The Faculty Senate was called to order by Peter Burke, Chair, on Thursday, March 30, 2000, in FSHN, T101, at 3:30 p.m. Forty-five (45) members were present, thirty-four (34) members were absent with three vacancies. Seven (7) nonvoting members were present. (See attached)

Minutes of March 9, 2000 Meeting were approved as circulated.

Announcements (Information Items)

1. Faculty Senate officers met with Lane Rawlins, New WSU President on March 15, 2000.

2. Peter Burke, Chair, attend the meetings of the Kellogg Foundation in Washington D.C. on March 21-22, 2000.

3. The Nominating Committee for Faculty Senate officers for 2000-2001 announce the following two candidates: Chair, Frances McSweeney, Professor of Psychology and Vice Chair William Cofer, Associate Professor of Civil Engineering. If anyone has a qualified person they would like considered please contact Dave Stock or Val Limburg before April 5.

4. Minor Change Bulletin #4 Exhibit B is as follows:

**M E M O R A N D U M**  
TO: Deans and Chairs  
FROM: Becky Bitter, Assistant Registrar  
DATE: 16 March, 2000  
SUBJECT: Minor Change Bulletin No. 4

The courses listed below reflect the minor curricular changes approved by the catalog editor since approval of the last Minor Change Bulletin. All changes are underlined. Deletions are crossed out. The column to the far right indicates the date each change becomes effective.

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<tr>
<th>Course</th>
<th>Title</th>
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<tr>
<td>Cpt S 370</td>
<td>Systems Analysis &amp; Design 3</td>
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<td>Cpt S 547</td>
<td>Statistical Pattern Recognition</td>
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<td>Cpt S 584</td>
<td>Parallel Processing: Systems and Applications</td>
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<td>E E 322</td>
<td>Electrical Engineering Laboratory I</td>
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<td>E E 380</td>
<td>Preparation for Professional Practice I</td>
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<td>Hist 424</td>
<td>History of American Popular Culture</td>
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<tr>
<td>Med S 509P</td>
<td>The Human Face of Medicine 2</td>
<td>2</td>
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Reports.

1. Remarks by the Chair.—P. Burke

   There were no remarks by the Chair.

2. Remarks by Legislative Representative.—M. Carroll

   Carroll stated the legislature is still in special session and there is now a House budget and a Senate budget proposal. Both sides fund ATI, retention and recruitment, Health Sciences for $450,000, and they fund the boilers here for $3.6M. The House would fund 814 new students University wide and the Senate would fund 1064 new students University wide. The Senate funding is on a student by student basis the House funding
is basically what they will provide and it amounts to the amount WSU would have received initially if the biennial budget had stayed in place minus the $1.4M that the University offered back because of the enrollment shortfall. The TriCities funding inequity that has been in place since it began has been removed. Either budget would be good for WSU the House budget gives more planning certainty and the Senate budget could potentially give WSU more money if enrollments are up at all campus sites. At this time the deadlock in the legislature is over transportation funding. A bill passed which removes the old enrollment caps and gives the University authority to give tuition enrollments to students.

Additions or Changes to the Agenda.

Add a proclamation honoring Sam and Pat Smith.
Move Action Item 8 to Discussion Item 10.
Amended Agenda was approved.

Agenda Items (Action Items).
New
1. Proclamation Honoring Sam and Pat Smith from the Steering Committee.
   Motion carried unanimously.

2. Nominations and Elections from Committee on Committees for Faculty Senate Committees Exhibit C is as follows:

   **FROM THE COMMITTEE ON COMMITTEES**

   The Committee on Committees submits the following name to serve on the following Senate committee with term beginning immediately and ending on the year indicated. Senators are encouraged to study the Committee Manual along with the vitae of the nominee, prior to the meeting of March 30, 2000. Senators desiring to nominate additional persons from the floor MUST PROVIDE written information about the nominees for distribution before the meeting.

   **Academic Program Review**

   **Nursing**

   **F - 2001**

   **HOEKSEL**, Renee, Associate Professor, College of Nursing, ICNE, Faculty, WSU 10 Years. Relevant Experience and Qualifications: Undergraduate Curriculum Committee; Graduate, Nursing, Curriculum Committee; Academic Affairs; ICNE Research; Associate Dean Search Committee.

   **THIELE**, Joan, Professor, Nursing, Faculty, WSU 14 Years. Relevant Experience and Qualifications: Program Evaluator/Site Visitor; Accreditation Services, National League for Nursing.
Admission Subcommittee  
F - 2003  BERTHIAUME, Gerald, Associate Professor, Music, Faculty, Graduate Faculty, WSU 11 Years. Relevant Experience and Qualifications: Music Program Coordinator; Summer Alive advisor; Academic Advising Information Systems Group; College Research Advisory Committee; Scholarship Committee.

Budget Committee  
F - 2003  LIMBURG, Val, Professor, School of Communication, Faculty, Graduate Faculty, WSU 33 Years. Relevant Experience and Qualifications: Vice Chair and Chair Faculty Senate 95-96; Faculty Affairs Committee; Academic Affairs; Various other committee work.

Distinguished Faculty Address  
F - 2001  LINDEN, Stanton, Professor, English, Faculty, Graduate Faculty, WSU 33 Years. Relevant Experience and Qualifications: College of Liberal Arts, Dean's Advisory Committee on Research and Creative Activities; English Department, Ph.D. Examination Committee; English Department, Scholarship and Awards Committee; Senate Library Committee, Graduate Studies Committee; Previous Faculty Senator.

Extended University Affairs  
F - 2003  FARLEY, Brigit, Assistant Professor, History, Faculty, Graduate Faculty, WSU 5 Years. Relevant Experience and Qualifications: Branch Campus Faculty; Various department and branch campus committees, including, Library Committee, Liberal Arts Council, Resident Faculty Organization.

Faculty Affairs  
F - 2003  KICZA, John E., Professor, History, Faculty, Graduate Faculty, WSU 20 Years. Relevant Experience and Qualifications: Chair of History Department; Dean's Advising Committee; Presidents Commission on General Education; Faculty Status Committee; Athletics Committee; Academic Affairs Committee; Graduate Studies Committee; Catalogue Committee.

        F - 2003  PECK, Charles, Professor, Special Education, Faculty, Graduate Faculty, WSU 16 Years. Relevant Experience and Qualifications: Various WSU Committees; Previous Faculty Senator; Gen Ed Committee.

        F - 2003  WRIGHT, John W. Professor, Psychology, Faculty, Graduate Faculty, WSU 25 Years. Relevant Experience and Qualifications: Faculty Senator 1979 - 1980; University Animal Care Committee; Various Search Committees; Policy Board to oversee WHETS system; President, Selection Committee for Sahlin Faculty Awards and honorary Ph.D. Degrees.

        F - 2001  LEID, Wes, Professor, Animal Science, Faculty, Graduate Faculty, WSU 20 Years. Relevant Experience and Qualifications: Member of Honors Faculty, Honors Council; Chair of Committee on Committees; Graduate Studies Committee; Athletic Council; Faculty Senate; All University Writing Across the Curriculum Committee.
Graduate Studies

F - 2003 ACKERMAN, Robert E., Professor, Anthropology, Faculty, Graduate Faculty, Current Senator, WSU 39 Years. Relevant Experience and Qualifications: Served on a number of department and ad-hoc committees at WSU; Committee on Committees.

