

*Petroleum Engineering
Industry Advisory Board Meeting
Tuesday, September 26th, 2006*

*Marriott Riverwalk, San Antonio, Texas
Valero Room*

3pm – 4:30pm

MINUTES

Present: Harvey Westbrook, Amit Sharma, Jay Paul McWilliams, Matt Hill, Jeff Corey, Tom Engler, Dr. Her-Yuan Chen, Gary Plisga

1. Welcome to the 2006 Industry Advisory board meeting was given by Gary Plisga.
2. A brief discussion of the SPE Industry and Academia Dialogue Session, September 23rd, 2006 chaired by the SPE was then presented by Gary Plisga and Matt Hill. A copy of the agenda and the minutes prepared by Matt and Gary are attached to the minutes.
3. Approval of minutes of the October 2005 meeting. The minutes of the October 2005 meeting were approved by the IAB members.
4. Department Update:

Dr. Chen presented the department update and began the presentation by stating that Dr. Engler would be on sabbatical for the upcoming school year. Dr. Engler would be devoting time to on campus research and the day to day operations would be handled by Dr. Chen.

Total Students Enrolled 39

Total Graduate	17
Masters	14

Total Undergraduate 22

Freshman	1*
Sophomore	5
Junior	5*
Senior	10

*1 Freshman, 1 Junior: Transfer Students entering fall 2006

The major emphasis of Dr. Chen's presentation was that for the first time the department had not registered any student directly from high school to the program. There are approximately 20 undecided engineering students that are currently being courted by the department.

Discussion followed on how the department could change its recruiting program to assist the Admissions Office. This could be done by specifying where to recruit, i.e. East Coast, New York, Pennsylvania/Mid-West.

The discussion turned to having the alumni visit local school guidance counselors to present information about the PE department from Tech, and generate student interest for next semester or 2007. The department brochure should be reworked and made flashier. A mini-disc presentation should also be made available to schools for prospective students to look at.

The admissions should also target special interest groups such as returning military personnel, blue collar students, etc.

The problem is two-fold. One is an immediate need for freshman students and the other is to develop a long-term strategy for attracting students in the future.

5. Old Business:

Endowment Efforts: Tom Engler mentioned there was a possibility that an existing scholarship fund could be converted to the endowment program. The existing funds total approximately \$500,000. The final details have to be worked out but the party involved is receptive to the idea. Tom stated that efforts now are to solicit for matching funds, resulting in a fully endowed position.

6. New Business:

Energy bill and Research: Appropriations for DOE fossil fuel energy research was not renewed. This caused a loss of \$14 million in continued research projects, of which the PRRC was severely hurt. In place of the energy bill RPSEA will allocate \$50 mm yearly nation-wide for 10 years. New Mexico Tech is heavily invested into the RPSEA effort and is the lead organization for Tech Transfer and Small Producers.

7. Action Items:

1. Improve presentation about PE department in the brochure and on mini-disc. Jeff Corey agreed to help Dr. Chen accomplish this in a short period of time.
2. Update the website and make it better and more user-friendly.
3. Use alumni to target local high schools and get information out to prospective high school students. This will be to meet the immediate need for freshmen. Also address targeted audiences for presentations, i.e. community colleges, returning military personnel and working class neighborhood high schools.
4. Make a list of PE department and New Mexico Tech's areas of strength.
5. Jay Paul to make a presentation to the engineering students on how to act, dress and talk to recruiters during interviews. This should include SPE, Chemical and mechanical.

The meeting was adjourned with the possibility of the next meeting to coincide with the OTC in Houston during the first week of May 2007.

Society of Petroleum Engineers

Industry and Academia Dialogue Session

**23 September 2006, SPE Annual Technical Conference & Exhibition
San Antonio, Texas, U.S.A.
3:00 to 6:00 p.m.**

The Society of Petroleum Engineers invites you to participate in the 2006 ATCE Industry and Academia Dialogue Session in Conference Room 7 of the Henry B. Gonzalez Convention Center. Important issues for the industry related to obtaining the highest quality professionals needed to conquer tomorrow's technical and social challenges will be discussed in this informal session.

