PRE-ENGINEERING TECHNOLOGY & CURRICULUM ADVISORY COUNCIL

MINUTES

Meeting Date: March 30, 2005
Location: NHTI, Little Hall, Cafeteria Function Room

I. Meeting Purpose:

Scheduled meeting for the Pre-Engineering Technology & Curriculum Advisory Council

II. Members Present

Richard Ayers
Daniel Caron
Charles Clough
Robert Henry
Judy Houston, Vice Chair
Joyce Myles for Lynn Kilchenstein
Paul Leather
William Leber
Jane O’Hearn
Brenda Quinn
Val Zanchuk, Chair

Also in Attendance: Jim Leon and William Simonton

III. Agenda

1. Approval of the Minutes of the February 7 Meeting
3. Matching Grant Program
   a. Summary
   b. Capital Budget Request
4. Program Review/PLTW Certification
   a. Hopkinton
   b. Pinkerton Academy
5. Successful Outcomes
6. True Outcomes - Restarting
7. Women in Engineering
   a. Location
   b. Cost
8. Other

Topic 1: Approval of the Minutes of the February 7 Meeting

Decisions/Conclusions: The minutes of the February 7 meeting were approved as submitted.


Decisions/Conclusions: Dr. Leon reported that Winnicunnet, Alvirne and Belmont will offer Project Lead The Way courses beginning in the Fall of 2005. There will be a total of 30 schools offering PLTW curriculum in the Fall of 2005. The number of students participating in the PLTW program is approximately 1400. Thirty-seven percent (37%) of New Hampshire high schools are now participating in PLTW. Dr. Leon will be meeting with Bedford in the near future about the Bedford High School including pre-engineering in its program of studies. Gorham is a participating school but is not offering PLTW courses as of yet. He also noted that the Seacoast School of Technology will be coming on as a group; this includes Winnacunnet plus five other seacoast area schools. The least represented region of the state is the Connecticut River Valley, with only Newport High School.
**Topics 3: Matching Grant Program – Summary – Capital Budget Request**

**Decisions/Conclusions:** Summary – Dr. Leon noted that three years ago there was $711,000 in the matching grant account. The program ends on June 20, 2005 (actual date for schools for match is March 31). There is currently $21,000 left in the account. Dr. Simonton noted that this money can probably be carried over past June 30.

Capital Budget Request – Dr. Leon noted that the Department of Education is asking for $200,000 to continue the matching grant program in the capital budget. There was a hearing before Public Works in mid-March. He noted that Bill Leber was at the hearing and his presence was helpful. The requested $200,000 is currently still in the capital budget. Dr. Leon also noted that if we receive the $200,000, we may be able to utilize some of it for renovations to career technical centers. He is hopeful that the $200,000 will be passed.

**Topic 4: Program Review/PLTW Certification**

**Hopkinton – Pinkerton Academy**

**Decisions/Conclusions:** Dr. Leon noted that the Hopkinton program review/PLTW certification would be held on April 11 and the Pinkerton Academy review and certification will be held in early May. He noted that this is a two-phase process. He also noted that schools need to be PLTW certified within two years of joining the program. Hopkinton was the first school in the country to become certified and is now up for certification renewal. A requirement of the review/certification process is that members of the PETAC Leadership Team participate in the process. Participating members will be given a list of questions. Dr. Leon noted that he plus three or four additional individuals meet with the school administrators, faculty, students, and the school-specific PLTW Advisory Board. The PETAC phase should take approximately one and one-half to two hours. Val Zanchuk and Judy Houston noted that they would be available for the Hopkinton review on April 11. Robert Henry indicated he would be available for the Pinkerton Academy review in early-May.

**Topic 5: Successful Outcomes Status**

**Decisions/Conclusions:** Dr. Leon noted that he will have an example of a school outcome printout at the next meeting which includes a summary of the data. It is hoped that 2004 graduates can be tracked to find out which students will be attending New Hampshire colleges.

**Topic 6: True Outcomes - Restarting**

**Decisions/Conclusions:** Dr. Leon noted that he has spoken with Neal Tabano at PLTW-national. New Hampshire is still slated to be the national pilot program for True Outcomes.

**Topic 7: Women in Engineering – Location - Cost**

**Decisions/Conclusions:** Dr. Leon noted that space would be available at New Hampshire Technical Institute on May 23 to hold the Women in Engineering program. Robert Henry noted that early-May would probably work for UNH and asked for information regarding the 2004 Women in Engineering program. Jim Leon noted that there is a keynote speaker with breakout sessions and lunch. The program runs from approximately 9:00 a.m. to 1:30 or 2:00 p.m. There were approximately 150 attendees at the 2004 program and approximately 200 would be expected at the 2005 program. Dr. Leon noted that a PLTW graduate from John Stark is currently working in Tennessee as a Chemical Engineer and would like to “pay back” for her success. He indicated that she is willing to help with the Women in Engineering program. Dr. Leon did note that the students would need to be given lunch, which cost approximately $1000 in 2004. Robert Henry will check the dates that would work for UNH and will contact Dr. Leon.