F- 2003 LIDDELL, KNona, Professor, Chemical Engineering, Faculty, Graduate Faculty, Current Senator, WSU 20 Years. Relevant Qualifications and Experience: Planning Review Committee; Research and Arts; Faculty Status Committee.

F - 2003 PALMER, Guy, Professor, Veterinary Microbiology and Pathology, Faculty, Graduate Faculty, WSU 12 Years. Relevant Experience and Qualifications: Graduate Studies Committee; Departmental Graduate Coordinator; Search Committee for Dean of the Graduate School and College of Veterinary Medicine.

Library Committee

F - 2000 LEE, Debbie, Assistant Professor, English, Faculty, WSU 2 Years. Relevant Qualifications and Experience: Undergraduate Studies Committee, English Department; Student Evaluation Committee, English Department; Significant amount of research in libraries worldwide.

Organization and Structure


* * * * *


Report of the General Education Review Committee

December, 1999

Membership of the Committee
Frances K. McSweeney, Psychology, Chair
Miles J. Dresser, Physics
Ann V. Mealey, ICNE
Merrill M. Oaks, Education  
Fredrick E. Peterson, Spokane  
Barbara M. Sitko, English  
David E. Stock, Mechanical Engineering  
Kenneth A. Struckmeyer, Horticulture and Landscape Architecture  
Barry G. Swanson, Food Science and Human Nutrition  
Richard B. Toolson, Accounting, Information Systems, and Business Law

**Charge**

The committee was appointed by the Faculty Senate in February, 1999 and held its first meeting on February 12. The charge to the committee follows. "Evaluation of the General Education Program including the following:

1. Learning outcomes outlined in the February 1989 Report of the President's Commission on General Education Proposed Program for General Education at Washington State University (p. 11). a. Understanding the historical development of human knowledge and cultures including both Western and non-Western civilizations. b. Understanding the roles of normative views and values, including ethics and aesthetics. c. Understand and respect diverse viewpoints, ambiguity and uncertainty. d. Acquire and assimilate knowledge in a variety of modes and contexts. e. Define problems and issues. f. Assess the accuracy and validity of findings and conclusions. g. Reason critically. h. Assess the accuracy and validity of findings and conclusions. i. Communicate conclusions, interpretations and implications clearly, concisely and effectively. j. Develop an awareness of how one thinks, reasons, and makes value judgments.

2. Evaluation of the adequacy of resources for the General Education Program.

3. Evaluation of the impact on transfer students of the General Education Program's requirements.


5. Evaluation of the Tier III requirements and the adequacy of the courses developed to meet the requirements."

**Procedure**

The committee requested information about the General Education Program from the Director of the Social and Economic Sciences Research Center, Dr. John Tarnai. We also requested a self-study report from the Director of General Education, Dr. Richard Law, and we met with Dr. Law and his assistant, Dr. Susan Kilgore. The committee held a series of weekly meetings with experts on various aspects of the General Education Program. A list of those who met with us appears in Appendix A. We gathered information from the wider University community by establishing an e-mail address for comments and by conducting a two-hour open meeting over WHETs. We also invited student representatives of ASWSU to a meeting. Although the representatives did not attend our meeting, at least two students attended the open meeting and several sent us e-mail comments. The report that follows summarizes the results of our efforts. It was unanimously approved by the committee.
The committee thanks all of the people who contributed to this process. We particularly thank Dorene Branson and Elizabeth Beckham who served as secretaries for the committee.

**Limitations of the Procedure**

The committee did not employ up-to-date research methods such as posting questionnaires on the WEB or conducting e-mail or telephone surveys. Our review was also entirely internal to the University. A more complete external review would provide greater perspective on the successes and failures of the program.

Our techniques may have reduced the reliability and validity of our conclusions, but they were dictated by a lack of funds. Because the committee agrees with the 1989 Report of the President's Commission on General Education which recommends that the General Education Program be reviewed every 5 years by a committee that is independent of the Program, we recommend that money be set aside to fund these periodic reviews. Reviewers from outside of the University should be included periodically in these reviews, although perhaps not every time.

Throughout this report, we will make recommendations. The recommendations are numbered to make it easier to identify particular recommendations for the purpose of discussion. The numbers do not indicate priority.

**Recommendations**

1. A fund of at least $5,000 (estimated total cost of a questionnaire on the WEB) should be established to support a review of the General Education Program by a committee that is independent of the program. These funds would be needed only once every 5-years.
2. Reviewers from outside of the University should be included in at least some of these evaluations of the program.

**The General Education Program**

We begin with an overall evaluation of the General Education Program and then discuss each component of the Program separately. We discuss problems encountered by special populations and conclude with additional comments.

**Overall Evaluation of the Program**

An ideal evaluation of the success of the General Education Program would contain information about changes in actual student performance. Appropriate control conditions would assure that improvements in performance were caused by the program rather than by other factors (e.g., student maturation). Such data are not available, but weaker data do suggest that the Program is meeting most of its goals.

Our General Education Program is respected in the academic community. It received a commendation in the recent University accreditation report. It has attracted a large amount of grant funding from prestigious sources (e.g., the National Science Foundation).
Foundation). It has been used as a model program by groups such as the Association of American Colleges and at least 12 universities have sent faculty members to study our program.

A recent study compared WSU students' self-report of their preparation in several areas of performance to similar data for students at peer institutions (North Carolina State, Texas A & M, University of Florida, University of Minnesota-Twin Cities, University of Missouri - Columbia, University of Tennessee - Knoxville and Virginia Polytechnic Institute and State University). WSU students exceeded those at peer institutions in gain in knowledge about the world, gain in awareness of other philosophies, gain in understanding of the arts, and gain in writing clearly and effectively (statistical significance, p 5). Our students were also somewhat better in seeing the importance of history and in acquaintance with literature than students at peer institutions (p 10). WSU students lagged behind those at the peer institutions only in gain in quantitative thinking (p 89). Additional evidence for the success of individual components of the program is presented in what follows.

Remarkably, although the General Education program makes up substantial percent of the total student credit requirements at WSU, no funds were set aside for the assessment of its success. The information cited above was collected largely through grant funding. Because the committee believes that the General Education Program is central to the quality of education at WSU, we believe that its success should be evaluated on an ongoing basis. Therefore, we recommend that the Director of General Education be given at least $10,000 per year specifically for ongoing evaluation of the success of the program. As will be discussed throughout this report, the rationale for the General Education Requirements is not clear to all students and advisors. This creates unnecessary hostility to the program. To reduce this problem, we recommend that a brief description of the rationale of the General Education Program be added to the University Catalogue.

Recommendations

3. Allocate $10,000 per year for the ongoing assessment of the General Education Program.
4. Add a brief description of the rationale for the General Education Program to the University Catalogue.

The Writing Requirements

The writing requirements include the writing placement examination, English 101 and its associated remedial classes (English 100 and 102), a writing component in all general education classes, the writing portfolio and examination, and the writing in the major courses. Although parts of this program fall within the English Department, much of it is the responsibility of the General Education Program.

