**School of Engineering and Technology Industrial Advisory Board**

 **Meeting minutes for April meeting at LSSU**

 **Friday, April 30, 2010**

**Members Present:**

Bob Andersen, Fred Berg, Lynnette Eding, Gerry Grosskopf, Steve Kars, Ralph Larsen, Don Stephanic, Brian Theriault, Marty Zoerner

**LSSU personnel present:**

Ray Adams, David Baumann, Eric Becks, Ron DeLap, Robert Hildebrand, Mansoor Janjua, Andrew Jones, David Leech, Cheri Skinner, Jeanne Shibley, Morrie Walworth

Action items from the meeting in November 2009 were reviewed and commented as followed:

Fred to work with Jim Gibbs to get the next meeting on Web X or GoTo meeting. Fred

**Chair’s Response:**

This is on hold. Technology available has opportunity for the group.

Website for presentation is not an issue. Hearing the participants is

the main concern. Would need a microphone placed on the presenter

and wired to the phone system so others can hear.

Looking to get approval from LSSU for Blacksmithing summer camp. Robert H.

Robert Hildebrand will speak with Bill Morrison about this opportunity.

**TBD**

Can we have admissions ask for an additional table with an engineering Morrie

table cloth to catch people’s attention at next MACRO events.

**Admission’s Response:**

No cost involved. However, it will be up to the individual college fair sites.

They are all individually coordinated and it will largely depend on how much

room they have. We'll have to make a special request once we know which

MACRAO fairs will have IAB representation.

Ask admissions to purchase an extended life battery for their laptops, Morrie

so the slide show will work all the way through the MACRO events.

**Admission’s Response:**

Regarding extended life batteries, the typical MACRAO

college fair lasts 1.5 hours - according to admissions.

It seems like a completely charged battery would last that long.

Put sections of the Recruiting/Press kit book in PDF Jeanne format to make it easier Jeanne

to find what you are looking for.

**Complete**

The Marketing class is currently looking at the Highlight data sheets. David B.

Can we give them the book to review and give their input?

David B to meeting with marketing professor.

**David’s Response:**

Highlight from Prof. Filek’s marketing class:

The consensus of the students was the following:

1. They are way too busy (too much color, too many pictures, too many details).

2. They will likely be thrown into the trash before even leaving the room.

3. They should include more about what a student with an engineering major would do
 after graduation.

4. They should include "success stories" of graduates from the program.

5. Something besides an 8.5x11 sheet should be considered.

As a result, we are planning to do the following for the next go around:

1. Produce one "highlight sheet" for Engineering, one for Engineering and Technology,
 one for Engineering Management, and one for Robotics. Currently we produce one
 for each major.

2. Consider a one-sided format. Currently they are two sided.

3. Consider a half-size 8.5x5.5 cardboard stock.

4. Include alumni success stories.

For now, since we need to get something out there immediately, we will only do the following:

1. Modify to reduce detail.

2. Reduce "busyness".

3. Update to reflect current information.

Please Consider and Submit Projects for 2010-11 All
This will be discussed in today’s meeting. Currently 6 senior projects active.

**Secretary Election**

Brian Theriault move to elect Nathan Callaghan as Secretary of the Industrial Advisory Board. The motion was seconded by Don Stephanic. All approved.

**Congratulations to Nathan!**

New secretary idea: Keep a list of unemployed IAB members and forward the info to all members for potential opportunities.

**Chairperson Report**

Call to the membership for new IAB members All members

* Need to add to the membership
* Asking all IAB members to solicit new candidate

Update on current members:

* Gary Walker has asked to be put on the inactive list . He has served as an active member since 1995

Gary is currently the Director Water Products Business in East Jordan Michigan. His phone number is

(231) 536-4543, e-mail is GWalker@ejiw.com

* Chris Conklin is recovery from minor Surgery. Since November Chris has appeared on his area local TV station advertising for the Local Toyota dealership. Chris can be reached through his email chris.conklin@att.net
* Nathan Callaghan is recovery from back surgery. He can be reached on his home phone:

 (810) 629- 6933 or his home email is ncsc93@comcast.net.

**Subcommittee Updates:**

**Recruitment subcommittee-**

* We reviewed the LSSU flip folders again. Many people had mixed feelings about the folders. Some leave it on one page and some flip through it at the MACRO evenets.
* Morrie stated that the Biology and CJ professors are going with admissions persons on trips for recruiting.
* Bob found that Summer camp brochures were helpful for parents to review.
* It is a possibility to mail out box of information to IAB members that are going to the MACRO events so they can have a collection of Engineering related items on hand. If IAB members present at MACRO events would like this contact Sheri in the Engineering office and she can get this out to you before the event.
* It may be a possibility to have a video for IAB members to show – there is an existing link on the website for a current video.

