



**School of Engineering and Technology Industrial Advisory Board
Minutes for Spring Meeting Lake Superior State University
Friday, May 1 2015**

Members Present:

Bob Andersen, Fred Berg, Tim Bennett, Ted Clark, Lynnette Eding, Dan Goodrich, Diane Haig, Steven Kars, James Kucher, Ralph Larsen, Adam Lyon, Trevor Swenson, Brian Theriault, John Tillotson, and John Truckey, and Marty Zoerner

LSSU personnel present:

Dr. David Baumann, Eric Becks, Jim Depvasaad, Dr. David Finley, Dr. Robert Hildebrand, David Leach, Dr Zakaria Mahmud, Dr. Joe Moening, Dr. Andrew Jones, Jeff King, Mark Rodriguez, Jeanne Shibley, and Dr. Paul Webber

Action items from last meeting:

- More formal process needed for ideas and decision making at LSSU
- Present what they can do and then present a plan to implement it
- IAB needs to hear feedback on what is being done at LSSU and what changes and new things have been implemented.

Action items from this meeting will be outlined in red throughout the report.

Business:

- Meeting Called to Order at 8:30am by Steven Kars, Chairman of IAB
- Steve reviewed the Meeting Agenda and we started with a round table introductions on where you work and what you do for your company. Then we ended with a new or strange hobby.

Chairman's Report

- Steve talked about the 3D printer fundraiser and ask the IAB for donations to help LSSU.
- I would also like to add in that remember, many companies will provide a matching donation for what you have given. I took advantage of this.
- Chair election will take place in Spring 2015 meeting – Steve has volunteered for this position, again. Fred nominated Steve Kars Ralph Larsen seconded the motion. All accepted.
- New business – we talked about resurrecting the survey to every member to see if they still wanted to be on the board. Fred was going to work on this.

Meeting Minutes – Minutes were emailed out prior to the meeting. Lynnette asked if there were any questions from the meeting minutes from the Fall meeting.

Motion to approve meeting minutes by Fred Berg and James Kucher Second the motion. All approved and no questions were brought up by the board members.

New Members-

Jerry Timm and **Ted Clark** were brought forward as new potential members to the IAB.

Jerry works at Michigan Scientific.

Ralph Larsen motioned to add Jerry to the board, Dan Goodrich second the motion, and all approved.

Ted Clark works at Superior Manufacturing.

Tim Bennett motioned to add Ted to the board, John Tillotson second the motion, and all approved.

Recruitment Subcommittee Report – Trevor Swenson

- National Engineering Month (March)
 - Station Mall held an event to support National Engineering Month – we need to look at getting into this even for next year.

Recruitment Subcommittee Report, continued

- White Pines (Sault Ontario) – they have a VEX Robotics program at the school
 - Dr. David Finley and Jim Devaprasad to set follow up meeting with the school.
- FRC / VEX Robotics –
 - Many schools are changing programs to the VEX Robotics program.
 - Looking for additional support at the Michigan FRC State Championship held in Ypsilanti, MI at Eastern Michigan University. This year’s event was April 10-12, 2015. LSSU’s Jim Devaprasad was present at this event. **Looking for some IAB support for this event at EMU for next year.**
 - Team 2338 “Gear It Forward (Trevor’s Nephew’s team)
 - Oswego, IL
 - Chairman's Award (UIC Midwest Regional)
 - 1st Archimedes Sub-Division Worlds Final (75 teams)
 - 4th World Championship (600+ regional winning teams competed)
 - Some Local Robotics teams:
 - FIRST US Team 1596: The Instigators - Sault Michigan
 - FIRST Canada Team 1535: The Knights of Alloy –
 - No longer has a FRC team - VEX Robotics
 - Great Potential to be Future LSSU students
 - **Ideas to help and contribute, looking for equipment/sponsors and mentors**
- VEX Robotics
 - High school (21 teams, Sault to Wawa)
 - First year (fall 2014)
 - Tenaris partnership (\$25k sponsor)
 - Elementary (12+ teams)
 - First year (fall 2015)
 - FLL (decline 17 to 6 in 3 years)
 - Sponsor funding (12 “super” kits)
- MACRAO Highlights
 - There was a lack of IAB support this year at the MACRO events – better luck next year!
 - **Need IAB help and attendance at MACRO events.**

Recruitment Subcommittee Report, continued

- Admissions Update

<u>Accepted Students</u>	5 Year Average	2015	2014	Yr to Yr
New Freshman (FTIC)	1180	1210	1185	25
New Transfers	260	172	193	-21
Readmit	52	42	38	4
Total	1492	1424	1416	8
College of Business and Engineering		238	258	-20
Business		102	124	-22
Engineering & Technology		136	134	2