Several data attest to the success of the writing requirements. Between 1993 and 1994, an increase occurred in the satisfaction that alumni report with their education in the area of writing. The timing of this increase corresponds well enough to the phase-in of the writing requirements to be attributed, at least in part, to the implementation of those requirements. Surveys of alumni consistently report that they are more satisfied with
their preparation in writing than with other aspects of their education. For example, the satisfaction reported by 1994 alumni was approximately 68% for writing, 66% for social sciences, 62% for humanities, 64% for sciences, and 45% for mathematics. Finally, Richard Haswell compared results on the initial writing placement examination with results on the timed proportion of the writing portfolio for a subset of students. Substantial improvement occurred between the two tests.

The committee encountered only two problems with the writing program. First, the requirement that students complete the writing portfolio before the end of their first semester with upper-level standing (ie, after 60 credit hours) is not enforced. As a result, students are completing the portfolio later and later in their careers. For example, only 17% of students complete the portfolio prior to their 75th credit hour (The Washington State University Writing Portfolio, Third Findings: June, 1997-May, 1999). This creates problems in some courses that require writing proficiency for the assignments. It also defeats the original purpose of the portfolio. Although it was conceived to serve a diagnostic purpose, it has become an exit requirement.

Second, the approximately 250 writing-in-the-major courses are not reviewed periodically. Although substantial writing is required in these courses when they are first approved, there is no guarantee that these requirements continue.

**Recommendations**

5. A mechanism should be designed for enforcing the early completion of the writing portfolio.

6. Courses approved for writing-in-the-major status should be reviewed approximately every 5 years to make sure that they continue to meet the goals of this designation.

**World Civilizations (Gen Ed 110 and 111)**

All students are required to take two courses in World Civilizations, Gen Ed 110 and 111. The courses are divided chronologically at the year 1500. Student and faculty opinions differ on the success of these two courses.

Most faculty who teach the courses evaluate them positively. They argue that students have not already mastered this material. If they had, grades would be higher. Some faculty also reject the idea that a one semester course would be a viable replacement for the current courses. The coverage would have to be reduced so substantially that the course would no longer fulfill its purpose.

Students are more skeptical. Alumni satisfaction with the World Civilizations courses is lower than satisfaction with other aspects of their education. For example, among 1995-1996 alumni, 90% were satisfied with instruction in their major; 84%, with instruction outside of their major; but only 71% of those who took the courses were satisfied with instruction in the World Civilizations courses. In addition, a report issued in April, 1997 examined the end-of-semester evaluations of approximately 200 sections of Gen Ed 110 and 111 from Fall, 1993 on. The report indicated that approximately 10% of students who complete the courses are alienated from their content, the requirement, or the instructor.
Some student dissatisfaction with these courses is to be expected. The courses are required and are taught in large sections (mean of approximately 85 students). In addition, students vary greatly in their prior knowledge of the subject matter, making the requirement more appropriate for some students than for others.

Nevertheless, ways should be sought to reduce student dissatisfaction. To begin with, the purpose of the courses might be explicitly explained to students at the beginning of the courses and then repeatedly emphasized throughout. In addition, as we will discuss, communication about many aspects of the General Education Program is poor. Preparing a short pamphlet that addresses frequently asked questions about the program would be one way of explaining the purpose of these courses and addressing some of the problems that follow.

Students might be matched to sections of the courses on the basis of interest. For example, students with strong interests in art might select a section that placed more emphasis on art. A description of the sections of the World Civilizations courses is currently available on the WEB. Its availability should be publicized more widely.

Students who are well-prepared in World Civilizations should be allowed to challenge the course by taking an examination. Such an examination was designed last year, but it has not been widely publicized. Students should be informed of this option and the World Civilizations courses should be added to the list of courses which can be challenged (published in the Time Schedule).

The quality of sections of the World Civilizations courses varies widely. High turnover among the faculty may contribute to this problem. Having a more formal introduction to the course for new faculty than currently exists might help to reduce it. For example, new teachers might be assigned a faculty mentor. The summer seminars that once provided both an orientation to the course and specific information on topics relevant to the course could also be revived.

The World Civilizations courses have been underfunded. For example, more student credit hours are taught in these courses per dollar received than in most other areas of the University. Because of budgetary problems, the program has been heavily dependent on accruals from the College of Liberal Arts (CLA). Depending on accruals makes systematic planning difficult. Temporary funds were made available by CLA and by the Provost's Office this year. These funds should be made permanent and additional funds should be allocated to reduce the section sizes of the courses to 50 students.

The World Civilizations courses also cause some problems for transfer students. These problems will be discussed in the later section on Transfer Students.

**Recommendations**

7. A short pamphlet that describes answers to frequently-asked questions about the General Education Program should be prepared. This information should be posted on the WEB.

8. The rationale for requiring the World Civilizations courses should be explained to students and advisors on a regular basis.
9. To facilitate matching of students to sections, students and advisors should be told of the description of available sections that is currently available on the WEB.

10. Students and advisors should be made aware of the availability of a challenge examination for the World Civilizations courses.

11. Establish a mentoring system for incoming teachers of Gen Ed 110 and 111 and revive the summer seminar series.

12. The temporary funds given to the General Education Program for support of the World Civilization Courses this year should be made permanent.

13. The size of all sections of World Civilizations should be reduced to 50 students.

Tier I Science Requirement

Initial planning for the General Education requirements included Tier I science courses to serve a function similar to that served by the World Civilizations courses. Unfortunately, the development of these courses proceeded slowly. To fill the void, students were allowed to meet the Tier I requirement by taking Tier II courses. This may have further discouraged development of Tier I courses. At this time, only 8 courses meet the Tier I science requirement. Although these courses are relatively new, they appear to be a good addition to the curriculum. The committee received no complaints about them and, as indicated, surveys of alumni opinion indicate that former students are satisfied with their preparation in science.

Recommendations

14. The Tier I science courses should be retained and more developed.

Tier I Mathematics Proficiency Requirement

15. Preparation in mathematics is a weak part of the General Education Program. As indicated, surveys show that alumni are relatively dissatisfied with their preparation in mathematics. Additionally, WSU students' self-report of their preparation exceeds that of students at peer institutions in most areas of performance. Our students fall behind their peers only in their preparation in quantitative thinking.

Inadequate preparation of students in high school may contribute to this problem. Evidence for inadequate high school preparation can be found in the high enrollments in Math 101, a remedial course that does not carry college credit (more than 1000 students last fall).

Additional problems may be created by the large section sizes of courses that meet the mathematics proficiency requirements (often more than 100 students). Large enrollments make it difficult to provide the individual help needed by many students.

Many students postpone the completion of the mathematics requirement until they have selected a major. This is justified because the required mathematics courses vary from major to major. However, problems arise when students who are poor in math put off completion of the mathematics requirement until very late in their program. This delays their graduation if they fail the course. Postponing the course also introduces time for them to forget the mathematics that they learned in high school. Finally, postponing the course creates problems if they enroll in other courses that require mathematics proficiency.
Our committee did not have the time and resources to precisely specify the problems with the current mathematics requirement. We recommend that a committee be formed to study the question of how to improve this situation.

**Recommendations**

Strongly recommend or require that students complete the mathematics proficiency requirement as soon as they have a clear vision of their intended majors.

16. Appoint a high level committee to study problems with the requirements and instruction in mathematics.

**Tier II**

The committee devoted little time to the Tier II requirements. We received few complaints about these courses perhaps because the requirements are flexible and they are similar to the distribution requirements that were in place for many years. Because there are so many Tier II courses, the committee also did not have the resources to undertake a complete review. However, we do believe that these courses should be periodically reviewed (e.g., every 5 years).