**Topic 8: Other**

- Robert Henry distributed copies of courses which will be held during the Summer at UNH for teachers as well as high school students.
- Dr. Leon noted that Bow has received a $10,000 grant from MIT for the second time in a three year period. He also noted that the PLTW teacher received an award of somewhere between $3000-$4500 which can be utilized for PLTW classes as well as tuition to send the teacher to a conference.
- Daniel Caron distributed copies of the Kingswood Space Flight Center Highlights and gave an overview of two specific articles. He noted that Honeywell will be sponsoring the Kingswood Rocketry Class. The class is attempting to qualify for the NAR Team America Rocketry Challenge this Spring. He also noted the New England Aerospace Education Teacher Workshop which will be held on May
17 at Daniel Webster College (flyer located on last page of newsletter).
PRE-ENGINEERING TECHNOLOGY & CURRICULUM ADVISORY COUNCIL  
MINUTES

Meeting Date: June 23, 2005  
Location: NHTI, Little Hall, Cafeteria Function Room

I. Meeting Purpose:

Scheduled meeting for the Pre-Engineering Technology & Curriculum Advisory Council

II. Members Present

Richard Ayers  
Daniel Caron  
Charles Clough  
Robert Henry  
Judy Houston, Vice Chair  
Lynn Kilchenstein  
Paul Leather  
William Leber  
Jane O’Hearn  
Brenda Quinn  
Val Zanchuk, Chair

Also in Attendance: Jim Leon, Irene Wright, Jim Gorman, Tina Hale, Bob Arredondo

III. Agenda

1. Approval of the Minutes of the March 30 Meeting
2. Report on Women in Engineering Conference
3. Program Review and PLTW Certifications
4. Successful Outcomes Initiative
5. Recruitment of New Members for PETAC
6. Installation of New Chairperson and Election of New Vice Chair and Secretary
7. Grant for the 2005-06 School Year

Topic 1: Approval of the Minutes of the March 30 Meeting

Decisions/Conclusions: The minutes of the March 30 meeting were approved as submitted.

Topic 2: Report on Women in Engineering Conference

Decisions/Conclusions: Judy Houston noted that the conference went well. Not as many students participated this year as in years past (approximately 50). This may have been due to the fact that the conference was held the first day back to school after Spring Break. Bob Henry did a great job pulling individuals together for the panels and presentations. Some of the students who made presentations had PLTW background. The suggestion was made to have demonstrations. Jim Leon suggested having a committee work on this project for next year and perhaps hold the conference during the first half of the school year. It was also suggested to have the conference in conjunction with the PLTW Guidance Counselor Conference. Judy Houston noted that she has received good feedback regarding the keynote speaker (Sheila Burke from Keystone). Jim Gorman felt that the targeted population was missed. He stated that the students who attended from Merrimack Valley were students who wanted to stay in the PLTW program. Lynn Kilchenstein suggested taking this program "on the road" by going to PLTW high schools. Jim Leon noted that a number of schools put on their own women in engineering programs. Also, the suggestion was made to put on a program in the northern part of the state separate from a program in the southern part of the state. Jim Gorman...
noted that timing is very important. He stated that students start choosing classes for September in January. Perhaps doing this program in very early Spring would be helpful; or even November or December. Judy Houston suggested contacting the PLTW high schools to find out when their “career day” is and send PLTW representatives. Irene Wright suggested having PLTW schools do demonstrations of their projects at non-PLTW schools. Val Zanchuk noted that it is an uphill struggle to get women in PLTW. Jim Leon noted that the focus should be on 8th graders. Jim Gorman noted that the attrition rate is higher for women rather than men. This usually happens after the students take Digital Electronics. Many students do not like Introduction to Engineering Design (which often is the first course). Perhaps PLTW national needs to look at the program. Jim Gorman also noted that in order for his school to switch the course order, would mean they’d have to x-training of teachers and would affect the class slots. This would be difficult for his school to accomplish. Jim Leon noted that some schools offer Principles of Engineering (which is heavy in math background) as the first course. He also noted that there is a 40-50% drop between freshman and senior years. The decision was made that a committee needs to be formed to plan the next Women in Engineering program. The following individuals volunteered: Judy Houston, Irene Wright, Lynn Kilchenstein and Jim Gorman.