This session will provide an opportunity for representatives from industry, government, and academia to work together to build a stronger educational experience for petroleum engineers, leading to meaningful contributions to the industry.

While the session is informal, several topics of interest will be on the agenda for our panel leading the meeting.

- Research and Development
- Innovations in Engineering Education and Educational Standards
- Cooperative University Programs and Collaborations Between Universities
- Strengthening Industry/Education Partnerships

After the session, SPE will host a mixer for informal discussion and networking. There is no registration or charge for this session. However, we would greatly appreciate an RSVP of your intention to attend. Send it to Tom Whipple at twhipple@spe.org

Minutes to the Industry and Academia Dialogue Session

23 September 2006

SPE ATCE San Antonio, TX

The attendance for the meeting was comprised of 85% from academia and 15% from industry. Several academic attendees were concerned that this was what always happened and wondered how to attract better representation from industry. A general discussion was held concerning industry participation; however, no salient points were established on how to improve industry participation.

The first topic discussed was faculty salaries had to be increased to prevent existing faculty from joining the industry. Colorado School of Mines has just recently lost 9 faculty members and Montana Tech lost its department chair.

There were three options raised to help stem the losses: The first option was direct endowments by industry. For some reason academia thinks industry should be responsible for increasing faculty salaries and not the universities or schools. The discussion included requesting money from industry to give directly to faculty members. This discussion continued until an industry representative said "This will never happen no matter how much academia wanted it." At this point the discussion was ended.

The second option was to add prestige. The lack of a fellowship grant from the NSF, such as the "Fulbright" grant does not exist for petroleum engineering academia. It is thought that if such a prestigious grant could be established in Washington, D.C. that members of academia would not leave for industry if such a grant was available. I wonder why academia does not work with NSF to determine what would be required to set up such a grant. SPE representative said it could not lobby for funding through NSF and SPE will not get into fund raising but may be able to help channel money raised by others.

The third option was how can academia attract more representation and advice from industry and the general SPE organization? After discussion there was a loose consensus that perhaps academia should visit industry and ask what they need worked on rather than academia putting forth a proposal of what they wanted to work on. This is apparently a very new and unique idea with many in the room not sure it would work. Academia should contact alumni for meeting and to determine what industry wants done. Academia stated a "need" to know industry's 3-5 year plan to help them focus their respective departments. Industry suggested a portfolio approach where petroleum engineering departments created a portfolio of projects/interests and show this to industry/companies after asking them "What problems do you have?" Look at industry/companies as PE departments market and segment. Some departments should focus on independents and not big oil and vice-versa. Industry mentioned that it was very busy and that the portfolio would let industry quickly understand what the department was doing and how it could help.

Then the state of the world wide “Competency” was discussed and the results of the 1st test, given in Abu Dhabi, were presented. The test will be administered by the SPE in various locations to assess the competency of Petroleum Engineers world wide. This test would not be for use in the USA or Canada. Any US or Canadian engineer with an FE or PE would have automatic reciprocity but not the other way around. On the 1st test several engineers refused to take the test incase they failed, 6 out of the 27 failed and the rest showed varying degrees of competency. Industry mentioned a possible unintended consequence of this test. Since not all practicing engineers in the US and Canada hold an FE or PE certification they are now excluded from expat work unless they take the test for certification. Prior to the test they had to provide schooling information, work histories and show a need for their abilities. Now a 15+ year engineer will have to be certified before working as an expat.

The final discussion involved how to set up a colloquium and obtain good industry representation. The location could be the Woodlands or Galveston Island which are both close to Houston yet far enough away to allow trips back to the office which has been a serious problem in the past. One industry representative stated the last colloquium she attended was the most depressing 5 days of her life when all she heard was continual whining from academia that industry needs to give more money to help the faculties. Several members of academia admitted this was true but did not know how it could be prevented. At the end of the discussion no new ideas, points or topics were brought out that would help have an active and robust colloquium with industry.