**Recommendations**

17. A sunset law should be created that would mandate review of all of the Tier II courses every 5 years. Rather than appoint another committee to review those courses, this review could be included in the new 5-year review of each department that has been mandated by the State.

**Capstone Courses**

The committee encountered several problems with the current capstone requirement. Some of these problems may be transient because the capstone requirement was imposed only in 1995. Therefore, it has not had time to mature. For example, many current students regard these courses as an unnecessary burden because past students did not have to take a capstone course. Only a limited number of capstone courses have been approved to date. Therefore, the capstones are concentrated in a few disciplines rather than distributed across the curriculum. Because of limited availability, some courses are also inappropriately large (e.g., greater than 100 students). The last two problems are particularly severe at the non-Pullman campuses where only a few capstones have been developed.

Other problems may be less transient. For example, students often take the capstones late in their programs when they are more focused on their majors and upcoming jobs. As a result, they often profit little from the courses. In addition, the courses were designed to integrate what students learned in their Areas of Coherence. With the elimination of the Areas of Coherence in the Spring of 1998, the capstone courses no longer "cap" anything. Therefore, students often enter these advanced courses without appropriate prerequisites. Some faculty members who teach the courses argue that the goals of the courses are no longer clear, which makes them difficult to teach and their success difficult to assess.
The committee entertained and rejected several potential solutions for these problems. First, the prerequisites for all capstone courses could be reduced to Gen Ed 110 and 111. This was rejected because these courses would not provide adequate preparation for 400-level courses in many disciplines (e.g., Physics). Therefore, the capstones would be restricted to a limited number of areas.

Second, students could be allowed to fulfill the capstone requirement by taking a capstone course in their major. In that case, students would have the appropriate prerequisites as well as some interest in the topic of the course. However, such a change would violate the fundamental reasoning behind the capstone requirement: that students can benefit from a higher level, integrative, general education experience.

Third, students could be required to take the capstone courses during their third, rather than their fourth, year of study. This would reduce complaints by students who prefer to focus on their majors late in their academic careers, but it would not overcome the problem that many students do not have the appropriate prerequisites for the capstones.

Beyond this, the committee could not reach consensus. Some members of the committee argued that the rationale for the capstone requirement is fundamentally sound; that the requirement has not been in place long enough to allow a reasonable test of its success; and that some of the current problems with the capstone requirement can be reduced. Other members of the committee believe that the capstone requirement is fatally flawed and that no amount of time or tinkering can solve the problems. Each of these positions is presented below.

**Argument 1: Retain the Capstone Requirement with Revisions**

Many members of the committee believe that an upper-level general education requirement is well justified. They argue that such a requirement is needed to integrate the student's experience in general education, to provide a research experience outside of the major field, and to force students outside of their normal modes of thinking. The stated goals of the General Education Program also involve the development of complicated skills (e.g., reason critically) which cannot be developed in introductory courses alone. Finally, the capstones provide a logical place to gather data to meet the new accountability requirements for the University. Because the capstone requirement is so new and so well justified, it should not be eliminated without first trying to correct its problems.

Some problems arise from the name, "capstone requirement". The title "capstone" is confusing because the courses no longer cap anything. Therefore, the requirement should be renamed “Tier III Requirement”.

The problem of inadequate student preparation could be reduced by developing a list of prerequisites for those Tier III courses that do not already have such a list. In many cases, the prerequisites could be stated with sufficient breadth (e.g., 6 credits of introductory social science) that most students would be adequately prepared for the courses without having to take additional prerequisites. Faculty members could be more adequately prepared to teach Tier III courses during a summer workshop. Such a workshop could acquaint them with the goals of the courses and offer ideas about ways to reach those goals.
Some of the current hostility towards the Tier III requirement could be reduced by explaining the rationale for the courses to students and to advisors. For example, the rationale could be described in the University Catalogue and in the proposed pamphlet that answers frequently-asked questions about the General Education Program.

Finally, incentives could be provided for the development of the Tier III courses. As argued, there are currently too few of these courses to meet the demand and the existing courses are concentrated in the Liberal Arts. Few new Tier III courses are currently under development. To increase the number of available courses, incentives should be provided for course development (e.g., summer fellowships or course load reductions for faculty members developing such courses).

In order to assess the success of these changes, the Tier III requirement should be reevaluated in 3 years.

**Argument 2: Eliminate the Capstone Requirement**

Other members of the committee do not believe that these recommendations would fix the current problems. They oppose the development of prerequisite lists because adding prerequisites would often have the effect of expanding the general education requirements. Such an expansion would be in addition to the new Diversity requirement. It would place a special burden on students in departments with many requirements who would not have the time to take the added courses. Adding prerequisites would increase the burden on advisors by complicating the General Education Requirements instead of simplifying them. It might also discourage the development of Tier III courses in technical areas where a larger number of prerequisites would be required. Finally, although a process is under development, the university currently has no way to check prerequisites during registration.

These committee members also argue that few new resources will be available. They prefer that any new resources that are available be spent on other aspects of the General Education Program (e.g., reducing the size of the sections of World Civilizations) rather than on fixing the Tier III requirement.

**Recommendations**

The committee proposes the adoption of one of the following recommendations.

18a. Retain the capstone requirement, but:
   a) change the name to "Tier III requirement";
   b) develop a list of prerequisites for all Tier III courses that do not already have such a list;
   c) explain the rationale for the Tier III requirement to students and advisors;
   d) encourage students to take the capstone course during their junior, rather than their senior, year;
   e) institute summer workshops to prepare faculty members to teach Tier III courses;
   f) provide incentives for developing new Tier III courses; and
   g) reevaluate the Tier III requirement in 3 years.
18b. Eliminate the Tier III requirement but integrate the existing Tier III courses into the remaining general education requirements.

Special Populations

Transfer Students

Transfer students make up approximately half of the incoming students at WSU in any year. The lower-level General Education Requirements (GERs) are waived for those students who arrive with an AA degree. The approximately 45% of transfer students who do not have an AA degree must fulfill some lower-level GER requirements.

Although the transfer guide specifies many courses at community colleges that are acceptable for GER credit, students frequently fail to take some GERs, particularly Gen Ed 110 and 111, the intercultural requirement and the new diversity requirement. As a result, they may have to take 3 to 5 additional GER courses at WSU which may slow progress towards graduation by approximately a semester.

The problem for transfer students may worsen. A new Associate of Science degree is contemplated. Instituting this degree would reduce the number of students graduating with an AA degree. Students with the Associate of Science degree would probably not receive full credit for the GERs because this degree would require fewer general education courses than the current AA degree.

Policies at the University of Washington also create challenges for us. Most community college courses now receive general education equivalency credits at UW. This reduces the number of "true" general education courses that students take at the community colleges which, in turn, increases the number of general education courses that they will have to take if they enroll at WSU. As a result, students may be discouraged from transferring here.

The requirements for some of our majors also create problems for transfer students. For example, some majors require mathematics courses that do not meet the GER requirement (e.g., Math 107). Therefore, students in those majors must take at least two mathematics courses. Some majors also specify which GER courses their majors must take. This may create problems for both transfer and native students who change majors.

