



**School of Engineering and Technology Industrial Advisory Board
Minutes for Fall Meeting at Lake Superior State University
Friday, November 1, 2013**

Members Present:

Ray Adams, Bob Andersen, Tim Bennett, Fred Berg, Paul Blackford, Lynnette Eding, Steven Kars, Ralph Larsen, Adil Shafi, Don Stephanic, Trevor Swenson, Brian Theriault, John Truckey

LSSU personnel present:

Dr. David Baumann, Dr. Andrew Jones, David Leach, Joe Moening, Dr. David Finley, Eric Becks, Jim Depvasaad, Dr. Robert Hildebrand, Professor Paul Weber and Jeanne Shibley.

Business:

- Meeting Called to Order by Steven Kars, Chairman of IAB
- Steven reviewed the Meeting Agenda
- Went around the room – Introductions of Members and LSSU staff
- Reviewed background of Steven Kars, new Chairman
- Personal, career and business of CanAm Underwater Hockey Gear

Meeting Minutes – Lynnette reviewed the Minutes from the Spring Meeting

Motion to approve meeting minutes:

Fred Berg – Moved

Ralph Larson – Second, Carried

Chairman's Report

Secretary Election - Lynnette Eding was elected to Secretarial Position of the LSSU IAB.

New Member Election – Paul Duesing was nominated and approved to be on the LSSU IAB.

Recruitment Subcommittee Report – Trevor Swenson

- New Admissions assistant director targeting local area schools, both US and Canada with onsite visits.
- Fall counselor meeting – October 2013
There was low attendance, but a successful event.
- Bus kids from Korah and White Pines to LSSU in Spring 2014
- 50 students visited from Cheboygan High School
- Thanks to Jeanne and IAB for continued support

To do list:

LSSU – Sault College Bridge programs

Recruitment Subcommittee Report – Trevor Swenson, continued

Admissions Update – from AI Case, reported by Trevor Swanson

- Expanded market presence to 6 additional states
- Increased volume of name purchases to 77K
- Ahead 9% in overall applications vs last year
- Ahead 7.1% in applications in the School of Engineering & Technology
- Our SQI (Student Quality Index) is up compared to previous years, with average admit ACT at 24.134 and GPA at 3.479
- Participating in digital campaigns and increased social media activity

Webinar Update

- LSSU GoTo license not renewed in past years
- A "live" webinar is not a good fit for us at this time
- Link to videos on our web page would be more suitable
- Cost / Time
- Webmaster unavailable

MACRO Highlights

- Target list of school
- 7 IAB members attended 10 MACRAO Events
- Positive feedback
- Engineering recruiting cards and visual aids desired and well accepted
- Recommendation to continue IAB representation at events
- Future improvement – sign-up sheet/follow up

Items in Progress

- Engineering Monthly Newsletter Positive Feedback
- Expand audience/distribution methods and continue to improve layout/content
- Next issue is February 5, 2014
- Brochure modifications [www.lssu.edu/eng/\[facebook|youtube\]](http://www.lssu.edu/eng/[facebook|youtube])
- QR codes seemingly useless (26 hits in 2 years)
- Spring MACRAO event planning
- FRL/FLL event planning

Robotics Event Participation

- Need IAB participation at events
 - Regional and District events
 - Michigan FRC State Championship
- Need increased visibility at local chapters
 - Korah, Sault High, Brimley, Cedarville
 - We need to find a way to "connect"

Robotics Event Participation, continued

- FIRST Event Hosting
 - Hosting FRC Kick-Off, January 4th, 9am – 1pm, Cisler Center
 - Approx. 12 teams within 100 mile radius
- FLL Event Hosting – Six registered teams
 - FLL Robot Game practice on Nov. 2nd, 1-4 pm, Cisler
 - 2013 Movin' U.P. Qualifying Tournament on Nov. 23, Norris Ctr.

To do list:

- Regular Monthly meetings
- Ongoing improvements with recruiting card and Web/Video content
 - Alumni video creation
 - Campus Tours / Robotic lab demos?
 -
- New visual aids (3D printer)
- Soliciting for Fall 2013 MACRAO events

Thoughts/Sharing

- Senior project short videos – summarize project and scope, value and experience in senior projects
- Better utilize our regional centers – Dearborn, Escanaba, Gaylord, Petoskey – to better leverage students. Do they have events that we could support?

Thank you!

A Special **THANK YOU** to Adil, Paul and Dan for active support on recruiting subcommittee.

A Special **THANK YOU** to Jeanne for the continued help and support.

A Special **THANK YOU** to all of the IAB members and LSSU Staff that continue to contribute and support the MACRAO and FIRST robotics events. Your support is greatly appreciated.

Break & Networking with LSSU Engineering & Technology Students

9:50-10:30 a.m.

IAB members networked with LSSU Engineering and Technology students for about 40 minutes. Each member introduced themselves and told a little bit about their career history.

PDC and LSSU Updates

David Finley started with an email note from an “old” LSSU Alum, **Dennis Dodge** at JR Automation.

