

**School of Engineering and Technology Industrial Advisory Board
Meeting minutes for November meeting at Museum Bronze
Friday, November 7th, 2008**

Members Present:

Bob Andersen, Fred Berg, Nathan Callaghan, Chris Conklin, Lynnette Eding, Diane Haig, Steven Kars, Charlie Litzner, Ralph Showberg, Brian Theriault, Don Stephanic, Matt Witte

LSSU Personnel:

David Baumann, Wael Mokhtar, Jeanne Shibley, Morrie Walworth

Opening:

Fred Berg opened the meeting and welcomed everyone to Museum Bronze. Cheri Reed will speak later in the meeting and give us a tour and explain a few key items in the museum.

The previous meeting minutes were emailed to all members in addition to being posted on the LSSU website. The action items from the May 2008 meeting were briefly reviewed:

Action Items from May 2008 meeting:

Responsible

New groups are needed for Early January time frame to host an open house.	All Members
David McDonald is looking for some different parts that will interface with the CAN network. Please contact David if you have any ideas for him.	All Members
If anyone knows of any local trade shows that we can attend to represent LSSU, please let Chris Conklin know.	All Members

The action items reviewed and minutes were accepted as stated for the May 2008 meeting.

All action items from the current meeting will be listed in RED in the meeting minutes below.

Chairman's Report –

- Fred Berg spoke of the state of the industry where credit is tight, schedules are being revised, and commodity prices are falling. 2009 is going to be a challenge, This is a prime time to have Industry partnership with education. It is also a good time to be in school. We need Institutions to assist Industry to weather the storm. We need to find cheaper labor and more innovated ideas.
- We would like to help support the PDC, so we need to know what Eric Becks needs from us. **If Eric could provide an update on what is happening at the PDC, that would be great.**
- There is a Chairman election in Spring 2009. If anyone is interested please let Lynnette or Fred know.
- **There needs to be a change to the IAB role statement to change the wording of “Department of Engineering and Mathematics” to the “Department of Engineering and Technology”.**
- **What more can the IAB do to help LSSU?**

Subcommittee Updates:

Recruitment subcommittee-

IAB members participated again this year in the 2008 Fall MACRAO events. The MACRAO calendar was updated in mid-summer.

The LSSU Admissions office continues to work with the IAB, but the staff continues to turn over. The LSSU Admissions counselors are very appreciative of our participation in the MACRO events. There was a small CD that the engineering department had that seems to be a “hot item” with the prospective engineering students at these events. If IAB members plan to attend, bring any and all brochures you have that will show what engineering is about at LSSU.

There was a suggestion to make up a kit or something that will catch the attention of people when at these events. If anyone has any ideas, please contact Chris Conklin.

Chris will post an email in January about any upcoming MACRO events.

It was suggested again to invite the VP of Enrollment to our meeting when we are at LSSU in the spring. Bill Eilola was recently at a meeting, but it may be helpful to have him back to let him know we are serious about helping the university.

One suggestion that came from the discussion was to have Bill Eilola send thank you notes to all IAB members that participate in the MACRO events. Morrie and/or Susan Kamp usually send a thank you note, but it may be a good step for Bill to send one so we know he knows what we are doing.

Additional discussions took place about the following items:

- MACRAO events are well organized and the students and parents look forward to attending these events to help in deciding career and education choices.
- MACRAO events were focused more regionally this year. In the central Michigan area all of our events were concentrated into the same week, this kept us busy.
- The events are held in high schools and universities. The space/area utilized varies significantly from event to event. The events are held in gymnasiums, hallways, cafeterias, or a commons. Some of these areas have low ceilings, hard surfaces, and are cramped. Other areas are large open areas and are able to better handle the crowds that attend these events.
- Table top space is too limited for the amount of recruiting materials utilized. Typical table top is 60”x 30”.
- Some of the events were poorly attended this season with little or no inquiries from the attendees.
- Recruiting brochures had not been received by the admissions counselors prior to the events.
- Significant interest in Nursing and Health Care related fields.
- Lower interest in Engineering, possible lack of awareness or other?
- None of the admissions counselors had any of the recruitment CD’s from the Engineering and Technology department.
- A special **THANK YOU** to all of the IAB membership that supported the Fall 2008 MACRAO events. Your support is greatly appreciated and I hope that we can have more of the membership participate in future events.
- You can make a difference in the lives of these young people as they make their education and career choices.