**Department of Engineering & Technology Updates**

College Updates:

Morrie Walworth

Dean: College of Engineering, Technology, & Economic Development



**College/School Updates**

* Enrollment/Recruitment Report – Overall university admits and housing are up

Fall 2005: 240 Students

Fall 2006: 194 Students

Fall 2007: 176 Students

Fall 2008: 175 Students

Fall 2009: 172 Students

 ME Numbers Up

 ECE Numbers Down

* Admits are up!

125 admitted, 108 last year

Average ~120 over time (10 years)

Still calling all students

Using Jr/Sr students to talk to prospects

New parent letter utilized

Freshmen enrollment begins in May

**New Scholarships:**

* **Precision Edge Surgical Products Company**
	+ Large endowment
	+ Will generate about 5,000/year
* **Floyd & Joyce Starks**
	+ Increased awards to 2
	+ EE, CE, EET students
	+ One new student, one returning student

**Scholarship Request:**

* One of Morrie Walworth pet projects is scholarships
	+ Seen good growth over the years
	+ Charlie Snyder: $49,000
		- Increase to $60,000 by next year – PLEASE DONATE!
* Goals for next year
	+ Increase overall endowments by $20,000
	+ Add 1 more yearly scholarship

**Placement Forecast:**

* Students reporting good offers
* Most students have at least one offer
* We expect good placement
	+ Robotics: high recruitment area

**Award Highlights:**

* Faculty
	+ Grants
		- Paul Weber
		- Ron DeLap
	+ Several Publications
	+ Webinar
* Students
	+ Mini Baja
	+ FIRST Robotics

**Administrative Changes:**

* Dr. McLain: Officially Named President
* Dr. Tony Blose, Provost: Moving to Texas
* Morrie Walworth Named Provost – **CONGRATULATIONS MORRIE!!**
	+ Effective Date: July 1, 2010
* Ron DeLap Named as Dean
* Eric Becks Named as Director of Intellectual Property and Economic Development

**New Initiatives:
Proposed MS Program**

* Close to a proposal – Fall 2011 implementation?
* Additional 1 ½ years ~~ 30 credits total
* What would be unique?
	+ “Systems Engineering” degree – a hybrid EE-ME degree (fairly “feedback controls” – oriented, but will incorporate most of our upper level courses)
	+ Thesis project through PDC
* Open to CE, EE, ME grads
* Attractive to foreign students? LSSU grads? Others?
* Most of faculty (7 of 10) so far involved in planning

**Product Development Center**

* + Director of Intellectual Property and Economic Development – Eric Becks
* SmartZone
	+ President & CEO – Eric Becks

**General Info:**

* LOGO/Name
* Database
	+ Client List 200
	+ Activity List 83
* Student Workers
	+ 20 During 2009/10 Academic Year
	+ 5 already for Summer 2010
* Faculty – ¼ Time Fall 2009

Projects:

* Medical
	+ CIAD blood clot prevention
	+ Surgical Tool
	+ Paraplegic Medical & Dental Devices
* Automation – Ruger 10/22 flip down sight
* Alternate / Renewable Energy
	+ Several Biomass – all confidential
	+ Solar & Advanced Materials
	+ Wind
* Automotive Safety Device
* Sports
	+ SkateFenders
	+ Fishing
	+ Hunting
	+ Golf
	+ Custom BMX Race Bike
		- Testing
		- Materials
		- Special Machining
* Circuit Boards
* PMM’s 6 so far ;-)
* Various Proposals that Lack Funds

Collaborations:

* SSMart, Inc.
* MI-SBTDC
* MTEC SmartZone
* CMU/RC SmartZone
* Mi-Works Grant Application
* LSSU School of Business

 SSMart

**SAULT STE. MARIE ADVANCED RESOURCES & TECHNOLOGY, INC.**

* LDFA Formed
* ‘Breeder’ Building
	+ Designed
	+ US EDA Grant Application
* Operating Agreement SSM-LDFA-MEDC
* Operations Contract: LDFA & LSSU/PDC
* *SSMart, Inc.* Established
* Eric Becks named President & CEO
* Contract: LDFA & SSMart,Inc.
* Contract: SSMart, Inc. & LSSU/PDC
* Sponsored Client for SmartZone
Micro-Loan
* Reviewed Client for GLEQ $100K Business Plan Competition
* Working on Several Client Projects

