UNDERGRADUATE engineering programs struggle with increasing difficulty to squeeze more and more requirements into the curricula. As pressure increases to re-emphasize rigorous training in engineering science and additional practice in engineering design, there is the inevitable temptation to sacrifice the liberal arts elements of our curricula.

Conventional wisdom suggests that we want our young engineers to be broadly educated, but is it worth asking, Why? How are we so sure that a liberal education, an emphasis on humanities and social sciences, is important for engineers?

Several reasons. First, our graduates deserve the joy in their lives that the arts, literature, and history can provide. Wally Sterling, the president of Stanford University during my undergraduate days there, used to say that as an educated person, you should be able to entertain a group, an idea, and yourself. It’s hard to do that on the basis of an education in thermodynamics and circuit theory alone. We are in the business of educating for life, not just for a job.

Second, we all agree that the driving force of science and technology within society is accelerating. Surely this is so within the developed countries of the world, but true to the cliché that we live in a global village, advances in communications have caused or permitted technology to be a driving force in the underdeveloped world as well. The simple question is this: Do we let the avalanche of unfolding new technology shape our society, or do we harness the new technology to serve us in a world consciously shaped to meet the complex needs of its citizens? In a paraphrase of the old ends-means dichotomy, do the means—technology—shape the ends, or do the ends—the definition of the society or culture that we seek—shape the ways in which we employ the means? I hope it is the latter. It must be if we are to save this world from ourselves and for ourselves.

Not only does new technology redefine our physical world, it also affects profoundly how we think about our world. In his book *Turing’s Man*, David Bolter expresses the issue this way: “It is not that we cannot live without computers but that we will be different people because we live with them. All techniques and devices have the potential to become defining technologies.
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desires, shifts in international com-
life-support capabilities exceeding
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because all, to some degree, redefine
our relationship to nature.” A nice
phrase, “defining technologies.” And 
Bolter goes on: “A defining technol-
develops links, metaphorical or 
otherwise, with a culture's science, 
philosophy, or literature; it is always 
available to serve as a metaphor, 
example, model, or symbol.”

So the poet and the engineer are 
linked. The ideal of a liberal education 
demands that the poet be technology-
literate and that the technologist be 
well acquainted with poetry and 
philosophy and history and, goodness 
knows, psychology. Incidentally, 
despite some prejudices to the con-
trary, we in higher education are 
having a good deal more success 
than the latter—acquainting the technolo-
ist with poetry—than with the 
former—developing broad technology 
literacy. Check the transcripts of 
undergraduates at almost any college 
or university these days. You will 
find a very uneven balance of trade 
between engineering on the one hand 
and humanities (including the arts) 
and social sciences on the other. The 
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commercial power, information overload, 
and changing personal values. These
and others have shaken our confidence
in technology and frightened us away 
from unfettered pursuit of its application. 
Ogden Nash captured this in-
increasing anxiety when he said, 
“Progress might have been all right 
one, but it has gone on too long.”

Fortunately, we have recovered 
from the dismal attitudes of the '70s, 
when engineers, and perhaps to a 
lesser extent scientists, were per-
ceived as the problem, not the solu-
tion. I'm glad of that, although contin-
ued debate as to the role of technology 
is both understandable and desirable. 
It is imperative that the engineer not 
simply be the passive subject of the 
debate. The engineer must be edu-
cated to participate centrally in these 
important moral, economic, and politi-
cal discussions and struggles.

—Reprinted from the
March 1995 BULLETIN OF TAU BETA PI,
Henry E. Riggs is the retired president of
Harvey Mudd College.

Headquarters Server Update
by Raymond H. Thompson, TBI Systems Administrator

Tau Beta Pi completed the migration of 
the three Headquarters servers to 
Windows Server 2003 in December. 
The prior operating environment was 
Windows NT, which was serving our 
needs well, but Microsoft is dropping 
support for NT. Maintaining security 
is important, and the continuing 
exposure to vandals and exploits 
requires continuous support.

The upgrade did not go as smoothly 
as planned. Drivers for the network 
cards would not work, and new cards 
were required. Then one of the 
servers refused to power up. This was 
solved hours later by simply removing 
and reinstalling the CPU cage.

Finally, ColdFusion (the web lan-
guage) would not complete its 
installation. There was a flaw in the 
Macromedia install code that in 
certain configurations would fail.

Naturally, we encountered the flaw 
and had to devise a method to get 
around it.

In order to ensure that the 
Headquarters software applications 
would work with Server 2003, the 
entire installation had been success-
fully tested and completed without 
difficulty on a separate system. The 
difference is that the trial was made 
on a different machine with a slightly 
different configuration than the actual 
server. The lessons learned are that no 
matter how carefully something is 
planned, be ready for the unexpected, 
and that unless the test hardware and 
software are exactly the same, there 
will be problems.

