Industrial Advisory Board
Fall 2013 Meeting

November 1, 2013
Today’s Agenda

8:30 – 9:00 am  Informal Discussion – All Welcome
9:00 – 9:10 am  Meeting Call to Order – Background on New Chair – Steven Kars

IAB UPDATES
9:10 – 9:20 am  Action Item Review / Minutes Approval – Lynnette Eding
9:20 – 9:30 am  Chair’s Report – Steven Kars
9:30 – 9:50 am  Recruitment Subcommittee Report – Trevor Swenson
9:50 – 10:30 am  Break & Networking with Students – Underclassmen Focus

LAKE SUPERIOR STATE UNIVERSITY UPDATES
10:30 – 11:30 am  School Updates & PDC Update – Dr. David Finley & Engineering Staff
11:30 – 12:15 pm  Focus Forward (Big Picture) – Dr. David Finley

LUNCH – Anchor Room
12:15 – 1:15 pm  Lunch – with Senior Project Scope Presentations (5 min each over lunch)

IAB/LSSU/STUDENTS
1:15 – 2:00 pm  Board Member Roundtable with Interested Students
2:00 – 2:30 pm  Feedback Session with SET Students
2:30 – 2:50 pm  Report out on Feedback Session with LSSU Faculty
2:50 – 3:00 pm  Closing Remarks / Next Meeting LSSU Campus, May 2, 2014
3:10 – 4:00 pm  SMARTZone Building Tour (optional)
New Chair - Background

**Steven Kars**

- Graduate of LSSU – Class of 2002, BSME

**Career Experience**

- RV manufacturing – Truck Campers – Production Manager
- Cement Roof Tile Manufacturing – Maintenance & Operations Manager
- Coated Paper Industry – Reliability & Lubrication Engineer

**CanAm Underwater Hockey Gear – President**

- What do we do?
- Where are we going as a company?
IAB Updates

9:10 – 9:50 a.m.
Spring 2013 Meeting Reviews

- Action Items
- Spring 2013 Minutes
Chair’s Report

Need the membership to vote during spring meeting for a Secretary to serve for the next two years

**IAB Secretary Responsibilities and Term Limits**

- It is the responsibility of the secretary to maintain all of the IAB’s records. The records are to include:
  - Newsletter
  - Newsletter Supplements
  - Press Releases
  - Publicity
  - Phone lists
  - E-mail lists
  - Meeting minutes
  - Historical information

- A copy of all records shall be housed at the Engineering office (CASET 202, on campus at LSSU) with production assistance from the LSSU School of Engineering and Technology secretary and administrative assistant.

- If the Chairman is unable to run a meeting, the secretary will officiate the meeting.
IAB Officer Responsibilities Terms & Limits

**TERM LIMITS**

- The term of each office shall be two calendar years.
- The terms of Chairman and Secretary shall expire on alternate years.
- No more than 2 consecutive terms are allowed.
- There is no limit to the number of non-consecutive terms.
- Election shall be by a majority of the members present at the spring meeting.
- The term shall pass to the successors at the end of the spring meeting.
- Communication of all necessary information is the responsibility of the exiting officer.

**Comments:**

- The smooth operation of this small organization will depend on communication.
- Forms of correspondence:
  - Phone
  - Fax
  - E-mail
  - Letters
- To facilitate hand-offs, a format should be consented upon for electronic applications.
Nomination Process

- Any existing IAB members are eligible
- Self nominations are acceptable
- If you are nominating another member please be sure that they are willing to participate
- All nominations will be accepted and presented at the spring IAB meeting
- Any Questions: you can contact the existing IAB officers.

The Nominees Are:

- __________________
- __________________
- __________________
- __________________
Fall 2013 IAB Recruiting Subcommittee Update

Trevor Swenson
Over the last 6 months ...