Rule 6, part F (p. 98, Fall 1999 Time Schedule) creates additional problems. It is interpreted as stating that if students complete 15 semester credits or more at WSU, then the AA degree will not transfer as a block. Instead, transcripts will be evaluated on a course by course basis. This rule discourages enrollment at WSU because some students would like to take courses in their major at WSU while still enrolled at the community college. However, they cannot do this for fear of completing 15 credits before finishing their AAAs. The committee assumes that this rule was instituted to discourage students from returning to the community colleges after they enrolled at WSU. However, this goal could be achieved in other ways (e.g., limiting the number of credits that can be transferred from the community colleges).
As a final problem, advanced transfer students object to taking the World Civilizations courses. Because many transfer students arrive with advanced status, the material in these courses is often too elementary for them and they are in class with much less experienced students.

Because of the importance of transfer students to the future of WSU, the committee recommends several measures that could reduce these problems. First, to bring our requirements in closer agreement with those at the University of Washington, community college courses should be accepted more flexibly for GER credit. One suggestion that we heard was to accept anything that meets a general education requirement at a community college on a credit by credit basis. To some extent, this would only formalize what is already done. Many GER requirements are currently waived through a petition process but this is not widely known.

The committee believes that decisions about requirements for majors should be made by departments. Nevertheless, departments might be encouraged to reexamine the requirements for their major to see if they could be more flexibly integrated with the GER requirements.

Stronger efforts should be made to make the GER curriculum clearer to students and advisors at the community colleges. The Cougar TRACS system is an important part of this effort that should be improved and publicized as widely as possible. This system allows community college students to list the courses that they have taken. In return, they receive an e-mail report on the requirements that they have met and the requirements that remain if they enroll at WSU. Students can request reports on several potential majors.

Advanced transfer students should be allowed to take specific upper level courses, or a single-semester junior-level course could be developed, to substitute for Gen Ed 110 and 111. The Director of General Education has been flexible about allowing transfer students to take upper level courses as substitutes for World Civilizations. However, this policy needs to be formalized and publicized. Many students do not know that substitution is possible. Developing a single-semester substitute would have the advantage that such a course could also contain a research component that is currently lacking in the training of many transfer students.

Finally, the availability of the Transfer Center in SALC should be publicized more widely. This center exists specifically to help transfer students in their transition to WSU. However, its existence is not well known.

**Recommendations**

19. Be more flexible in accepting transfer credits for GER credit. Consider accepting courses that qualify for other institution’s general education credits on a credit by credit basis.

20. Encourage departments to examine their requirements for majors to see if they can be more flexibly integrated with the GER requirements.

21. Continue the development of Cougar TRACS and publicize it more widely.
22. Permit advanced transfer students (45 or more credits) to substitute upper-level courses for Gen Ed 110 and 111 or develop an upper-level single-semester substitute for these courses. Publicize the availability of these options in the time schedule and catalogue.

23. Eliminate Rule 6, part F (p. 98, Fall 1999 Time Schedule).

24. Publicize the availability of the services of the Transfer Center more widely.

**Multi-campus System**

Students at Campuses other than Pullman share the problems of transfer students because they are all transfer students. Problems at the non-Pullman campuses are further exacerbated because only approximately half of their students enter from local community colleges. Others come from colleges all over the country, making it impossible to form adequate liaisons. Spokane is an exception. Most of its students currently transfer to that campus from Pullman and, therefore, have fewer problems with the GERs than other students. However, the number of students transferring to Spokane from the community colleges is increasing. A few Spokane students also planned to graduate from Eastern Washington University and therefore failed to prepare to meet WSU's GER requirements.

Developing a 300-level substitute for World Civilizations may be particularly important for the non-Pullman Campuses. Their students all have junior or senior status and are too advanced to profit from a 100-level course. The students may also go back to the community colleges to take these courses which reduces enrollments at WSU.

Problems in the multi-campus system might be reduced by appointing a local representative of the General Education Program at each Campus. Such a person could waive requirements or make substitutions as necessary. (S)he could also encourage the development of GER courses. Some campuses already have a liaison. Tim Hunt serves in this capacity at Vancouver and Fredrick Peterson and Joan Menzies serve at Spokane. However, this should be formalized and extended to the Tri-cities Campus.

**Recommendations**

25. Establish a local representative of the General Education Program at each of the non-Pullman campuses.

**Extended Degree Program**

The current GERs create few problems for students in the Extended Degree Program (EDP). Many GERs are already offered in this program, and the Director of General Education has been flexible about allowing substitutions for those that are not. One existing problem was also remedied. Gen Ed 111 has not been available in the past, but it is offered now.

EDP students share at least one problem with transfer students. Many EDP students enter with 60 or more credits. Therefore, they regard Gen Ed 110 and 111 as too elementary. Again, this problem could be overcome by developing either a list of 300-level substitutes, or a specific single-semester substitute, for these courses. Adopting this recommendation would also reduce another problem that EDP students encounter. They often have too few 300-level courses.
Recommendations

26. Develop a 300-level single-semester substitute for the World Civilizations courses or develop a list of appropriate substitutes.

Other Issues

Advising

The introduction of the General Education Program created difficulty for advisors. The program is complex and, because it was phased in, the requirements differ for students who began their educations at different times. To some extent, advising problems are created by any new program. The complexity of the advising problem was also reduced by the elimination of the Areas of Coherence. Nevertheless, to reduce the problem created by fluctuating requirements, new requirements should not be introduced unless they pass stringent tests of necessity.

The Director of General Education should also make the requirements and purpose of the program clearer to advisors. Some dissatisfaction with the current program would undoubtedly be reduced if students understood that they are unlikely to spend their lives working in the area of their majors. Communicating simple statistics, such as that they are likely to change jobs 6 to 8 times over their careers, might make the importance of general education clearer.

Although it is beyond the scope of our report, advising could be improved at WSU. The committee notes that a report was recently issued by the Provost's Commission on Advising. We suggest that the recommendations of that report be seriously examined.

Recommendations

27. New general education requirements should not be introduced unless they pass stringent tests of necessity.

28. The Director of General Education should make the requirements and purpose of the program clearer to advisors.

Faculty Development

The rate of faculty turnover is high in the General Education Program. To give one example, approximately 600 people have enrolled in the workshops that help faculty who teach writing courses. Only approximately 180 of those faculty members are still at the University. This turnover combined with the observation that the General Education Program draws faculty members from many different disciplines, suggests that there is an unusually large need for funds for faculty development to maintain quality control.

Recommendations

29. Additional funds should be allocated to the General Education Program for faculty development.
Recruitment and Retention

Few data are available to assess whether the General Education program is helpful or harmful in recruiting students to, and retaining them at, the University. Information about the success of the General Education Program might be helpful in recruitment. The program is unique and, as mentioned, it has received considerable funding and attention from outside sources. Therefore, more widely publicizing this program might help to recruit students.

Additional information about the role of the program in recruitment and retention should be collected as part of the assessment of the success of the program. For example, some of the non-Pullman campuses do a lost market survey each year to determine why some admitted students do not enroll. Students usually cite problems with departmental requirements, rather than with the General Education Requirements. Such information should be systematically collected.

Recommendations

30. Use information about the General Education Program more systematically in recruiting students to the University.
31. Assess the role of the General Education Program in recruiting and retaining students.

The Place of General Education in the University Structure

The place of General Education in the University structure is currently under consideration. The committee reaffirms the current location of the program in the Provost's Office. The program is part of the central mission of the University and it draws on the expertise of faculty in all colleges. Therefore, it seems most appropriately located at the central level.