After the dust settled, the upgrade 
was completed. Server 2003 should be 
a viable and supported product until 
at least 2007.
The 2002-06 Executive Council has made another step toward establishing Tau Beta Pi as the premier honor society with the decision to endorse a nationwide chapter project that will “trademark” the Association. At spring District conferences last year, chapters generated hundreds of ideas for such a project, ranging from computer recycling, to tutoring, to water cleanup. From those, the Council chose a national project that combines simple engineering with community service, that is able to be replicated by chapters for any community, and that appeals to local and corporate sponsors. The project is The Bicycle Project of Tau Beta Pi.

The idea came from ASME members at Grand Valley State University in Grand Rapids, MI, who have succeeded with a similar program. This exciting project entails chapters’ soliciting bicycles within their communities, refurbishing them, and partnering with local charities to distribute the bikes to area children or homeless citizens. Recipients will also get helmets, locks, basic safety rules, and instructions for the care of their bicycles.

The project has three phases. Phase I was accomplished by starting a pilot test by the Alabama Delta Chapter at the University of Alabama in Huntsville. Phase II included making an appeal at the 2003 Convention for at least one chapter per District to volunteer to pilot a project during the next year. Phase III will be a roll out at the 2004 Convention for chapters to consider this as a preferred project.

Vice President Ellen D. Styles chose Alabama Delta as the pilot group because of its proximity to her and the willingness of the members to complete the project. She met with a few students and provided an overall question-and-answer session as well as a “Get Started/To Do List.” The students eagerly accepted the challenge.

Chapter President Michael L. Youngblood and others located space on the Huntsville campus as a storage and work area. A chapter advisor loaned tools to jump-start the project until funds arrived.

General Dynamics, Styles’ employer, provided a $1,000 grant in addition to a commitment for assistance with the start-up kits for other chapters. The firm’s employees will also be given the opportunity to help with the project. Alabama Delta was also granted $500 from the school’s student government association.

With cash in hand, one student developed a training class held in November at the university. Chapter members initially accepted three bicycles for the program, with the promise of five more. After final training, the program will swing into full gear.

In addition to repairing bikes, volunteers can work on developing relationships with bike shops, buying and stocking parts, writing grant proposals, serving as liaisons with charities for collecting and distributing bicycles, or advertising the project.

A win-win situation exists for all involved, and we expect the following results:

• The Bicycle Project will provide bicycles for children of economically challenged families struggling to meet their basic needs.
• The Bicycle Project will provide a means of transportation for a homeless person in order to assist with getting to an interview and securing or maintaining employment.
• For students and community volunteers, The Bicycle Project will provide a way to develop compassion and strengthen their commitment to community service.

More than half of the Districts have at least one chapter committed to establishing the pilot project for their District, for a total of 13 additional start-ups. Still needed are volunteers from Districts 2, 5, 8, 9, 10, 11, and 16. Please contact either Ellen Styles (ellen@tbp.org) or Pat McDaniel (pat@tbp.org) if your chapter is interested in this project. We will provide step-by-step guidelines, samples of a grant request, and lots of encouragement. This is a great project, so don’t miss the chance to be one of its pioneers.
Members are invited to take advantage of a new career service set up specifically for Tau Beta Pi by JobTarget, a company serving members of professional societies. Unlike other on-line services, jobs posted to this board are aimed at attracting all disciplines of engineering. This service is also unique to others in that it offers job seekers a way to anonymously post their résumés. Other features include a Job Agent that can be set to screen jobs and email the job seeker when a listing meets his/her criteria.

To access this service, click on the “For Members” section at tbp.org. Because access is protected, you will be asked to supply certain membership information. Post your résumé and browse through the jobs which are updated several times per week. More résumés are especially needed at this time as we begin to market to technology-based companies.

NEW! The Best People
TBP’s Job Connection

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Educational Loan Fund

Since 1935, Tau Beta Pi has assisted student members with their financial needs while in school or with payment of their initiation fee through our Student Loan Fund. We are pleased to offer this service for students in amounts up to $2,500 per member. Repayment is required after three years, and a simple interest rate of 6% is charged from the day the loan is received. Interested students can obtain promissory notes and loan applications from chapter presidents, on-line, or from the national Headquarters.

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AlumNet

Tau Beta Pi’s AlumNet Program pairs students with alumni to allow sharing of information about jobs and academia. To get in touch with an alumnus about a certain field, company, or institution, simply register on-line at www.tbp.org. Click on the AlumNet link under “For Members” and follow instructions.

Complete the brief, three-to-four line contact request form, and alumni contact information will be sent to you by email from the program coordinator. It is the student’s responsibility to follow-up and to make contact with the alumnus.

Alumni can register on-line in the same way described above. Encourage your peers to try out this service. AlumNet is one more example of the unique value of membership in Tau Beta Pi and another opportunity to gain life-long benefits from the Association.

