous LS400 surveys in 2003 and 2004 with the LS400 survey in 2005 and complete the mapping of the girl scout camp site. We would like to Mr. Eric Mellinger, Camp Manager, for hosting our survey project during the last three summers. On the second day of the course, Mr. Mellinger gave the students an orientation to the sprawling 150+ acre camp site. He discussed current plans for the camp facilities and helped the class prioritize the survey work for the project. The outcome of the meeting was summarized in three Work Orders: 1) Control Survey for the camp, 2) Boundary Survey completion, and 3) Topographic Map completion along the Wildcat Creek and camp Trail Map for the scouts.

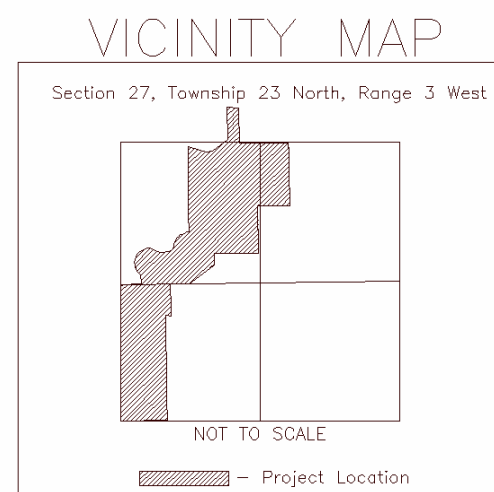
Control Survey

Horizontal and vertical control previously established on the site by the 2003 and 2004 classes needed to be checked and extended to support the requirements of the boundary and topographic surveys. The Global Positioning System (GPS) was used to survey a horizontal network consisting of four new control points on site, National Geodetic Survey control stations, Tippecanoe County section corners, and several control stations from the previous LS400 2003 and 2004 projects. The GPS network formed the fundamental reference system for the site, and it established the coordinate relationships between the several existing surveys that enabled the class to put all data into a single reference system. The GPS network was used to control total station traverses that established control for topographic mapping and location of boundary evidence.

Vertical control was brought to the site by second-order precise differential leveling from a benchmark along CR 900 East. Benchmarks were established through the central camp area by third-order differential leveling. Elevations were extended by trigonometric leveling along the traverse lines in order to control the topographic mapping. The LS400 2005 vertical control survey closed the major level loop through the site begun in the previous summers from the same benchmark. The elevation closure of the level loop was within acceptable limits. The elevations established by leveling were also compared each summer with elevations from GPS observations at common stations. Elevations from the GPS network referenced to NGS control and the elevations from leveling referenced to the benchmark generally agreed within ± 0.10 feet, thereby validating the datum and the previously set benchmarks.

Boundary Survey

Boundary work, previously performed by LS400 in 2003 and 2004, was expanded to include the property line west of the camp activity areas and several other east-west property lines just south of the camp activity areas. The southern 80± acres was investigated, however due to extreme distances, thick brush and time constraints this area was not surveyed. The boundary survey and analysis of field evidence and deeds was completed. A boundary survey plat was completed including a full metes and bounds description of the camp boundary and a Surveyor's Report. The boundary survey design and mapping considered ALTA/ACSM specifications, as well as IAC "Rule 12" requirements. The vicinity of the subject boundary lines were flagged for the Camp Manager, but no property corners were set.



Topographic Survey

Topographic mapping was extended on the Girl Scout Camp to include the areas south and west of the swimming pool. A three-sheet series of map covering the main camp activity area was produced at scale of 50 feet to the inch with a 2-foot contour interval. The final maps delivered to the client incorporated the work of the previous two LS 400 classes. Contour information from the Tippecanoe County GIS was used to complete mapping in those area not covered by LS400 detail surveys.

The Wildcat Creek topography west of the camp activity area was carefully surveyed to provide a digital terrain model, from which cross-sections were extracted. These cross-sections will be available for future planning and permitting in the event that the Girl Scout Council decides to bridge the Wildcat Creek and more fully utilize the western portion of their property.

The 2005 class has undoubtedly benefited from the experience of working in a team environment and taking part in the many phases of a surveying project. From conceptual planning, survey design, field data collection, data reduction and adjustment, to map production and final presentation the LS 400 team has risen to each challenge. Many thanks to Professor S.D. Johnson and Bryant Hottel for unlimited patience and guidance through this learning experience.

Respectfully submitted by the 2005 LS 400 Team.

Indiana's Time Zone Debate: The Astronomical Answer

Throughout Indiana in daily conversations, courtrooms, and public places there is an open discussion on the topic of Indiana's time zone dilemma. Should Indiana be in the Eastern savings time zone or the Central savings time zone? There are many significant ways of determining this and everyone seems to have different opinions and different reasons to support their opinions. One view often forgotten is that of the astronomic approach. The astronomic approach looks at the position of the sun relative to local time. This method of telling time goes way back and involves one of the oldest devices for telling time, the sundial. At local noon at any given longitude, the sun is at the highest point reached that day. During a day, the earth revolves around once (360°). Therefore, in one hour the earth revolves 15°. Time zones are based off of lines of longitude at 15° intervals from the Greenwich meridian in England. The Eastern Savings time meridian is 5 hours earlier than Greenwich, or at 75° West longitude. The Central savings time meridian is 6 hours earlier than Greenwich time, and its meridian is 90° West. In other words, noon in the eastern savings time zone is the same time as local noon on the 75° West longitudinal line. This line runs north-south, approximately through Philadelphia, Pennsylvania. Noon in the Central savings time is the same as local noon on the 90° West longitudinal line, which runs approximately through St. Louis, Missouri. Indianapolis falls roughly at 86° West. Indianapolis' longitude is clearly closer to the Central meridian than the Eastern meridian. Local noon in Indianapolis would happen at approximately 12:44 Eastern time or 11:46 Central time. Based on the astronomic evidence, Indiana should be in central savings time.

The astronomic approach of deciding time zones is usually brushed aside in favor of which time zone would make the most economic sense. The choice lies in whether Indiana wants to align itself with Chicago and other midwestern cities or Cincinnati and eastern cities.

Note: Analysis of this debate was discussed in CE510: Mapping and Geometric Geodesy taught by Professor Boudewijn H.W. van Gelder.

Be sure to visit our website to
view the 2005-2006 LSGE
Resume Book!

Purdue ACSM WEBSITE
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ACSM members Chip Thompson, Kelly Miller, and Kristopher Eichhorn (left to right) assist patrons entering the Feast of the Hunter's Moon at Fort Ouiatenon in West Lafayette. Demonstrations of life in the 1700's were present at the Feast, along with staged battle scenes.