**Topics 3: Program Review and PLTW Certifications**

**Decisions/Conclusions:** Jim Leon noted that two PETAC reviews have been conducted and two certifications for PLTW have been conducted. He noted that the PLTW certifications were completed without a hitch. Hopkinton was recertified and Pinkerton Academy received their initial certification. There are now four certified PLTW schools in the state. Judy Houston and Val Zanchuk participated in the Hopkinton recertification. Val Zanchuk suggested that perhaps state funds should go towards supporting existing schools rather than bringing on new schools. Jim Leon noted that 45 states nationwide are participating in PLTW and many use state or federal grant funds for Summer training. Val Zanchuk suggested utilizing established PLTW schools rather than bringing on new schools. Tina Hale noted that this is a district issue and not a state issue. At Pinkerton, it was noted that more training $ for teachers is needed and equipment is still an issue. More students drop out after the DE course. [Jim Leon announced that Lynn and Bob were taking over the summer teachers’ training, due to his workload change.]

Discussion turned to refining PLTW programs. The curriculums need to be looked at. The suggestion was made to invite Dick Blais to participate in these discussions. Jim Leon suggested that Digital Electronics should be a specialty course rather than a core course. He also noted that he would send a survey to all PLTW instructors regarding PLTW issues.

**Topic 4: Successful Outcomes Initiative**

**Decisions/Conclusions:** Jim Leon noted that there were minor glitches with Successful Outcomes. He indicated that all of the schools submitted their data for the 2004 year. There was a problem getting return information. He also noted that the percentage of students going on to college is not going to be as high as projected. The projected percentage of students going on to college was 80-90%. The actual figure is probably in the range of 50-60%.

**Topic 5: Recruitment of New Members for PETAC**

**Decisions/Conclusions:** Jim Leon noted that the law reads that PETAC membership will consist of one House member, one Senate member, the Commissioner of the Department of Education, the President of New Hampshire Technical Institute, the Dean of the College of Engineering at UNH, three superintendents and six community/business members. He noted that the House and Senate members have been designated. Dick Ayers has agreed to stay on as a superintendent. Ralph M. has recruited the superintendent of the Keene School District as a member. Val Zanchuk and Judy Houston have agreed to stay on leaving four empty seats for community/business members. Suggested names for community/business include Dick Ledders and Paul Sanborn. Lynn Kilchenstein suggested a representative from BAE Systems (Jack Dearborn or designee). She will contact Jack Dearborn. Dr. Leon noted that this issue needs to go before Governor and Council by the end of July. Tina Hale noted that state and federal funding for Jim Leon’s position is going away. She suggested bringing in PETAC members who can bring in resources. All members will have to complete and submit new applications, including resumes to go to G&C by end of July. Jim Leon will get all members the package.

**Topic 6: Installation of New Chairperson and Election of New Vice Chair and Secretary**

**Decisions/Conclusions:** Judy Houston now serves as Chair. Bob Henry was nominated for Vice Chair and Dick Ayers was nominated for Secretary. Judy Houston will contact Dick to see if he is interested; Jim Leon will contact Bob.
Topic 7: Grant for the 2005-06 School Year

Decisions/Conclusions: The Educational Partnership for Central New Hampshire grant for $104,000 has not yet been approved; although it has been submitted to the State Department.
Pre-Engineering Technology Curriculum Advisory Council
Minutes of September 28th, 2005

Attending: Richard Ayers, Bob Arredondo, Dan Caron, Bob Henry, Judith Houston, James Leon, Michele Munson, Val Zanchuk, Irene Wright

Introduction of New Members: Jim Leon commended Richard Ayers for Hopkinton High School’s success in meeting the standards for NCLB. The meeting began with the introduction of new members. Two new members, Mark Carter and Peter Bragdon, were not in attendance. Judy welcomed the new members and introduced the officers. Two members from business need to be named. Bob Henry stated that he had heard from BAE and that a member would be forthcoming.

Description & History of PETAC: Judy reviewed the History and description of the advisory Council (PETAC), the original members, the general program for engineering and the defining of purpose by legislation.

Review of Legislation: Jim reviewed past legislation and informed the Council that the legislature has approved $200,000 in matching grants for the current biennium.

Description and History of PETAC: Val, as past chair, stated that the original purpose was to recruit high schools and has seen more need for maintenance and support of the established programs. He mentioned that evaluation had become an important component. Judy has spearheaded Women In Engineering (WIE). It was noted that the program was presented differently in different school districts. The evaluation tool True Outcomes has been accepted by Project Lead The Way (PLTW) at the national level and New Hampshire will be the pilot for the state level.