*Petroleum Engineering
Industry Advisory Board meeting
Tuesday, October 11th, 2005*

Wyndham Anatole, Dallas, Texas

*Inverness Room
3pm – 5pm*

MINUTES

Present: Bill Lyons, Tom Engler, Harvey Westbrook, Steve Trujillo, Amit Sharma, Matt Hill, Matt Stanley and Gary Plisga

1. Welcome to the 2005 Industry Advisory board meeting.
2. Approval of minutes of October 2004 meeting.

The minutes of the October 2004 meeting were approved by the members.

3. Departmental Update:

Dr. Engler presented information on the current Undergraduate and Graduate enrollments. The total student population in Petroleum Engineering is 45, 31 in the Undergraduate program and 14 in the Graduate program. There are currently 13 new students in the Undergraduate program.

The Graduate program has declined from 16 to 14 based on the current job availability and the number of positions open.

The 2004 – 2005 graduating class all 6 students obtained jobs. Three (3) were hired by independents, two (2) with major oil companies and one (1) by a service company.

The new students are primarily from New Mexico, with the remaining students coming from various foreign countries.

The Petroleum and Natural Gas Engineering program received accreditation from ABET. The next review will be 2010.

Several proposals for curriculum change have evolved during observations and evaluations in the Senior Design courses. The changes have been discussed and approved in department faculty meetings.

4. Old Business:

A review was made of all action items from the October 2004 meeting and all items have been addressed.

The IAB member support was discussed and was found to be sufficient. Field trips had been taken and future trips are in the works and several visits to campus by members to make presentations are also scheduled.

5. New Business:

ENDOWMENTS:

Dr. Engler and Dr Lyons made a presentation concerning endowed chairs and professorships. They feel it is an opportune time to seek funding from companies to set up endowed chairs and professorships. A general discussion was held to determine if recipients would be permanent or temporary, whether the endowed chairs would be used to generate graduate research projects and whether or not the professorships would be devoted to undergraduate studies. We also discussed a combination of both depending upon the levels of the existing student body at the time.

A professorship may fund program development or partially support an academic position.

A chair provides for greater support for program development and/or faculty salary.

An eminent scholar or distinguished university chair fully supports a faculty position and/or provides the greatest impact in program development.

Energy Bill and Research:

New Mexico Tech is well positioned to become a leader in unconventional gas production and could be the consortium leader. This would dovetail very well with an endowed distinguished chair for example. IAB members are invited to attend the consortium meetings to provide input on the future roadmap of the bill's research grants in the future.

6. Action Items:

1. To draft a proposal to define what type of Chairs and Professorships will be solicited and how these positions will be managed. Will they be temporary (3 to 4

- years) or permanent? What type of companies will be solicited to fund the positions? What will the Chairs and Professorships be called?
2. The draft will then be circulated to faculty members and IAB members for their input and comments.
 3. The proposal will be presented by the petroleum engineering department to President Lopez for permission to proceed.

Continue to request support from the IAB members where appropriate to arrange for student field trips and/or campus presentations to the students about current programs being conducted by the various companies represented.

The next meeting will be held in conjunction with the 2006 SPE Annual Technical Conference and Exhibition, September 24th through the 27th in San Antonio, Texas. A firm date will be supplied closer to the convention date.

The meeting was adjourned.

Petroleum Engineering Industry Advisory Board Meeting Friday, October 22nd, 2004

MSEC 384 - Petroleum Engineering Conference Room

9 am - Noon

Present: Gary Plisga, Amit Sharma, Mike Stogner, Jay Paul McWilliams (for Dan Voecks), Thomas Engler

1. Welcome

2. Approval of minutes of October 2003 meeting

Minutes from the previous meeting were distributed. Due to lack of quorum, minutes will be emailed to all members for approval.

Discussion ensued about methods to improve attendance to meetings.