- Follow up with potential students:
 - Dr. David Baumann contacted all 136 students this year with a 36% response from them to call back or make connection. **Keep up the contact with the new potential students.**
 - **Add a potential program for Job shadowing and Engineer for a day – anyone interested, please email Dr. David Baumann**
- Committee Future
 - Chair Election (3 years) – do we open the committee up as chair position of recruitment?
 - Trevor is “Acting” Chair until replaced
 - Expand Committee?? **Anyone interested in joining the Recruitment Committee? Need more members to be active as a committee.**
 - 4 down to 2 (Adil and Paul Blackford)
 - Thanks to Dan Goodrich and Jeanne for continued support
 - Thanks to everyone else who continues to support MACRAO events
- Brian Theriault asked about the **Tech Savy** event that took place in Gaylord – **next year LSSU should be represented at that event.**

School of Engineering & Technology Faculty & Staff

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

- Placement of May 2015 Graduates
 - Nine of twelve known May 2015 engineering and engineering technology graduates placed in jobs/graduate school prior to Commencement--several with multiple job offers
 - Qcomp Technologies (2), AMT (2), Esys Automation, Precision Edge, Revolutionary Engineering, and Honeywell Aerospace
 - Five December 2015 graduates
 - Two Eng Mgmt students in Escanaba (one May/one Dec.)
 - Three free agents and four unknown

David Roland Finley, Ph.D., P.E. Dean, Business & Engineering, continued

- Fall 2015 Recruiting Status –
 - Enrollment History 2010-2014

DEPT	MAJOR	MAJR_DESC	CODE	Fall 09	Fall 10	Fall 11	Fall 12	Fall 13	Fall 14
ECE	CENG	Computer Engineering	BS	19	23	19	27	20	19
	EGEE	Electrical Engineering	BS	31	41	38	39	30	26
	EGET	Electrical Eng Technology	BS	1	3	7	6	14	14
ME	EGME	Mechanical Engineering	BS	71	82	87	87	93	94
MfgET	EGMT	Manufacturing Eng Technology	BS	18	13	9	15	21	31
	EMGT	Engineering Management	BS	9	9	4	4	1	3
	INDU	Industrial Technology	BS	1	1		1	3	1
				150	172	164	179	182	188

- Fall 2015 Recruiting Status –
 - Recruiting Status

	Fall 2015 Admit	Fall 2014 Admit	Percent Change	Numeric Change
UNIVERSITY TOTAL	1425	1416	0.6%	9
Engineering & Technology	136	134	1.5%	2
Computer Engineering	19	12	58.3%	7
Electrical Engineering	11	16	-31.3%	(5)
Electrical Eng Technology	6	4	50.0%	2
Engineering Management	0	1	-100.0%	(1)
Industrial Technology	1	1		0
Manufacturing Eng Technology	9	9	0.0%	0
Mechanical Engineering	54	71	-23.9%	(17)
General Engineering	32	15	113.3%	17
General Engineering Technology	4	5		(1)

- Macro Influences impacting SET
 - One Rate at Lake State – anyone in NA gets in state tuition at LSSU
 - Re-org at LSSU?
 - VP of Student Affairs and Enrollment – 2 retired and combined job in to 1 position
 - Port of Algoma, S. Ste. Marie, Ontario – this is a game changer for raw materials in or transportation hub

David Roland Finley, Ph.D., P.E. Dean, Business & Engineering, continued

- List of “Good Things”
 - Four Externally-Sponsored Senior Design Projects
 - PLC trainers upgrade complete
 - Gift for Robotics Summer Camp/FR Scholarships--\$10K
 - Hosted First Robotics Competition Kickoff (2nd yr) – 12 schools attended
 - Michigan Works Training again this year—Phase 1 and 2
 - Emeritus Nomination—Keith Schwiderson
 - *NEW* Engineering Senior Dinner – at Antlers
 - Engineering Prof. Dev./Summer Research Fund—Year 3
 - Snowman Burning:



[Snowman Burning](#)

- Newest Addition to SET:



Dr. [Sanjiv K. Sinha](#)

- BE Inspired Speaker presentation
- Alumni Fellows Award/Outstanding Service Award – Anthony Dulimba