“I’ve had a lot of good luck with the AlumNet program. The networking has been invaluable, and I really feel as though this is a great program for Tau Bates.”
— Raymond Auerbach, AZ Γ '04

2004 District Conferences

The District Program provides a vital link between the national organization and individual chapters. Each year the Directors gather students for regional conferences to provide both retiring and new officers opportunities to discuss chapter operations and to socialize. All chapters are urged to elect new officers before their District conference. New and outgoing officers are encouraged to attend.

The 2004 schedule is:

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<thead>
<tr>
<th>Dist.</th>
<th>Location</th>
<th>Date</th>
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<tbody>
<tr>
<td>1</td>
<td>Amherst, MA</td>
<td>Feb. 28</td>
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<tr>
<td>2</td>
<td>Syracuse, NY</td>
<td>Feb. 28</td>
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<tr>
<td>3</td>
<td>Pittsburgh, PA</td>
<td>Feb. 21</td>
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<tr>
<td>4</td>
<td>Washington, DC</td>
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<td>5</td>
<td>Orlando, FL</td>
<td>Mar. 20</td>
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<td>6</td>
<td>Huntsville, AL</td>
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<td>7</td>
<td>Grand Rapids, MI</td>
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<td>8</td>
<td>Urbana-Champaign, IL</td>
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<td>9</td>
<td>Columbia, MO</td>
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<td>10</td>
<td>Austin, TX</td>
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<td>11</td>
<td>Minneapolis, MN</td>
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<td>12W</td>
<td>Idaho Falls, ID</td>
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<td>Estes Park, CO</td>
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<td>13</td>
<td>Phoenix, AZ</td>
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<td>14</td>
<td>Moscow, ID</td>
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<td>15</td>
<td>Sacramento, CA</td>
<td>April 24</td>
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<tr>
<td>16</td>
<td>Las Vegas, NV</td>
<td>April 3</td>
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Noblesse Oblige

People with God-given superior talents have the responsibility for superior performance in everything they do, for all their lives. We find this message in the great writings of antiquity; the idea is just as valid today as it was 1,000, 2,000, or 5,000 years ago.

In Tau Beta Pi we quote the medieval French proverb “noblesse oblige” to emphasize our belief in the relation between nobility and the highest obligation of good minds. Knowledge begets new knowledge, but it also creates new problems. The problems facing the world today cry out for the best technical efforts and the keenest understanding of human needs, human capabilities, and human values. They will not be solved by those who are willing to contribute only to the extent that they gain for themselves. The hope of the world is the professional person, he who has ability and is willing to give of himself for the betterment of all.

This is the message of the honor society to its new members, just as much as the recognition conferred by election and initiation, which are but a means to the end of developing the professional attitude among the most talented.

Reprinted from The Council Bulletin of Tau Beta Pi.

Welcome Idaho Beta & Michigan Lambda

One new chapter chartered by the 2003 Convention has been installed with the initiation of its charter members this year. Idaho Beta officially came into being on January 17, 2004, at Idaho State University in Pocatello with Councillor Alison L. Hu as official installing officer. Michigan Lambda will be established on March 27 at Grand Valley State University in Grand Rapids with Vice President Ellen D. Styles performing the official honors.

This will bring the number of active collegiate chapters of Tau Beta Pi to 228. Stories of the installations and the harboring institutions will appear in the Spring and Summer issues of THE BENT.

Student Assistance Fund

The Tau Beta Pi Student Assistance Fund was endowed in 1992 through the interest and generosity of C.C. Young, Illinois Alpha ’24. Its purpose is to make funds available to student members of his and other chapters who would otherwise be without sufficient financial resources to remain in college. Repayment is not required, no interest is charged, and grantees are requested to help others in need should they become financially secure.

Interested students should write directly to Secretary-Treasurer Jim Froula at the national Headquarters in Knoxville, TN.

Now Available

This striking Information Brochure was created to complement the new collection of posters unveiled last semester. This replaces the “What do . . . have in common?” brochure. Order your supply on-line. We think that you will be impressed by the content and graphics.
Important Deadlines

- March 1
  Scholarship Application
- March 15
  Distinguished Alumnus Nomination
- Laureate Nomination
- March 21
  Outstanding Advisor Nomination
- April 1
  Approved Chapter Bylaws
  Constitution Ratification Ballot
- June 1
  Convention Bid for 2007

LET’S TALK! WEBSITE FEATURES

DISCUSSION BOARD

Whether you are a student wondering if anyone out there has a great chapter fund-raising idea, a District Director wanting to start a lively debate about chapter membership, or an alumnus seeking a dialogue from Tau Bates working on the latest advancements in nanotechnology, the ΤΒΠ Discussion Board was created for you!

There is a link to the Discussion Board at www.tbp.org. Since its activation in 2001, there have been thousands of hits, but few people are registering—which you must do to be able to post a message. When you register, your password is immediately emailed to you, so there is no waiting to begin your exchange. Here is an example of another useful benefit of membership in this great Association, so let’s not be shy. Let’s start talking!