August Pre-meeting Summary: Bob H., Bob A., Lynn K. and Jim L. and Judy met in August to determine goals for the current year. The three goals agreed on are: 1. a white paper be developed 2. the annual WIE conference be continued and 3. a stronger working relationship be established with the DOE.

Continued Support for PETAC & PLTW: Dick Ayers suggested that topical areas be presented at PETAC meetings. For example: visiting engineers to address skill sets, a woman engineer, discussion with superintendents and staff. Jim stated that a number of PLTW schools were involved in the Best Practices Initiatives, but PETAC/PLTW had not invited to participate in formulation of the revised standards. Judy will meet with Val and Bob H. to determine the content of the three meetings. Judy and Dick will schedule meetings based on input. A possible time change was considered, but rejected. Bob H., Lynn K., and Dan C. will identify panel participants who will present the university, community/technical college, and high school perspectives regarding student transition from high school to college and/or university.
**Department of Education:** Define ties and determine with whom to work. There is a need for positive conversation. Funding should continue through Tech Prep grants for the pathways. Jim mentioned the DOE’s current grant with the Boston Museum of Science. Cary Sneider is the contact. More information can be found on the website, [www.mos.org](http://www.mos.org).

It was moved by Bob H. and seconded by Val Z. that a copy of the white paper be completed for presentation at the May meeting. The motion passed unanimously. Lynn will chair the committee: contributing members will be Dick, Val, Bob H. and Judy.

**True Outcomes:** PLTW will fund the pilot as an evaluative tool. Jim will look at three schools to participate. He will also check on funding for participation. Dan suggested that a reduction in software costs would be beneficial as the cost has increased. When the principals and teachers of the three schools are designated, Jim will contact Doug.

**NHTI Summer Training:** NHTI has trained 110 PLTW teachers at its annual Summer Training Institute. Approximately 50% of the teachers trained teach in New Hampshire schools. Bob Arredondo and Lynn Darnell will serve as co-directors, with Jim. They will share the duties of the position with Jim over the next year as he transitions to other duties. The evaluations from this year’s STI were exceptionally favorable. A question of expansion of the summer training to include math and science teachers was discussed. A list of questions will be given to Bob A. to take to the meeting in Rochester. The topic was tabled until Bob A. and Lynn D. return from Master Teacher Training at RIT in January.

**NE PLTW Counselors Conference:** This year’s conference is projected to be held in southern New Hampshire. WPI, the University of New Haven and NHTI each receive $2000 from PLTW to run the Conference. There was discussion about expanding the conference to other counselors, but Jim explained the money is granted specific to it being used with counselors from PLTW schools.

**Schools for Matching Grants:** Jim reported an increase in enrollment from 1149 to 1338 students. Possible schools for matching funds were Seacoast School of Technology, Merrimack, Pelham, Oyster River, and Hanover.

At 10:42 Bob H. moved to adjourn the meeting. Val seconded the motion.

Items for the next meeting's agenda will include Running Start. Bob H. and Lynn will meet and provide feedback to the Council. The strategic plan and the white paper will also be items. Jim will send the mission statement to the members.

**Next meeting will be held November 16th at 8:30.**
NH PRE-ENGINEERING TECHNOLOGY CURRICULUM AND ADVISORY COUNCIL
MINUTES OF NOVEMBER 16, 2005

Meeting Date: November 16, 2005 Location: NHTI Farnum Hall

I. Meeting Purpose:

Regularly scheduled meeting of the Pre-Engineering Technology Curriculum Advisory Council

II. Present:

 X Judy Houston, Chair
 X Dick Ayers
 ___ Senator Peter Bragdon
 ___ Daniel Caron
 ___ Mark Carter
 X Bob Henry
 X Lynn Kilchenstein
 ___ Paul Leather
 ___ Michael Ludwell
 ___ Michelle Munson
 ___ Brenda Quinn
 X Val Zanchuck
 X Jim Leon
 X Irene Wright
 X Bob Arredondo
 ___ Lynn Darnell
 ___ Charles Clough
 X James Gorman
 X Justina Hale
 ___ Kim Runion
 ___ Bill Simonton
 X Bill Wood (Invited Guest)
 X Joan Fossum (Invited Guest)
 X Will Renaud (Invited Guest)
 X Laura Crane (Invited Guest)

Also in Attendance: Nancy Fall

Judy called the meeting to order at 8:41 a.m.
There was a panel discussion on “Project Lead The Way” led by Jim Gorman to discuss the questions:

*How can we promote the understanding of teacher and student investment in the pre-engineering program?*

*What are the best approaches to engaging various school communities in the pre-engineering program?*

The discussion included perspectives from three high schools; Kingswood, Hopkinton, and Merrimack Valley. Areas of concern follow:

1. How to merge PLTW into the System without sacrificing the traditional technologies;
2. How to initially attract students;
3. How to communicate and work with the middle schools;
4. How to match appropriate students with the program;
5. How to communicate with parents.