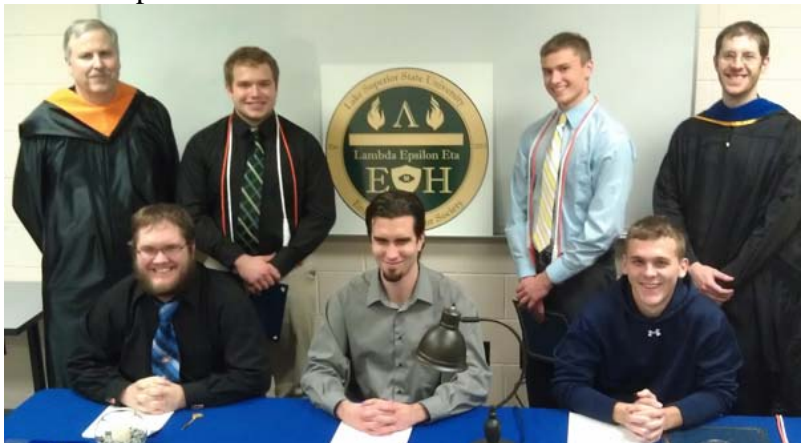


David Roland Finley, Ph.D., P.E. Dean, Business & Engineering, continued

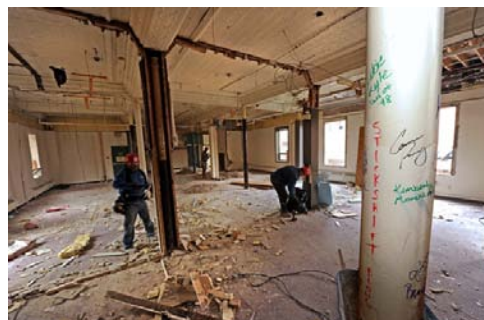
- Order of the Engineer induction:



- Lambda Epsilon Eta Induction:



- South Hall Renovation Project – Late 2016 will get keys to the building
 - Construction fences up and ready to start:



- Focus Forward Topics
 - College of Business & Engineering –Mission, Vision, Goals
 - Handout for our review
 - Sustainable Energy concentration growth
 - Tau Beta Pi Engineering Honorary application
 - Engineering Economics course into curricula
 - Professional Practice course into curricula
 - Establish Alumni Fellow and Service Award tradition
 - Proposed Civil Engineering major

ECE Curriculum Update - Dr. Andrew Jones

- Sustainable Energy Concentration Update
 - 10-12 credit hours:
 - Energy Systems and Sustainability (Fall 2014)
 - 6 students (F14'), 12 enrolled for F15'
 - EGNR361 (0,3) – lab focus on engineering (new)
 - Other classes offered in Spring 2015
 - Contains other classes
 - Thermodynamics, Electro-Mechanical systems, Power Electronics
 - Concentration for EE or CE (future for ME)
- Potential Changes
 - Seeking EET accreditation
 - Identified two classes that need to change:
 - EGET110
 - EGET175
 - To include more rigor and hands on experience
 - Look at adding 1-2 new classes:
 - Industrial wiring, electrical safety, schematics
 - Motors, high power electronics
 - Feedback from IAB
 - Transducers and strain gages are good to review
 - Controls, data acquisition and system interactions
 - Potentially a field trip to show usefulness of the electronics.
 - Training of control panel lock out

Mechanical Engineering – Dr Robert Hildebrand

- ME Search Updates
 - S'15 Search: Introducing *Sanjiv Sinha*
 - PhD, Syracuse, ME
 - MS, Syracuse, EE (robotics & controls) and ME (solids & structures)
 - BSc, John Moores (Liverpool), ME and Manuf.
 - 6+ years faculty experience (Wright State – Dayton and elsewhere)
 - Materials, Solid and Structural Mechanics; Dynamics and Controls; Vehicle Modeling and Simulation; Robotics and Manufacturing; CAD/CAM and Finite Element Analysis
 - Replaces Jaskirat Sodhi (position vacant during Fall)
- Curriculum Work
 - No curriculum changes accomplished this year
 - New Professors need to get used to the classes the way they currently are the first time through, then they can make their own changes to them.
 - But, some upcoming such...
 - Various discrepancies to correct w/ prerequisites, course descriptions, etc.
 - Statics & Strength (for Engineer Tech) a *pre-* rather than *co-*requisite to Strength of Materials lab (and offering those in alternating semesters)
 - Ontario PE exam samples suggest some needed additional content (rel. to dynamics, strength of materials)
 - Add a credit (eventually) to Thermal-Fluids lab course

School of Engineering & Technology (SET) updates - Dr. David Baumann, School Chair