Suggestions were:

- a. Each member designate an alternate to attend when he or she cannot. The member would be responsible for briefing the designate on issues and needs. The designate is not required to be an alumni.
- b. Improve communications between members and the department, send out periodic updates on action items, and on department issues, and request discussions from board members.
- c. Invite members to NMT and speak on what were the job challenges post academia, how did you attack technical problems, or career advice.
- d. Invite members to mentor students and to provide information by experienced professionals.
- e. Board members should be invited to make presentations to the students about real world problems. This would involve operations, regulatory, environmental and risk analysis.
Amit Sharma asked is the department getting what it needs from the advisory board? Thomas Engler responded that the industry interaction is partially responsible for increased scholarships, summer internships, and collaborations with senior design projects.

3. Nominations for new board members

A list of potential candidates was reviewed. A discussion followed on whether to replace existing members or add new members. Since existing members have responded via email their desire to participate, no member was removed from the advisory board without prior approval.

The following nominations were accepted:

- a. Mike Stogner stated he was willing to step down and suggested Jim Lovato as his replacement. Jim graduated with a B.S. in Geological Engineering in 1982 from NMT and is currently working for the BLM in Farmington, NM.
- b. Jay Paul conveyed Dan Voecks desire to step down and Dan's nomination of Jay Paul as his replacement. Jay Paul received a B.S. in Chemical Engineering from NMT in May 2002 and is currently working for BRI in Farmington.
- c. Add Matt Hill as a new member. Matt graduated with a B.S. in Petroleum Engineering from NMT in 1989 and is currently working for Unocal Indonesia

Thomas Engler will contact all about their nomination and availability to participate. If adopted, the total numbers of members will increase to 12.

4. Nominations and election of new officers

5. Departmental update

Thomas Engler gave an update of enrollments, graduation statistics and demographics. See attachment.

Undergrad enrollment is on a positive trend upwards. Graduate enrollment has significantly decreased, but is anticipated to increase with the signing of an exchange program with the University of Stavanger.

6. Old business

Thomas Engler provided a presentation on reviewing the criteria for the upcoming ABET visit. See attachment. Comments were:

- a. For objectives, teamwork is not explicitly stated within the objectives.
- b. Consensus of those members present is objectives 1,2, and 4 are good, while obj. 3 is vague or difficult to assess.
- c. In practice, data is not available or gathered and thus you are dealing with open-ended problems. Need students to be able to address these type of problems.
- d. Design of Experiments was an excellent course on improving statistics skills.
- e. Economics appears to be weak in current senior students. Will investigate if a recent change in instructor in ES 316 has remedied this weakness or does the program need to address the issue.
- f. For criterion 1, transfer students from San Juan College have traditionally been excellent students. Suggest offering PETR 245 - Petroleum Fluids to San Juan College students (via distance ed) to entice new students to the petroleum engineering program.

7. New business

Dr. Engler mentioned the potential of matching money and/or seed money towards an endowed professorship. An alternative is to request recent alumni to donate to the Langdon Taylor chair, subsequently increasing the principal.

A discussion was held to see how the board can help improve distant ed at junior colleges that may help students want to transfer to tech and Petroleum Engineering. An aspect of this is offering Petroleum Fluids at San Juan College.

A brief discussions of how to obtain more scholarship money for the Petroleum Engineering department. This could be handled during routine communications with board members or when communicating with all alumni and requesting individual or corporate contributions.

8. Action Items

- a. Send minutes from last meeting to members for approval.
- b. Generate a communications link to update and involve members.
- c. Acquire board approval to allow a designate to assume the responsibilities in the absence of the board member.
- d. Contact potential new board members to serve on the advisory board, and then seek approval from the existing board.
- e. Submit the comments with regards to the ABET criteria to the faculty for review and include in the assessment process.

9. Adjournment

Next meeting is tentatively scheduled for Friday, October 21, 2005.

October 24, 2003 NMIMT Socorro, NM

Attendees: Jim Linville, Mike Stogner, Amit Sharma, Gary Plisga, Tom Engler, Her-Yuan Chen.

The members were welcomed and the meeting was opened. Since a quorum did not exist the minutes of the spring 2003 IAB Meeting, April 25th, were not approved.