A more limited question concerns whether the World Civilizations Program should be housed entirely in the College of Liberal Arts (CLA). Currently, the program receives some funds from the College and some from the Provost's Office. Moving all of the funding to CLA would solve several problems. It would consolidate the budget in one place. It would give the Dean appropriate control over the quality of a program in her college. It would also make the funding of the Liberal Arts part of the program similar to the funding of other parts of the program. Other parts are budgeted in the colleges that deliver them. However, putting all of the funds for World Civilizations in CLA could have the negative consequence of discouraging participation by faculty members from other colleges in the World Civilizations Program. Other deans would have no reason to allow their faculty members to teach a course for which CLA receives credit and funding.

The Committee has two additional concerns that should be considered before consolidating the budget for World Civilizations in CLA. First, the temporary funds that were allocated to the World Civilizations program this year should be made permanent. This would avoid transferring an underfunded program to a College that is already suffering budgetary problems. Second, consolidation should not occur until a committee
studies the problems with the mathematics requirement. One potential explanation for the problem in mathematics is that the College of Sciences and the Department of Mathematics understandably prioritize their own programs over the General Education Program. As a result, resources needed by General Education courses are not available. If that is the case, an argument could be made for moving part of the budget for other aspects of the General Education courses from the College to the Provost's Office, rather than consolidating funding for the World Civilizations courses in CLA.

Recommendations

32. This year's temporary funds for the General Education Program for support of the World Civilization Courses should be made permanent.
33. Postpone a decision about consolidating the budget for the World Civilizations courses in CLA until a committee can study the problems with the General Education courses in mathematics.

Summary of Recommendations

Additional funding

1. and 2. Establish a fund of at least $5,000 to support a review of the General Education Program every 5 years. Include outside reviewers in at least some of these evaluations, requiring additional money whenever an outside review is conducted.
3. Allocate at least $10,000 per year for assessing the success of the General Education Program.
12 and 32. Make permanent the temporary funds that were allocated to the General Education Program for support of the World Civilizations courses this year.
13. Allocate resources adequate to reduce the size of all sections of the Worlds Civilizations courses to 50 students.
29. Provide additional funds to the General Education Program for faculty development. Periodic reviews (e.g., every 5 years).
1. and 2. Conduct periodic reviews of the General Education Program. Occasionally, these reviews should include external reviewers.
6. Review courses approved for writing-in-the-major status every 5 years to make sure that they continue to meet the goals of this designation.
17. Create a sunset clause that mandates the review of Tier II courses every 5 years.

Other recommendation

4. Add a description of the rationale of the General Education Program to the University Catalogue.
5. A mechanism should be designed for enforcing the early completion of the writing portfolio.
7. Prepare a pamphlet that answers frequently-asked questions about the General Education Program and also post the information on the WEB.
8. Explain the rationale for requiring the World Civilizations courses to students and advisors on a regular basis.
9. Facilitate matching of students to sections of Gen Ed 110 and 111 by informing students and advisors about the description of sections that is currently available on the WEB.

10. Inform students and advisors of the availability of a challenge examination for Gen Ed 110 and 111.

11. Establish a mentoring system incoming teachers to Gen Ed 110 and 111 and revive the summer seminar series.

14. Retain the Tier I science courses and develop more.

15. Strongly recommend or require students to complete the mathematics proficiency requirement as soon as they have selected a major.

16. Appoint a high level committee to study problems with the requirements and instruction in mathematics.

18a. Retain the capstone requirement, but:
   a) change the name to "Tier III requirement";
   b) develop a list of prerequisites for all Tier III courses that do not already have such a list;
   c) explain the rationale for the requirement to students and advisors;
   d) encourage students to take the capstone course during their junior, rather than their senior, year;
   e) institute summer workshops to prepare faculty members to teach Tier III courses;
   f) provide incentives for developing new Tier III courses; and
   g) reevaluate the Tier III requirement in 3 years.

18b. Eliminate the capstone requirement but integrate the existing capstone courses into the remaining general education requirement.

19. More flexibly accept transfer courses for GER credit. Courses that qualify for other institution’s general education credit might be accepted on a credit by credit basis here.

20. Encourage departments to examine their requirements for majors to see if those requirements can be more flexibly integrated with the GER requirements.

21. Continue the development of the Cougar TRACS system and publicize it more widely.

22. Allow advanced transfer (45 or more credits) students to take specific upper level courses to substitute for the World Civilizations courses or develop a single-semester upper-level course to substitute for the World Civilizations courses. Publicize these options in the time schedule and catalogue.

23. Eliminate Rule 6, part F (p. 98, Fall 1999 Time Schedule).

24. Publicize the availability of the Transfer Center more widely.

25. Establish a local representative of the General Education Program at each of the non-Pullman campuses.

27. Do not introduce new General Education requirements unless they pass stringent tests of necessity.

28. Explain the requirements and purpose of the General Education Program more clearly to advisors.

30. Use information about the General Education Program more systematically to recruit students.

31. Systematically assess the role of the General Education Program in recruiting and retaining students.
33. Postpone a decision about consolidating the budget for the World Civilizations Courses in CLA until a committee can study the problems with the General Education courses in mathematics.

Appendix A

People Who Spoke to the Committee During Our Meetings
Douglas Baker
Fritz Blackwell
Peter Burke
Barbara Couture
Alan Genz
Gregory Hooks
Steven Kale
Janet Kendall
Susan Kilgore
Richard Law
Michael Reilly
Jane Parker
Eugene Rosa
Stephanie Sacker
Jane Sherman
Marvin Slind
Bobbie Thomas
Mary Watrous
Paul Whitney

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Motion carried.

5. Recommendation from Academic Affairs Committee for Revision to Rule 73a Absences
Exhibit E from 3/9/00 agenda is as follows:

MEMORANDUM
TO: Thomas Brigham, Executive Secretary
Faculty Senate
FROM: Academic Affairs Committee
DATE: 23 February 2000
SUBJECT: Academic Regulation 73(a)
73. ABSENCES. Absences impede a student's academic progress and should be avoided.
(a) An instructor shall report flagrant cases of absences in any course to the chairperson of the student's major department or the Vice Provost for Student Affairs.
At this time, Faculty Senate review and approval of the proposal to revise Academic Regulation No. 73(a) is recommended, to be effective fall 2000.

****

Motion carried.
MEMORANDUM
TO: Thomas Brigham, Executive Secretary
    Faculty Senate
FROM: Becky Bitter, Assistant Registrar
FOR: Academic Affairs Committee
DATE: 8 March 2000
SUBJECT: Proposal to Extend the Bachelor of Science in Manufacturing Engineering to Vancouver, at Boeing

At its meeting on 8 March 2000, the Academic Affairs Committee approved the proposal to extend the Bachelor of Science in Manufacturing Engineering to Vancouver, at Boeing.

Members of the AAC approved the Bachelor of Science in Manufacturing Engineering to Vancouver, at Boeing following discussion and after receiving approval from the Budget Committee, the Catalog Subcommittee, and the Library Committee.

At this time, Faculty Senate review and approval is recommended, to be effective fall 2000.