Below is the note:

There is a tremendous amount of history that I don't know if they pass on anymore. Our band practices were held in the old jail at East Hall. Drafting (yes with real pencils, paper and erasers) were held in the old horse stables where the parking lot is for the new tech center. During orientation week they would hold the greased pole climb to retrieve the hat from the top of the pole down in what then was called the ROTC bowl, the big depression to the north of officer's row. If I remember correctly that is the pit where they dug the clay to make the bricks for those buildings. Our college computer center was in the basement of the Administration Building. The door and the stairway is still there on the east side of the building.

That flag pole where our country's colors fly? Put there in the late fall of 1973 when I was a freshman. One of our classmates had a bit much to drink one day during the week (drinking age was 18 back then) and took out the old flagpole with his car so they put the new fancy aluminum one up. There used to be tennis courts in front of the admin that used to flood in the spring time (we called it Lake **Pianos** after Len **Pianos** who was in charge of maintenance) and I have pictures of me trying to scuba dive in the shallow waters.

We had this 'old guy' for a President that went by the name of Shouldice. King Ken as we called him because he was always talking about the college as though it were a kingdom. All his plans for some physical education building on the south side of Easterday, a Technology building, a Performing Arts Center. All on paper and a dream. He was nuts we all thought. Where Norris Center sits we used to squirrel hunt in the woods that was there. I was extremely fortunate to teach at Lake State in the 77-78 school year and got to know him better. Now that I am an old guy, looking back that 'nut' was a true visionary and a champion of what you all got to see and experience.

There is something about the place that makes it extra special. At least it did for me. Whenever we go to the Sault (a couple times a year) my wife always asks me if I want to go up to 'the college'. I walk around, sit and take more pictures of the same thing that I probably have a thousand times because I hope that just maybe it would take me back to those days when so many memories were being made. I go into the library and see Dr Shouldice's picture on the wall and remember his firm hand shake and the fire that he had for his college. Oh well, enough from a sentimental old fart. I have pictograms to get done.

2012-13 Engineering & Tech Accomplishments

- ABET Re-accreditation of ME, EE, CpE!!
- 7.5% enrollment growth (8% in 2012)
- Engineering House fully occupied
- Investment in mobile robotics (Corobot)
- Added to line to Robotics Lab (~\$0.5 M value)
- Updates to SET web page/Facebook
- 100% placement w/in six months

School of Engineering and Technology Enrollment History 2006-2013

Term code key

			Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
CENG	Computer Engineering	BS	38	28	32	18	22	18	26	18
EGEE	Electrical Engineering	BS	36	41	40	30	38	36	37	30
EGET	Electrical Eng Technology	A					1		1	1
		BS				1	3	4	5	13
EGNR	General Engineering	A	17	14	15	22	17	13	10	18
EGNT	General Engineering Technology	A	1			1	1	1		1
EMGT	Engineering Management	BS	7	6	7	9	8	4	4	1
EGME	Mechanical Engineering	BS	62	59	59	67	79	85	85	93
EGMT	Manufacturing Eng Technology	A	1	4	3	4	5	2	3	2
		BS	27	25	19	18	12	9	14	21
INDU	Industrial Technology	BS	1			1	1		1	2
Totals			190	177	175	171	187	172	186	200

2012-13 Engineering & Tech Matters

- ABET Re-accreditation
 - EAC, TAC and pending changes
 - Real story (two weaknesses, and one deficiency)
 - Program-level assessment
 - Thermo-fluid repairs/upgrades
 - Professional Development \$\$
- Hosting First Robotics Competition Kickoff
- Faculty Search – to replace Paul Duesing – Faculty asked for advice on the best location to search, they have not been having good luck with resumes.
 - Feedback was to use LinkedIn or Monster/Careerbuilder.
- A new method of evaluating the EGNR-495 Final Presentations was handed out to the IAB for review.
 - Some negative comments about no place to write comments while each section of the presentation was taking place.

A NEW PARTNERSHIP

- Moran Iron Works of Onaway, MI enters into an agreement that opens an exchange of academic and industrial projects and educates workers, management, LSSU faculty and students.
- University teams up with Michigan Works! for workforce retraining

INTERNATIONAL ENGINEERING —

- A recent agreement allows Sault College students to transfer electrical engineering technology diploma course work to LSSU to earn full-fledged baccalaureate degrees in electrical engineering technology or mechanical engineering technology

2013 Engineering Senior Design Projects

- ABI: Automated Braking Innovations, Continental, Auburn Hills, MI
- A-VIS: Adexobot-Vision Integration Solution, Advenovation, Rochester Hills, MI
- LCS: Laser Control Solutions, Mactech, Red Wing, MN
- LOCI: Locomotive Onsite Communication Initiative, Essar, Sault Ste Marie, Ontario
- MRC: Marine Refueling Concepts, Moran Iron Works, Onaway, MI
- RAS: Railway Automation Solutions, Pre-tec (Willamette Valley), Eugene, OR
- SFI: Solar Film Innovations, 3M, Maplewood, MN

David Finley and Jim Devepresad made a trip to JR Automation

See photo in the meeting presentation.