David Baumann mentioned that the quality of students is really good. High quality means better retention. There is a trend going on where people are looking for the more “sensitive” side of engineering. Engineering is about helping people do things easier. We are a society of abundance. We need to look at what is important. Engineering now is more of a right brain function when it comes to redesign instead of the left brain new design.

Museum Bronze Introduction – Cheri Reed

The founder is Glenn Reid. He was greatly influenced by his parents who believed in the importance of education and learning through many approaches including higher education, apprenticeships, and hands-on training. Specifically Glenn's father instilled in him a respect for people who use their hands when working. As a result, Glenn a native of Detroit, has collected working models that celebrate the role of hand-made craftsmanship related to the industrial revolution.

This collection is now part of the Reid Family Foundation which has been dedicated to Glenn's father, James Reid, in appreciation for fostering in Glenn the work ethics and hands-on talent required to succeed in his life-long career within the automotive industry.

The museum is equipped to handle 60 students or adults who are interested in gaining an appreciation of automotive history and hands-on craftsmanship. During the time spent at the museum, visitors will see working models of steam engines, trains, ships and automobiles. The museum specializes in highly accurate replicas of historical significance including models such as: "The Kitty Hawk", "The Edmund Fitzgerald", and "The Stanley Steamer".

With the involvement of the Reid family, Glenn and Lorene created the Reid Family foundation and Museum Bronze as a means of encouraging the learning process that comes from studying the accomplishments of the past as well as to extend the reach of their philanthropy beyond their lifetime with a continued presence in Michigan. Their strong commitment to advancement through learning, inspire David, Sheri, Jim, and Doug to make this Museum and the Foundation's Scholarship Programs.

The mission of the Reid family foundation is to help support hands-on education in Michigan with particular emphasis on the Detroit area. The foundation works with other agencies, organizations and public entities that make an impact on individuals.

The Grant making focus is: "The 4 E's":

Engaging kids in hands-on learning through grants awarded for innovative programs and activities that teach students how to design and build things.

Educating students by funding scholarship programs to further educational goals and career aspirations with a priority in fields that require hands-on skills, or math and science.

Emphasize the importance of math and science education by providing funds for public schools to give individual students more opportunity to explore these areas using their hands.

Enable lower income students opportunities to participate in hands-on educational programs.

The Trustees of the Foundation believe in the importance of giving aspiring individuals a chance at a promise future that may not otherwise be possible. It is the Trustees hope that scholarship recipients will in turn "give back" to their communities and those less fortunate.

LSSU School Updates

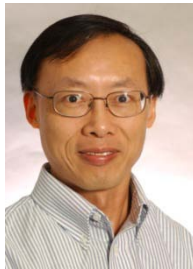
College of Science, Technology, Engineering & Mathematics (STEM)

- Dean: Dr. Tony Blose
- Associate Dean: Morrie Walworth
 - Biology, Chemistry, Geology, Physics
 - Mathematics, Computer Science
 - Engineering, Technology

Two New Faculty Members



Dr. Ron DeLap (EE)



Dr. Hui Tang (CE/EE)

Enrollments:

- Fall 2008 Statistics
 - 176 student (same as last year)
 - Computer Engineering: 34
 - Electrical Engineering: 41
 - Mechanical Engineering: 56
 - General Engineering: 17
 - MfgET: 20
 - Eng Mgt: 8
 - Freshmen Numbers up 10%
 - LSSU Enrollment up 2.5%