PROGRAM PROPOSAL
Bachelor of Science in Manufacturing Engineering at the Boeing Company

I. INTRODUCTION

The Boeing Company receives supplications from many colleges and universities. WSU has been selected by the Boeing Ed Wells Initiative Committee to offer the Bachelor of Science in Manufacturing Engineering to Boeing employees because manufacturing engineering is the appropriate program for Boeing at this time, because we have infrastructure (WHETS) and experience for distance learning, and because WSU engineering graduates have proven themselves with the Boeing Company. This selection provides additional strong affirmation of the quality of WSU’s young program in Manufacturing Engineering.

During 1997 and 1998 the Boeing Company was encountering major production problems in building commercial jet airplanes, especially the popular 737 and 767 models. Orders were received and accepted faster than the Company could hire and train men and women to manufacture them. The merger with McDonald Douglas amplified the problem. In the recent past the company has hired tens of thousands of new workers, not all of them well schooled in Boeing’s art of making jet aircraft. Securing trained manufacturing engineers is a crucial step for Boeing to achieve adequate production levels. Thus in December of 1997 the Ed Wells Initiative Committee invited WSU to develop the new Bachelor of Science degree for the set of Boeing’s technical workforce that the company identifies as “non-degreed engineers” (Appendix 1).
II. PROGRAM NEED

Distance Learning and Continuing Education

In 1996, 1,218 four-year colleges and universities in the US offered distance learning courses and served 1.3 million students. The number is expected to grow to 11.6 million students by the year 2000. Nine institutions offer degree programs entirely at a distance, by which students can earn their degrees without ever having to visit the campus. These include Boise State University, New York Institute of Technology, Rochester Institute of technology, and the University of Maryland. Distance education is seen as a solution to the growing need for worker retraining at a time when the shelf life of many degrees - particularly engineering - is short. Rensselaer Polytechnic Institute has 950 students enrolled in graduate distance courses in 1998; all of the courses are delivered directly to the workplace at such companies as General Electric, Lockheed-Martin, and I.B.M. George Washington University offers several graduate distance programs as well as an undergraduate degree completion program offered through the U.S. Defense Department to military personnel worldwide. The University of Maryland’s University Campus, designed to serve adult students, has approximately 8,000 distance learners this year, out of 30,000 students enrolled in its programs, encompassing almost every major.

Programs for Working Students

The Bachelor’s degree in Manufacturing Engineering at WSU Vancouver is already packaged to accommodate working adult (“placebound”) students. Figure 1 illustrates this approach for Spring Semester 1998, as follows. The needs of most students at branch campuses differ significantly from the needs of students residing at the University’s Pullman campus. Most students enrolled in the MFG E program at WSUV are full time employees who are looking for an engineering degree to gain advancement or promotions from their current position. In response, manufacturing engineering classes at WSUV have been scheduled – within the flexibility of operating constraints – to accommodate the schedules of working students. This accommodation has meant (as illustrated by Figure 1)

- packaging classes to meet once or twice per week;
- scheduling classes in evenings or early morning; and
- grouping classes in blocks to minimize student commuting trips.

The program at Boeing thus fits within the program objective of educating placebound students, with the additional sub-category of distance learning at industrial sites.
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Figure 1. Packaging Classes for Place-bound Students: Spring Semester 1998 Schedule
Enrollment Projections
Potential Boeing students (number, educational profiles, preferred class times, etc.) were identified and characterized from responses to a survey that was distributed at on-site information meetings at several Boeing sites in the Puget Sound Region. The survey, or needs assessment, was based on a format developed by WSUV Professor Brent Steel (Political Science). Statistical methods were used to estimate the significance of the results. A copy of the survey instrument can be found in Appendix II.

Approximately 750 Boeing employees attended the meetings. WSU Vancouver received approximately 320 written requests for WSU application forms; and the WSUV Manufacturing Engineering web page received more than 1000 “hits” since we began publicizing the program to Boeing. At the end of May, WSUV had received 16 applications from Boeing employees.

The results from the survey indicate that 79 prospective students were “very interested” in the program and 46 were “somewhat interested”. Based on WSU Vancouver experience, it is the “very interested” that are most likely to formally apply to the program. Of the “very interested” students, 55 (69.6 percent) indicated they were likely to enroll immediately. Their reason for wanting to enroll is primarily for promotional purposes (43.9 percent) followed by “self fulfillment” (18.7 percent) and “employment purposes” (17.9 percent). These findings are similar to the results of the recent WSU Vancouver MPA Needs Assessment survey. The survey confirms that the typical Boeing student would be comparable to Manufacturing Engineering students at WSU Vancouver in several ways:

- Working full time and “place bound”
- Needs/prefers evening classes (81 percent approximately)
- Has a diverse background (34 percent approximately have completed an AA degree)
- Over half received their degrees prior to 1989.

III. PROGRAM DESCRIPTION

Mission
Washington State University’s Manufacturing Engineering Program is located on the Vancouver Campus. The mission of this program is to offer an accredited engineering degree program to students in the Vancouver - Portland metropolitan region, and through distance education, to other interested students in Washington State. The purpose of this program is to provide a Manufacturing Engineering education based on the application of mechanical engineering fundamentals. Graduates from this program will be educated for responsible, informed citizenship and prepared for employment in manufacturing or to continue their education in graduate school.

Modern Manufacturing is accomplished by means of complex systems of machines augmented by human labor. Manufacturing engineers make extensive use of mechanical engineering principles to create, operate and optimize highly machine dependent manufacturing systems. The MFG E program builds upon the same lower division foundation as Mechanical Engineering at WSU. The course of study retains the
mechanical engineering emphasis on design; however, the focus is on product design for manufacture, design of a manufacturing process, a mechanical element of a manufacturing process, tooling for manufacturing, and machine integration and control. The students learn to work in teams with all of the disciplines involved with manufacturing, using frameworks such as concurrent engineering and total quality management (TQM). The curriculum also prepares students for continued education at the graduate level in mechanical or manufacturing engineering.

**Educational Objectives**

Program objectives were derived from “ABET 2000,” SME Competency Gaps,” and the MME Industrial Advisory Board. The objectives for the Boeing program, are of course, the same as the objectives for the program at Vancouver:

1. To provide an ABET accredited engineering degree program in Manufacturing Engineering to the “place-bound” students of the region.
2. To provide a transition for transfer students from community and four-year colleges into our undergraduate program.
3. To provide the students with an understanding of and the ability to apply relevant fundamental mathematical and scientific concepts to engineering problems.
4. To provide a working knowledge of basic engineering and business principles that are fundamental to the practice of manufacturing engineering.
5. To provide the students with an understanding of the processes used in modern manufacturing, the affects those processes have on the materials used, and how the materials influence the manufacturing processes.
6. To provide laboratory experience (including the use of computers) in designing and conducting experiments for investigation of manufacturing phenomena and in designing and implementing manufacturing systems.
7. To develop in the students the ability to identify, define and solve problems encountered in practice.
8. To develop in the students the ability to apply appropriate technical knowledge and creativity to the design of products, manufacturing processes, tools and systems to meet the situation requirements in an efficient, cost-effective and timely manner.
9. To develop in the students the ability to communicate effectively both orally and in writing, and to function effectively in multi-disciplinary teams.
10. To provide an understanding of the professional responsibilities for the practice of engineering in the contemporary corporate context including social, economic, ethical and environmental issues.
11. To provide an environment within the program that instills in the students a sense of professionalism and recognition of the need for and the capacity to pursue life-long learning.
12. To provide a program that prepares students for advanced studies, if they choose to pursue graduate education.