**Curricular Updates:**

**Electrical and Computer Engineering**

* Recitations Added
	+ EGEE-210 Circuit Analysis
	+ EGEE-280 Intro to Signal Processing
	+ EGEE-330 Electro-Mechanical Systems
	+ EGEE-370 Electronic Devices
	+ EGNR-265 C Programming
* EGEE-280 Intro to Signal Processing
	+ Two versions
		- (3,3) 4 for CEs and EEs
		- (2,2) 3 for MEs
	+ Change in content
		- In: heavy “review” of complex numbers
		- Out: z transform

**Scheduling updates:**

* Already on alternating year rotation
	+ EGEE-310 Network Analysis
	+ EGEE-330 Electro-Mechanical Systems
	+ Effects all EEs
* Added to alternating year rotation
	+ EGEE-355 Microcontroller Systems
	+ EGEE-425 Digital Signal Processing
	+ Effects all CEs and some EEs

**EET Program Updates:**

* Removed from core
	+ EGRS-215 Robotics Technology I
* Still in core
	+ EGRS-380 Robotics Technology
	+ EGRS-381 Robotics Technology Lab
* Can still do Robotics and Automation minor
	+ EGRS-430 Sys Integration and Machine Vision
	+ EGRS-480 Control Sys and Automation
	+ EGRS-481 Control Sys and Automation Lab

**EE Minor:**

* Out
	+ (EGEE-305 or EGEE-330) and (EGEE-370)
* In
	+ Two courses from:
		- EGEE-280, EGEE-310, EGEE-320, EGEE-330, EGEE-345, EGEE-355, EGEE-370, EGEE-375, EGEE-425

**Open ECE faculty position:**

* Committee not even formed yet.
* Hopefully new hire will be in place
by end of summer.
* Opportunity to re-adjust
	+ Robotics?
	+ Energy?
	+ ????

**ME & MfgET Curricula**

* Quality Control course reduced from 4 to 3 credits
	+ will maintain main content on statistical methods
* Main CNC course reduced from 4 to 3 credits
	+ new direction: incorporates simulation before cutting
* Vehicle course
	+ new dynamometer labs incorporated
* New robotics line
	+ replaces L line 🡪 4 robots, PLC, automated flow line
	+ to be ready for Fall courses
	+ spent $20k more than expected
* Vehicle course
	+ new dynamometer labs incorporated
* Manufacturing Processes Course
	+ new CNC demo
* New labs in thermal – fluids courses
	+ modeling conductive heat flow (ProE)
* New Plastics & Ultrasonics labs in Materials Lab
	+ Plastics: ID & testing key design properties
	+ Ultrasonics: as an NDT tool
* “Machine elements” content in Machine Design?
	+ bearing selection
	+ Fasteners
	+ gears, belts, pulleys, etc.
	+ weld strength
	+ feedback?
* Feedback on GD&T? Professors are not satisfied with instruction materials. If any IAB members have ideas, please forward them on.

Assessment:

* FE Exam
* General Education Activities – Seniors will respond to this – feedback to come
* TAC of ABET Visit: for the MfgET program in the fall

**10-YEAR SENIOR PROJECTS HISTORY
IAB Connection**

**CURRENT PROJECTS
2009-10 Senior Year Projects**

* **Industry Sponsored Projects (3)**
* **LSSU Sponsored Projects (3)**

 **Development of Impedance Coupler**

**Company…......** American Axle and Manufacturing

**Contacts……….**Giovanni Rinaldi and Bill Braun

**Advisor……….** Robert Hildebrand

**Team……........** 2 ME, 2 MET

**Budget ……….** $30,000

**Description:**

Development of an adjustable impedance coupling device
(tunable inertia, stiffness, and damping) to be integrated in
a test stand used to validate vibration performance of automotive drivetrains.

**Status:** To be completed within 1 week

Product Development Center Project

**Company…....… LSSU’s PDC (Cardiovascular Research**

 **Institute of Albuquerque & Other Clients)**

**Contact………... Eric Becks from PDC**

**Advisors……..…. Ron Delap and Paul Weber**

**Team…….......… 3 EE, 2 MET**

**Budget ………… $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. Completed phase II of CRIA project

**Status:** Completed

**Automated Machine Tending**

**Company…....…** Precision Edge

**Contacts……….** Duke Pepin and Joel Diemer

**Advisor……..….** Jon Coullard

**Team…….......…** 1 EE, 1 MET, 2 CE, 2 ME

**Budget …………** $17,000

**Description:**

Design, build, and installation of an automated work cell capable of fully tending to an etching machine. Goal is to reduce machine idle time and increase productivity.