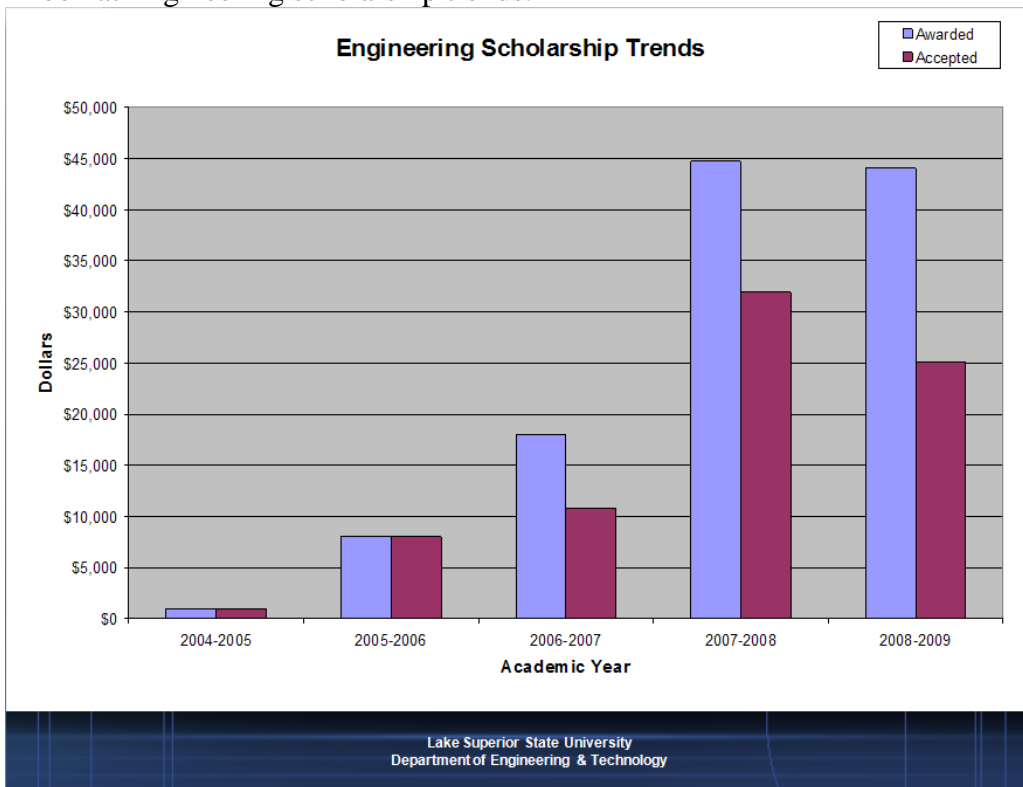
Scholarships:

- Offered Over \$40,000 in Awards
- Only \$25,000 Accepted

MAJOR SCHOLARSHIPS

- Charlie Snyder Scholarship \$2,000
- Huizenga Scholarships \$8,500
- Robotics Scholarships \$12,000
- SAME \$500
- MSPE \$6,000
- Jacobsen/Bell \$2,000
- Precision Edge \$8,500
- Sven Heikkinen \$500
- John & Jan Madl \$500
- Floyd W Starks \$2,400

A look at Engineering scholarship trends:



A new enrollment initiative is in the preliminary stages:

- Gaylord University Center
 - Proposal to Start STEM Programs this Fall
 - General Engineering
 - Technology
 - Engineering Management
 - Robotics

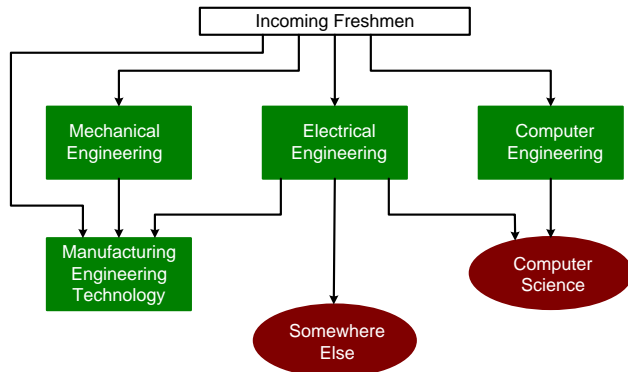
Prototype Development Center Updates:

- Completed 1 Year of Operation
 - 90 Projects
 - 24 Completed
 - 32 Quotes in Process / Review of Scope
 - 8 Active
 - 7 Cancelled
 - 19 Initial Leads; In Development
- Added New Functionality
 - Product Commercialization and Manufacturing Center
 - Collaboration with Business
- SmartZone Application (July 1, 2008)
- SmartZone Award (October 15, 2008)

LSSU Program Updates:

Electrical and Computer Engineering

Proposed EET Programs



- Other EET Programs in Michigan
 - Ferris State University
 - Michigan Technological University
 - Northern Michigan University
 - Wayne State University
- Commonalities of EET Programs
 - 2 “Light” Calculus Courses
 - 2-3 Basic Science Courses
 - 24-59 Credits in Electrical Eng Tech
 - 1-2 Senior Projects Courses
 - Eng Tech “Breadth” Courses
 - General Education
- Strengths of LSSU Program
 - 3 Science Courses (All with Labs)
 - Programmable Logic Controller Course

- 5 Engineering Level Courses
 - Robotics, Robotics, Robotics!
 - LSSU Industrial Projects
 - Electronic Manufacturing Processes Course
- Electronic Manufacturing Processes (3,3)
 - schematics and circuit simulation (Cadence)
 - board design and lay-out (Eagle)
 - chip selection
 - surface-mount soldering techniques
 - programming pick-and-place machine
 - several “design-through-fabrication” projects
 - extensive experience with new PDC equipment

Mechanical Engineering Program Updates:

- Retention and Recruitment Plan (Spring 2008)
- EGME 141 Solid Modeling change:
 - Pro-E is used.
 - Three faculty members attended a training week for Pro-E in summer 2008.
 - Course content has changed.
 - Course Structure has changed.
 - Pass/Fail ratio:23/9 (Last year)
 - Average midterm score: 90% (This year)

Faculty updates:

- Keith Schwiderson has retired as of May 2008.
- Mathew Carroll has resigned as of December 2008.
- The ad has been posted for new Faculty members.

Facility updates:

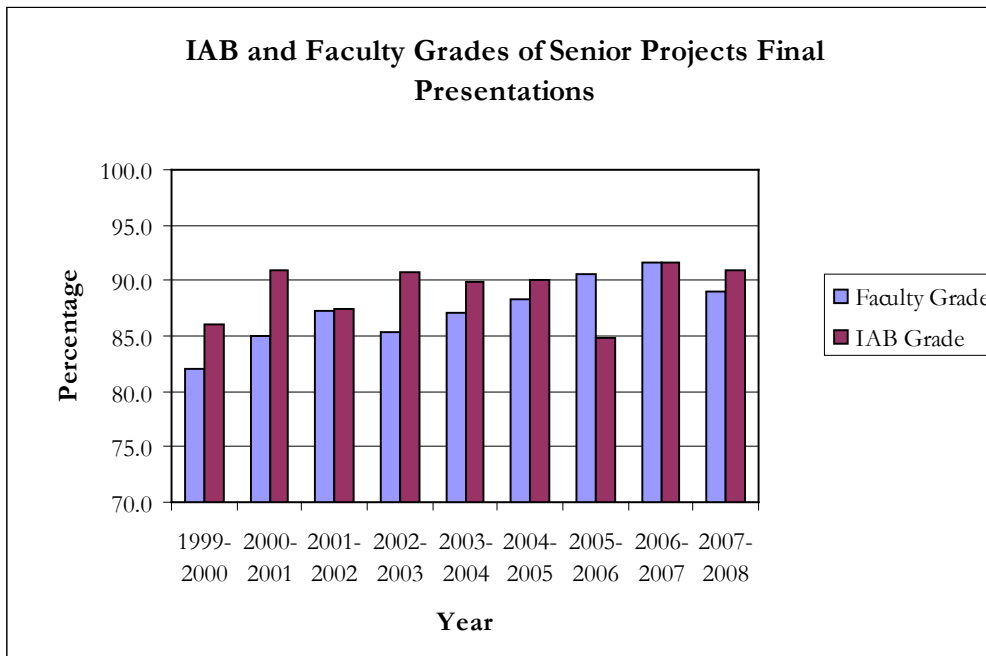
- Tinius Olsen Upgrade.
- New Ultrasound Equipment.
- New Vibration Equipment.
- PLC Upgrade.
- CFD Software.
- Delmia Upgrade

Senior Projects Update

Last year’s Senior projects:


- **Cardiovascular Research Institute of Albuquerque**
 - Development of Thrombosis Prevention Device
- **Delphi**
 - Universal Steering Column Validator- Phase II
- **Applied Manufacturing Technologies**
 - Design and Build of a Vision Integrated Robotics Workcell
- **LSSU**
 - Mini-Baja #2 – Design Drivetrain and Build Car
- **LSSU**
 - Internet Controlled Robot with Machine Vision

Grading of Projects:




2008 – 2009 Senior Projects

- Industry Sponsored Projects (3)
- LSSU Sponsored Projects (4)




Western
ENGINEERED PRODUCTS INC.