Dr. Engler then presented the current state of the department and how the IAB has helped. A copy of Dr. Engler's presentation is attached to the minutes. The accomplishments discussed were as follow:

- Increase in industry visits for recruiting
- Increase in scholarship funding
- Research active and ongoing
- ABET process in place

A discussion was held to determine the best ways to increase undergraduate students to come in line with other schools. Some schools are offering full tuition scholarships, other schools are heavily recruiting at local high schools and other schools are doing a combination of both and joining major career fairs.

The make up of the Industry Advisory Board was then discussed to determine procedures for current members remaining on the board, rotating out or being replaced. In general, the attending members believe that a 10 member board is sufficient and should be able to have a quorum at meetings.

ACTION ITEMS:

1. Poll existing IAB members to determine whether or not they wish to remain on the IAB and if not, who would they recommend as replacements. An IAB member does not have to be a NMIMT alumnus.
2. It was agreed that the IAB meeting would be held in October to coincide with 49's. If another meeting becomes necessary in the spring, this meeting would utilize web-conferencing. This will eliminate the majority of costs associated with traveling for a meeting.
3. The minutes from the spring 2003 and fall 2003 will be sent out to the IAB members not present at the fall meeting for their approval. This approval can be by email to Tanya Pyke at NMIMT. This will allow a quorum for voting purposes.
4. The IAB will furnish copies of the minutes of past meeting to more NMIMT alumnus to get additional comments and ideas on the action items.
5. Professors will go out to area high schools and junior colleges to promote Petroleum Engineering at NMIMT. These visits will be coordinated with local alumni to help in the presentations.
6. A cost comparison of the various Petroleum Engineering schools will be prepared by the PE Department and will be used during presentations to prospective undergraduates.
7. The student SPE section will invite all undecided students at NMIMT so a presentation on Petroleum Engineering can be made.

At the close of the meeting Amit Sharma proposed that the department work up some prospective small projects that could be done by undergraduate students for companies. These projects would be similar to what an intern would do during his summer work. The administrative procedures and meters would also have to be set up and agreed upon to ensure the work was completed in a timely fashion and in the manner expected.

The meeting was then adjourned.

April 25, 2003 - NMINT Socorro, NM

Attendees: Gary Plisga, Dan Voeks, Tracy Darr-Van Reet, Tom Engler, Melonia Torres Manager of Career Services, Mike Kloepfel Directors of Admissions, Melissa Fleming (Dir of Student Services)

Career Placement - Melonia Torres

Handouts provided

- Office of Student Affairs Career Services
- Comparison of Average Starting Salaries for Entry Level
- BS Degree Recipients, Compiled by NMIMT Career Services 2001-2002
- NMIMT Salary Data & Post Graduate Status of Graduate Students July 2001-May 2002
- Summary of Employer Activity on Campus Fall Semester 1998-2002
- Summary of Employer Activity on Campus Spring Semester 1998-2003
- Fall 2002 Career Fair Participants
- Spring 2003 Career Fair Reservations

Activities of Career Placement Office

- Do career inventory w/students to choose a Career not just a Major
- Help w/ on campus jobs
- Career Fair
- Workshops
- Presentation @ Intro to PE Class
- MonsterTalk - College equivalent to Monster.com - use for student positions as well as Summer & CO-OP Jobs
- Interview Track - can post info on system prior to interviews, helps companies w/ pre-selections --- everything is done on-line.
- Participates in NM Career & Placement Group - Shares Career Fair info, can go to other State Institution Fairs. (Students can go to Fairs @ UNM or NMSU as well.)

Recent On-Site Interviews

- Schlumberger
- Halliburton
- Phillips
- Los Alamos
- Computalog

Interview Track

If anyone is interested in getting on-line resumes, contact Mgr of Career Services. They would send out blanket request for resumes & they will be e-mailed to you. The pre-selection can be according to set criteria, GPA/Degree/etc. prior to mailings. Some of the larger companies are now using interview system going on WEB base -pre-selections & phone interviews, prior to face-to-face. Shell is one that does this.