- Meetings with Admissions
- MACRAO events planning/schedule
- Webinar discussions
- Regular Monthly Meetings with committee
Admissions update

- New Admissions assistant director targeting local area schools (both US/Canada) with on-site visits
- Fall counselor meeting (Oct 2013)
  - Low attendance but considered successful event
- Bus kids from Korah and White Pines to LSSU in Spring 2014
- 50 students visited from Cheboygan HS

TO-DO

- LSSU – Sault College Bridge programs
Admissions update (from Al Case)

- 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
MACRAO 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
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]
  - 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"
- FIRST Event Hosting
  - Hosting FRC Kick-Off, January 4th, 9 am-1 pm, Cisler
  - 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.
<table>
<thead>
<tr>
<th></th>
<th>Welcome:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ray Adams</td>
</tr>
<tr>
<td>2</td>
<td>Bob Anderson</td>
</tr>
<tr>
<td>3</td>
<td>Tim Bennett</td>
</tr>
<tr>
<td>4</td>
<td>Fred Berg</td>
</tr>
<tr>
<td>5</td>
<td>Paul Blackford</td>
</tr>
<tr>
<td>6</td>
<td>Lynnette Eding</td>
</tr>
<tr>
<td>7</td>
<td>Steve Kars</td>
</tr>
<tr>
<td>8</td>
<td>Ralph Larsen</td>
</tr>
<tr>
<td>9</td>
<td>Adil Shafi</td>
</tr>
<tr>
<td>10</td>
<td>Don Stephenic</td>
</tr>
<tr>
<td>11</td>
<td>Trevor Swenson</td>
</tr>
<tr>
<td>12</td>
<td>Brian Theriault</td>
</tr>
<tr>
<td>13</td>
<td>John Tillotson</td>
</tr>
<tr>
<td>14</td>
<td>John Truckey</td>
</tr>
</tbody>
</table>
UNIVERSITY UPDATES

PDC and School Updates

Eric Becks, Dean, School Faculty & Staff
PDC Updates

- Eric Becks
Industrial Advisory Board Meeting
November 1, 2013

David Roland Finley, Ph.D., P.E. Dean, Business & Engineering
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 (Corabot)
- 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

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

1.081 1.075
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
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
Team Superior Vehicle Testing (SVT) upgraded an existing dynamometer test cell that measures the torque, force, and power of a vehicle’s power train.

LSSU summa cum laude graduates receive recognition during a commencement morning breakfast—Nicole Granger, Jon Spencer, Sarah Becks, Joselyn Coullard

Newest Robotics Line--http://www.youtube.com/watch?v=vaZkScr2zBE&feature=player_embedded
The Economic Impact of Lake Superior State University on Chippewa County and Surrounding Region

ECONOMIC ENGINE – LSSU’s economic impact to Chippewa County is estimated to be over $113M USD per year, making it responsible for almost 1400 jobs or 9% of employment in the region.

Each student brings over $45,000 USD per year in economic activity, corresponding to one-half a job for area residents.
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
LSSU Alumni Employed at JR Automation

Pictured from left: **Front Row:** Chris Romig, Dennis Dodge, Dominick Flasck, Darren Stark, Jimmy D., David Finley, Justin Darga, and Jacob Darga

**Back Row:** Scot Lindemann, Andrew Dewit, Jonathan Konieczny, Tim Gallaway, Jason Schopp, Michael Stumpo, Ben Garvelink

**Not Pictured:** Cory Lynch, Wes Moilanen, Rick Northrop, Seth Reenders, Steve Solack, and Mark Stumpo,
Robotics Update

Jim Devaprasad
Curriculum Changes

- 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)

- Results
  - Students really enjoyed class
  - Arduino board worked great, allowed inverter circuit
  - Expand capabilities of board for DC-DC and AC-DC converters
ME Updates

Curriculum Work

- 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
ME Updates

Curriculum Work (cont’d.)

- 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

ME Search update
FOCUS FORWARD

David Roland Finley, Ph.D., P.E.
Dean, Business & Engineering
Investments in a strong and growing LSSU

SHRP
ADDITIONAL FOCUS FORWARD TOPICS

- 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
Thank You!
Lunch in the Anchor Room
Senior Projects Scope Presentations (5 min. each)
12:15 – 1:15 p.m.
STUDENT SESSIONS

Board Member Roundtable

1:15 – 2:00 p.m.
Feedback Session
IAB and Students ONLY
2:00 – 2:30 p.m.
Closing Remarks

Next meeting: May 2, 2014 on campus
SSMartZone Building Tour
Located on Meridian Street
3:10 – 4:00 p.m.