**Status: To be completed within 2 weeks**

**Robotics Systems Integration (ME/MET)**

**Company…....…** LSSU Engineering

**Contact………...** Jon Coullard

**Advisor……..….** Jim Devaprasad

**Team…….......…** 3 MET, 2 ME

**Budget …………** $20,000

**Description:**

Workcell design and implementation of a 4-robot line. Team responsible for specifying and integrating a conveyor system, design and build of pallets, fixtures, and robot end effectors,
and present an assembly demonstration using the fully
functional line.

**Status:** Completed (but documentation within 2 days)

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**Robotics Systems Integration (EE/CE)**

**Company…....…** LSSU Engineering

**Contact………...** Jeff King

**Advisor……..….** Dave McDonald

**Team…….......…** 3 EE, 2 CE

**Budget …………** $20,000

**Description:**

Workcell design and implementation of a 4-robot line. Team responsible for specifying and integrating the control system for the line using DeviceNet, incorporating machine vision and other sensing systems, and present an assembly demonstration using the fully functional line.

**Status:** Completed (but documentation within 2 days)

**Development of Train Coupler**

**Company…....…** LSSU Engineering

**Contact………...** Paul Duesing

**Advisor……..….** Andrew Jones

**Team…….......…** 2 CE, 1 MET, 1 ME

**Budget …………** $2,000

**Description:**

Phase II of the design and build of a scale prototype coupler for “O” and “HO” scale model railroads that allows remote controlled coupling and uncoupling of railroad cars at any location.

**Status:** To be completed within 2 weeks

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**Schedule of Days activities:**

* **Presentations**
	+ 1:00, 1:30, 2:00, 2:30, 3:00, and 3:30
	in CAS212
* **Demonstrations**
	+ 1:30, 2:00, 2:30, 3:00, 3:30, and 4:00 in CAS
* **SPFB solicits, values, and utilizes IAB evaluations of the presentations**

**2010 Senior Project Evaluations**

* Evaluation forms provided
* Provides “external evaluation” (ABET)
* Guidelines:
	+ Look for ownership, professionalism
	+ Technical competence via questions
	+ Target audience is “grandmother”!
* **Turn in at Video Camera - *Don’t leave with the students!***

**Course Status:**

* ~25 Students Expected For EGNR491 (Fall 2010)

• 11 Electrical

• 1 Computer

• 9 Mechanical

• 4 Manufacturing Tech

* Looking for 5 to Projects
* No Project Requests Submitted Yet

**Sponsor Commitment:**

* Project Fee: $2500 + 5% of Budget
($3500 maximum)
* Provide Industrial Contact
* Responsibilities
	+ Sponsor to provide funding and special supplies
	+ LSSU to provide facilities and faculty advisor
	+ Students to design, construct, and manufacture (or research and prototype)
	+ Sponsor owns product

**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

**Submission of Proposals:**

* Send by July 15th to Jim Devaprasad
* Project Proposal Form Available
* Please Submit Proposals!!!!

**Summer Camps:**

* 2 Women in Technology Camps
* 3 Robotics Camps
* Robotics Camp for ATA
* *One of our best recruitment tools!*
	+ *Typical Participant Profile*
		- *Average GPA: 3.95*
		- *Average ACT Score: 25*
		- *Average # of Extra-Curricular Activities: 5*
* IAB Sponsorship Requested

Next meeting November 5, 2010 at the University Center in Gaylord.

**Summary of Action items from above:**

* New secretary idea: Keep a list of unemployed IAB members and forward the info Nathan

 to all members for potential opportunities.

* It is a possibility to mail out box of recruitment information to IAB members that All

are going to the MACRO events so they can have a collection of Engineering related

items on hand. If you would like this contact Cheri in the Engineering office and she

can get this out to IAB members.

* Please donate to the Charlie Snyder Scholarship: $49,000 All

Increase to $60,000 by next year – PLEASE DONATE!

* Feedback on GD&T? Professors are not satisfied with instruction materials. All

 If any IAB members have ideas, please forward them on.

Respectively Submitted,

Lynnette Eding

LSSU IAB Secretary