- CE, EE, ME
 - Due for visit Fall 2018
 - Assessment Process – Developed, Active, Ongoing
- EET, MfgET
 - Decision to Accredite / Re-Accredite
 - Due for visit Fall 2016
 - Assessment Process – Must be Developed
- SET Contribution to LSSU Strategic Plan
 - Handout of plan for review
- Retention
 - EGNR-101 Intro to Engineering
 - Student Organizations (SWE, IEEE, ASME, LES, SAE, E-House)
- High Impact Experiences
 - EGNR-491-495 Senior Projects
- Quality Programs
 - ABET
- Prepared Graduates
 - 100% working/studying in field
 - \$56,000 average start salary
 - 1.9 job offers per student
- Economic Development
 - PDC
- High-Quality Facilities
 - Robotics Lab
 - ECE Labs
 - ME Labs
- Seniors at November IAB Meeting
 - Inconsistency in requirements
- Response
 - Yes, but
 - Clarity
 - Conciseness
 - General-to-Specific
- IAB Thoughts?
 - Different is ok.
 - There is no “NORMAL” in industry
 - Clarity – must be concise
 - **It would be beneficial for IAB members to send examples of various reports and presentations for students to review.**

2014-2015 Senior Projects

- Total 4 Team Projects – 18 Students
- Industry Sponsored Projects (4)
- New Sponsors (3)



CURRENT PROJECTS

Lake Superior Test Equipment

Company..... Bosch Steering, Northville, Mich.

Contact..... Charles Birbeck (BS-ME '08)

Advisor..... Robert Hildebrand

Team..... 3 ME, 1 MfgET

Budget \$18,000

Description:

Design and construct an 75 kN impact test stand for prototype steering systems.

Status: 1 more week?



BOSCH

Invented for life



CURRENT PROJECTS

Automated Simulation Engineering

Company..... HIROTEC America, Auburn Hills, Mich.

Contact..... Justin Hester (BS-CE '08)

Advisor..... Jim Devaprasad

Team..... 1 CE, 1 ME, 1 EET, 2 MfgET

Budget \$35,000

Description:

Develop advanced Robotics Simulation Processes using ROBOGUIDE.

Status: 2 more weeks?


**h HIROTEC
AMERICA**

School of Engineering & Technology (SET) updates - Dr. David Baumann, School Chair, continued
2014-2015 Senior Projects

LAPD CURRENT PROJECTS
Laser Alignment and Positioning Devices

Company..... Mactech, Red Wing, Minn.
Contacts..... Paul Rulach, Joel Wittenbraker
Advisor..... Dave McDonald
Team..... 1 EE, 3 ME
Budget \$7,500
Description:
Development of a laser based system to determine roundness and inner pipe diameter to 0.001".


Status: 1 more week?



R.E.D. CURRENT PROJECTS
Robotics Educational Development

Company.....QComp Technologies, Appleton, Wisc.
Contacts.....Greg Whitney, John Schwan
Advisor.....Jeff King
Team..... 1 CE, 2 EET, 2 MfgET
Budget\$5,000 (two industrial robots supplied)
Description:
Programming two industrial robots and developing high school level curriculum for robotics training.

Status: Nearly Completed



2015-2016 Senior Project Requests

- 24 Students Enrolled for EGNR491 (Fall 2015)
 - CE-6, EE-3, ME-5, EET-5, MfgET-5
- Looking for Project Proposals
 - Especially Electrical, Computer, and Robotics
- Invitation from IAB to Submit Projects

Sponsor's Commitment:

- Project Fee: \$4,000
- Provide Industrial Contact

2015-2016 Senior Project Requests, continued

- Responsibilities
 - Sponsor to provide funding and special supplies
 - LSSU to provide facilities and faculty advisor
 - Students to (design and construct) or (research and prototype)
 - Sponsor owns product and intellectual rights

Project Selection Criteria

- Match Between Students and Projects
- Match Between LSSU Resources and Projects
- Project Scope and Timeframe
- Clarity in Project Definition and Outcomes
- Evidence of Engineering and Financial Support
- Send by July 1, 2015, to David Baumann
- Project Proposal Form Available – on the LSSU IAB web page
- Please Submit Proposals!

Suggestions from IAB for senior projects:

- Next year make it a requirement for each group to do a small video clip to be posted on YouTube or Facebook.

Closing Remarks

Next meeting is planned for November 6, 2015 at the LSSU Campus in Sault Ste. Marie

Action items from this meeting for follow up:

- Keep up the contact with the new potential students.
- Add a potential program for Job shadowing and Engineer for a day – anyone interested, please email Dr. David Baumann
- Is anyone interested in joining the Recruitment Committee? Need more members to be active as a committee.
- Next year LSSU should be represented at the “Tech Savy” event that took place in Gaylord.
- It would be beneficial for IAB members to send examples of various reports and presentations for students to review.
- Next year make it a requirement for each group to do a small video clip to be posted on YouTube or Facebook.

Attached are 2 thank you letters for review from students that have received Engineering scholarships.

Respectively Submitted,

Lynnette Eding
LSSU IAB Secretary