Due to privacy issues may only be able to get unnamed profiles on students w/o getting into interview process.

MonsterTalk & Interview Track has been in use since July 2001

Discussions

One question for us is how to get companies to Tech, many companies feel that the population is too small- they are now pooling Chemical and Mechanical.

Possible interaction w/ Industry -

Field Trip to PBO&G Show every other Fall.

Into to Production Operations Overview @ NATCO Training Center in Midland

Set up visits to Major and Independent Offices in Midland/Odessa Area

Recruiting for NMT - Mike Kloeppe

Does not key in on certain Dept, but will if contacted-that someone is interested in an area. Administration purchases a list from ACT/SAT etc. Are currently getting ~ 60K names/yr w/funds from Lopez's Office.

Ways of getting names of potential students:

- Get certain GPA requirements, Tests Scores, Geographic Area, Interest Area.
- National Recruitment - Regional Level - for PE's in Houston Area.
- Alumni - used in Local Fairs wait to be invited (don't push way in).
- Personal Contact - request info
- Mini Courses- Students attending
- Phi Beta Kappa @ Community Colleges (Do they recruit @ Midland or Odessa College?? These have PE /Earth Science related programs and many of the kids are familiar w/Oilfield) Do get some students transferred in from San Juan CC.
- National Consortium of Math & Science Secondary Schools - Specialized HS-Magnet/Career Enrichment Center Types.
- Self reported ACT/SAT Student - Kids put interest in NMT down on Test Questioner.
- There have been some students from the Farmington Area HS after Dr. Engler had visited HS's.

Have a huge letter campaign to students- letters/CD's/Postcards are sent to students encouraging them to take the next step and come to visit NMT

Have tried to so Student/Parent Receptions, some have done well. Roswell has shown results, elsewhere - not much interest.

Mini Courses - Students get credit for an elective (undergrad) in PE Dept it is toward PE 101. Classes are from 8-4 and then the Admissions Office has programs in the evening to keep them busy.

Have a number of on Campus Programs as well -

- In the Fall (Nov) Exploration Day, Open House, All Dept. are invited to talk usually 100-150 students attend.

- In the Spring have Research @ Tech Day in Feb, usually President's Day- highlights what happens @ NMT, get involved w/ research side rather than classes. Is on the same day as NMSU's Open House, but still manage to have 100-150 students.
- Host State Science Fair - also host Science Olympiad

AMP - Application Minority Participation \$ from NHSF - Huge focus is to get minority kids to do research projects. Student can get \$1000/semester - \$ can pay for salary of student, for equipment and oversight of project. Also get funds @ graduation for minority students in Eng or Science

There is a huge # of students that come and have not decided on a Major. There needs to be an ongoing program. Some still are undecided after 2 years! Need to get a list of the undecided students.

There are currently 350+ incoming - Freshman and Transfers (75), have had limitations in housing in recent years.

Cost of application

- \$15 applicants fee had 1087 apply as of mid April's #'s there are 9 in application process for PE.
- \$50 admin fee had 221 as of mid April's #'s there are 6 "paid" applicants in PE Graduate Student wise there are 10 new ones coming in (there is a question of international students getting visas, Chinese, Indian, Turks, Iranians) In 2003 there were
 - 3 Undergrads
 - 11 masters
 - 1 PHD

Admissions has a target of 350 students, the admin office then gives a list of interested students to the Dept. & they contact the potential students directly, can be provided w/ undecided as well.

Small private schools usually get Alumni involved, for personal contact letter to students.

Notes:

Bill Lyons will be on Sabbatical working on the book for the next ½ year, Larry Teufel will be on one next year to work.

Action Items

- Need to develop contact for local HS/CC Students.
- Get Board to vote on loc. of next IAB mtg - in conjunction w/ SPE Conference in Denver in Oct or in Socorro?
- Spring Meeting @ NMT??
- Need to get industry numbers w/results, current lists also includes ME and ChE degrees.