Company.....Western Engineered Products
 Contact.....Don Stephanic
 Advisor.....Ron DeLap
 Team.....1 CE, 2 EE, 1 ME
 Budget \$10,000




Description:
 Design and build an industrial fluid monitoring system which will test the properties of industrial cooling fluids in real time, and determine when the fluids need to be changed.

Lake Superior State University
Department of Engineering & Technology



CRIA

Company..... Cardiovascular Research
 Institute of Albuquerque
 Contact..... George Chandran
 Advisor..... Wael Mokhtar
 Team..... 2 EE, 3 ME
 Budget \$4,500




Description:
 Design and build a device to simulate the blood flow in arteries with blood clots, which will be used to train ultrasound technicians.

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LSSU's Prototype Development Center

Company..... Various Clients of the PDC
 (currently Lowran, Energizer, & Skintreet)
 Contact..... Eric Becks and David Leach
 Advisor..... Ron DeLap
 Team..... 1 EE, 1 ME
 Budget \$5,000- \$20,000



Description:
 Work on PDC projects to rapidly turn entrepreneurs' ideas into working prototypes, and also to improve existing system designs for industrial customers.

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 **LAKE SUPERIOR**
STATE UNIVERSITY

Company..... LSSU Engineering
 Contact..... Robert Hildebrand
 Advisor..... Dave McDonald
 Team..... 3 EE, 2 ME, 1 MET
 Budget \$10,000



Description:
 Development of an instructional test cell, using a donated chassis dynamometer, for evaluating automobile performance

Lake Superior State University
Department of Engineering & Technology


 **LAKE SUPERIOR**
STATE UNIVERSITY

Company..... LSSU Engineering
 Contact..... Morrie Walworth
 Advisor..... Jon Coullard
 Team..... 4 ME, 2 MET
 Budget \$8,000




Description:
 Redesign and re-fabricate last year's SAE Mini Baja car to compete in the SAE Mini Baja competition to be held in Oregon in May of 2009.

Lake Superior State University
Department of Engineering & Technology


 **LAKE SUPERIOR**
STATE UNIVERSITY

Company..... LSSU Engineering
 Contact..... Paul Duesing
 Advisor..... Andrew Jones
 Team..... 2 CE, 2 EE, 1 ME
 Budget \$4,000




Description:
 Design and build a scale prototype coupler for "O" scale model railroads that allows remote controlled coupling and uncoupling of railroad cars at any location.

Lake Superior State University
Department of Engineering & Technology

 **LAKE SUPERIOR**
STATE UNIVERSITY

Company..... LSSU Engineering
 Contact..... Wael Mokhtar
 Advisor..... Robert Hildebrand
 Team..... 1 CE, 1 EE, 2 ME, 1 MET
 Budget \$2,000



Description:
 Development of a prototype autonomous vehicle capable of retrieving rock samples from the surface of Mars, and which will compete in a regional ASME competition.

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A Sponsor Information Packet was handed out to all members for the 2009 SAE Mini-Baja Alabama Competition Proposal. This packet explained the project, included a preliminary budget, and an explanation of the sponsorship levels.

Closing Remarks: Next meeting is planned for Friday, May 1, 2009 at Lake Superior State University.

Action Items from May 2008 meeting:

Responsible

There was a suggestion to make up a kit or something that will catch the attention of people when at these events. If anyone has any ideas, please contact Chris.

All IAB members

What more can the IAB do to help LSSU?

Morrie W/ Eric B

Eric could provide an update on what is happening at the PDC, that would be great.

Eric B

There needs to be a change to the IAB role statement to change the wording of “Department of Engineering and Mathematics” to the “Department of Engineering and Technology”.

Fred B

2009 LSSU upcoming events:

Engineering & Technology Banquet - March 12, 2009

Engineering Day 2009 - March 17

Order of the Engineer Ring Ceremony - April 16, 2009

Industrial Advisory Board meeting - May 1, 2009

Summer Camps 2009:

Women in Technology - June 21-26

Robotics Camp Session I - July-5-10

Robotics Camps Session II - July 12-17

Respectively Submitted,

Lynnette Eding
LSSU IAB Secretary