Dr. Jones – ECE Curriculum Updates

- Change Math prerequisite (from MATH140)
 - EGEE125 – pre/co of MATH111 and MATH131
 - EGNR265 – pre of MATH111, MATH131, sophomore
- Update EE minor to align with University
 - 3 credits at 300 level

Power Electronics

- Power Electronics (EGEE375 □ EGEE475)
 - Joe Moening spearheading
 - Focus on power conversion, efficiency
 - New lab equipment (Arduino, H-bridges, Supplies)
- Result
 - Students really enjoyed class
 - Arduino board worked great, allowed inverter circuit
 - Expand capabilities of board for DC-DC and AC-DC converters

Dr. Hildebrand – ME Updates

- Trig prerequisite added (CNC course, GD&T course)
- CNC course made less expensive
 - Reduce lab time from 5 hrs/wk to 3 hrs/wk
 - (partially offset by additional 1 hr of lecture)
- Quality course: removed “Advanced” from title; allow statistics prerequisite to be concurrent

- Fluid Mechanics:
 - Combine 2 partial semester courses into 1 for full semester (full Math prereqs from start – no more rushing the “hard parts” at end of course)
 - Fire Sci students move to new course
 - New laboratory (flow regimes, fluid properties)
- Review tech elective concentrations

FOCUS FORWARD - David Roland Finley, Ph.D., P.E. Dean, Business & Engineering

- Many investments in a STRONG and GROWING LSSU!!
- Reviewed South Hall renovation
- LSSU Presidential Search status
- Engineering Economics into curricula
- Proposed Sustainable Energy concentration
- Tau Beta Pi Engineering Honorary launch
- Outstanding SET Alumnus Award
- Proposed Civil Engineering major

Roundtable session: Board Member / Student small group discussion-

IAB members met with students in a small group setting to discuss “The Good, Bad, and Ugly” of everything LSSU.

Session – summary from the small group discussions.

We discussed the items the students brought up in our small group sessions.

Feedback Report from IAB to Faculty – Summary of discussions

THE GOOD, BAD, and the UGLY:

- The students thought there was a nice balance between academics and hands on.
- The hands on and 1:1 experience is very good.
- College life was good when it came to things outside of school activities.

- There is a piano in the arts center that has been out of tune for years, that needs to be tuned. One student commented that every time he walks by, it plays the same tune of ugly!
- Students thought SMART boards would be a good add to the classroom.
- A tunnel was needed from the Engineering house to the CAS building.
- Access to Engineering “Y” drive on personal computers.
- Signal Processing textbook difficult to understand if you aren’t already familiar with it. The teacher of this was not good at describing this information.
- Some faculty is better at the technical side of things than explaining things to students, and that makes it tough to learn.
- Math CAD – this is tricky to work with. Do the students really need to use it? It seems unnecessary.
- Maintenance is slow to get things done around the Engineering house.
- LSSU doesn’t offer a large opportunity to lean something other than “C” language.
- Everything is in walking distance at LSSU – and there is a shuttle on the weekend which is really nice.
- Things to tell other students who are thinking about LSSU:
 - Great Student/Faculty ratio
 - Great focus on Engineering
 - Great campus and good people here
 - Personal visit from the faculty
 - Summer camps are helpful in decision making
- One student was drawn to robotics by word of mouth from other students on campus.
- No summer engineering classes.
- Scholarships were the deciding factor to come to LSSU and a good decision it was.
- Very poised students overall.
- Jobs are focused on MI mainly and not much in Canada.
- PEO – need more help from the school (Ontario does not give PEO status upon graduation).
- Equipment is older, but the students felt they got a good feel for how it works.
- Dynamometer – Front 2 wheel drive vehicle only.
- Positive feedback about the Dean. He talks more students than any other Dean has.
- Text books are adequate.
- Credits from junior college acceptable, so transition was good.
- Technical writing is different (inconsistent) between labs.
- Students expressed an interest with help on formatting resume, to know what flags are important to make their resume stand out.
- Professor turnover – their heart was not into the teaching, when he knew he was leaving.
- Instructors / Professors are approachable and many students know professors outside of the classroom setting.
- Keep the labs, they reinforce the class.
- Like the study guides, too.
- Other classes have SI’s (supplement instructors) to get help with the class.
- Classes are stressful, but understand this is normal.
- Math classes were taught as if you were going to be a math major rather than engineering related. Need math for Engineering.
- Campus housing is cramped.
- Robotics lab and exercises are good, but the organization of the lab and the broken equipment (electronics area) is not so good.
- Lack of space in CAS for people who meet and study as a group.
- Newer faculty doesn’t share the “dedication” of experienced faculty.
- The younger PhD’s taught the way they were taught, which may not be the LSSU way.
- Frequency of classes is sometimes a problem in scheduling classes.
- Like the evaluation of the class and teacher separately.
- Like teaching styles of the “old” faculty and much better than the “new” ones.
- Look into service robotics applications for human services.

Closing Remarks - Steven

Next Meeting: **May 2, 2014 at LSSU**

The tour of the SSMart building took place immediately after the meeting adjourned.

Minutes have been respectively submitted,

Lynnette Eding
LSSU IAB Secretary