A number of critical issues were identified: The challenge of integrating PLTW without sacrificing traditional technology/craft; The difficulty of communicating the benefits of PLTW to parents and potential PLTW teachers; The need to educate people to perceive technology in the same category as math and science. One conclusion was that we must show the connection between student PLTW success and success in other educational settings, both high school and college.

Some conclusions were that we need to strengthen ways to communicate with parents and with potential PLTW teachers. It is also important to be able to demonstrate the connection between PLTW success and success in other courses. Finally, we need to look at graduation requirements to move toward requiring all students to take a technology-based course.

The minutes of September 28, 2005 were approved as submitted.

**III. Agenda**

Updates:

1. Northeast Regional Counselors Conference
2. New Board Members
3. True Outcomes – Update – 3 solicited schools to participate in pilot program
4. Student Tracker Initiative
5. “White Paper”
New Business:

1. Running Start Courses
2. Strategic Plan Development
3. Next Meeting Panel Discussion: UNH, NHTI and Business/Consultants

**Topic 1: Northeast Regional Counselors Conference**

**Decisions/Conclusion:** Jim Leon distributed the information on N. E. Regional Project Lead The Way Counselors’ Conference to be held at the Sheraton Hotel & Conference Center, in Nashua, N. H. on January 5th & 6th, 2006. Jim presented a tentative Agenda. He has invited the Governor and John Crosier, formerly of the BIA, to participate in the event. Bob Henry noted that John Sununu might be available if the Governor was not able to attend.

**Topic 2: New Board Members**

**Decisions/Conclusions:** Bob Henry has approached BAE for a possible new Board Member, but he has not yet had a response. Other names were suggested to represent business on the Board.

**Topic 3: True Outcomes – Update – 3 solicited schools to participate in pilot program.**

**Decisions/Conclusions:** Merrimack Valley is one of three solicited schools to participate in the pilot program. Doug Walcerz is having trouble collecting student data.

**Topic 4: Student Tracker Initiative**

**Decisions/Conclusions:** Successful Outcomes is at a standstill. They are working it out on their side, as it is a technology issue. We will form a second set of questions for this program.

**Topic 5: “White Paper”**

**Decisions/Conclusions:** Lynn, Val, Bob and Tina Hale met in October to develop “White Paper” for the legislators. Two categories will be explained: Characteristics and opportunities of engineering-related industry, and ways middle and high school students prepare for higher education in engineering and engineering technologies. Information for the “White Paper” should be sent to Jim Leon @ jleon@nhctc.edu
New Business
Topic 1: Running Start Courses

Decisions/Conclusions: Running Start provides college credits, as Rochester Institute of Technology will for the PLTW students from any of the four (4) certified schools in N. H. There was much discussion of pro’s and con’s and for Running Start preparations concerns centered on maturity level and environment. It was suggested that this be a topic on a future agenda.

Topic 2: Strategic Plan Development

Decisions/Conclusions: Strategic Planning was tabled, based on time and environmental factors.

Topic 3: Next Meeting Panel Discussion: UNH, NHTI and Business/Consultants:

Decision/Conclusions: Members of the panel discussion at the next meeting will be Bob Henry, Bob Arredondo and Paul Margolin, BAE Systems.

Other: 1.) Tina passed out the Career and Technical Education booklets from the N. H. Department of Education. She noted that Engineering was included in the career clusters. Request was made that for handouts be sent to PETAC members prior to the next meeting. Final Request from Judy was to look at the PETAC page on the website, www.epcnh.org and have one member attend the next meeting with you.

2.) Joan F. explained to the Board the relationship between the Department of Education and Boston of Science in the field of design technology. The collaborative funding relates to the design technology network.

3.) At the end of January or early February, a summit will be held regarding the new science standards, core technology, competencies, teacher leadership and NECAP assessment. All players are invited to contribute to this summit. The revision of the science standards (life, physical, earth and scientific skills) will include outcomes and assessments. Bob H. offered to arrange a tour through Kingsbury, the new engineering building at UNH, for anyone who was interested.

The next NH Pre-Engineering Technology Curriculum and Advisory Council will be held on 01/25/06 at 8:30 a.m. in the Cafeteria Function Room.

/nf