Our process for assuring attainment of the learning objectives leads to the curriculum design shown in Table 1.
Certification

Students who have completed at least 30 semester hours of course work and who have completed Eng 101, Math 171, Math 172 or Chem 105,106, Phys 201, 202, ME 103, CE 211, or their equivalents are eligible to apply for certification into the Mechanical Engineering Program. Applications for certification are reviewed by a departmental committee. When it becomes necessary to limit enrollment, the overall g.p.a. as well as the g.p.a. for the prerequisite courses listed above, will be important factors. Students who have not completed all of the prerequisite courses will be placed in a pre-engineering classification. Additional details and application forms are available from the department.

Upper division courses in Manufacturing Engineering develop the ability to define requirements, apply engineering design tools to manufacturing, conduct critical analyses of results, and optimize the final product. The sequence of required design courses includes Systems Design (ME 316), Machine Design (ME 414), Seminar in Manufacturing (ME 400), and Capstone Design (ME 420). Manufacturing processes are mastered in ME 310, 311, 410 & 474; manufacturing systems skills are developed in EE 305, ME 375 & 475; and business skills are introduced in ME 325, CE 463, ME 400 and Engl. 402. Supplemental tools are provided in elective classes including Computer Aided Design (ME 473), Quality Control and Reliability Design (EM 480), Manufacturing and Operations Design and Strategy (EM 460), Design for Manufacturability (EM 490), and Industrial Ecology & Design for Environment (ME 476). A minor in MFG E requires 16 credits of 300-400 level ME courses, from the following courses: ME 303, 310, 325, 375, 404, 474, 475.

Manufacturing Engineering Electives

Additional elective courses will permit students to select a specialization area appropriate to their current employer, or to prepare for a particular manufacturing sector. Specialization areas include microelectronics fabrication, quality, forming and fabricating, or robotics and automation, selected from the list in Table 1.

### Table 1. Manufacturing Engineering Curriculum by Modules

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<th>Mathematics (15 credits)</th>
<th>Materials and Manufacturing Processes (12 credits)</th>
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<td>Math 171 Calculus I</td>
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<td>Chem 105 Chemistry I</td>
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<td>CE 212 Dynamics</td>
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### Faculty Senate Minutes
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| CE 215 | Mechanics of Materials | CE 463 | Engineering Administration |
| ME 303 | Fluid Dynamics          | ME 400 | Seminar in Manufacturing   |
| ME 404 | Heat Transfer           | Engl 402 | Technical Writing        |
| EE 304 | Electrical Circuits     |        |                           |

| **Computer Graphics and Design (14 credits)** | **General Education Requirements (21 credits)** |
| ME 103 | Engineering Graphics    | Engl 101 | Introductory Writing     |
| ME 120 | Innovation in Design    | GenEd 110,111 |                     |
| ME 316 | Systems Design          | BioS GER | Biological Science      |
| ME 414 | Machine Design          | GER (2)  | Arts/Humanities/Intercultural |
| ME 416 | Capstone Design Project | Tier III | Capstone Course         |

| **Manufacturing Engineering Electives (6 credits)** |
| ME 3xx (new) | Metrology (w/lab)   |
| ME 3xx (new) | Electronics Assembly |
| EE 478     | Microelectronics Fabrication |
| EM 460     | Manufacturing and Operations Design and Strategy |
| ME 442     | Robotics             |
| ME 4xx (new) | Computer Integrated Manufacturing |
| ME 472     | Finite Element Methods in Design |
| ME 473     | Computer Aided Design |
| ME 490     | Design for Manufacturability |
| ME 4xx (new) | Materials Handling |
| EM 480     | Quality Control & Reliability Design |
| EM 485     | Quality Engineering Using Experimental Design |
| ME 476     | Industrial Ecology and Sustainability in Manufacturing |
| ME 495     | Internship in Manufacturing Industry |
| Math 416   | Simulation and Modeling |

### Relationship to Other Higher Education Institutions

1. **Baccalaureate and graduate schools**

The Boeing educational program is sponsoring education leading to Masters degrees in Manufacturing Engineering from the University of Washington and New Mexico State University. These two programs are structured differently to give the students a spectrum of choices. The UW program emphasizes engineering science and the NMSU program emphasizes more business training. Each of these programs is delivered via taped lectures in Boeing classrooms, and facilitated by a Boeing TA. The UW classes also are delivered live over the ITFS system. The WSU BS MFG E program will qualify graduates for entry into these programs, as well as into the Master of Engineering Management degree from WSU.

Boeing has also asked Oregon Institute of Technology (OIT) to offer a Bachelor of Science in Manufacturing Engineering Technology to Boeing employees. Boeing management asked WSU to work cooperatively with WSU and OIT to achieve economies wherever possible by combining lecture and/or laboratory classes. Discussions with UW and OIT faculty and administrators are ongoing, as well as with Seattle University Engineering.
2. Community Colleges

Certain of the laboratory classes for Boeing will be conducted at Puget Sound area community colleges, following the pattern established between WSU Vancouver and Clark College. Other laboratory classes require more specialized equipment and demand special consideration. Several approaches for offering laboratory classes at a distance will be discussed in Section IV.

The WSUV campus is approximately six miles from Clark College. Clark has a healthy Engineering Transfer program as mentioned earlier, plus an exceptionally well-equipped Applied Technology (AT) program. Clark's administration and faculty have welcomed the arrival of WSUV as a win-win and thus have been eager to work with us; for example, by opening Clark IT shops for WSUV engineering laboratory classes. The prototype class was Manufacturing Processes (ME 311), which meets once per week for three hours. Clark IT instructors agreed to participate in the WSU class, to help the WSU adjunct faculty locate materials, set up and troubleshoot manufacturing equipment, and assure access to the facilities. WSU reimburses Clark for the extra time spent by the AT instructors.

The cooperative effort has gone quite smoothly, despite the fact that Clark is on a quarter system and WSU on semesters. In fact the mixing of engineering and technology education on the Clark campus is helping to publicize the WSUV program. This model is being replicated at community colleges in the Puget Sound region to enable some of the laboratory classes (ME 311 and 410 in particular) for the program offering to Boeing.

3. Engineering Transfer Program

At WSU Vancouver all lower division science and engineering courses, and GER except Tier III, are provided by community colleges. Quality of the lower division programs is assured by the Statewide Transfer Program. In Vancouver the principal “feeder schools” are Clark College in Vancouver and Lower Columbia College in Longview.

Many of the applicants from Boeing will need to complete lower division coursework before they are ready for WSU. We are helping them by supplying self-evaluation sheets and meetings with a WSU advisor if necessary. In the Puget Sound region there are several community colleges that offer Engineering Transfer programs; however, not all of them are also equipped to host laboratory classes. Courses in the Engineering Transfer programs at each participating college are listed in the Transfer Guide. After site visits and discussions with faculty and administration, on the basis of their ability and commitment to replicating the successful WSUV – Clark College experience, we have selected Everett and Green River Community Colleges as our partners for the Boeing program. This does not mean that students must take their lower division transfer courses at EvCC or GRCC, but these colleges are eager to attract Boeing employees into their engineering programs, and are willing to host WSU lab classes as a means to that end.
IV. PROGRAM OPERATION

Program Administration
The program at Boeing will be directed by an oversight team from the College of Engineering and Architecture. Dr. Jack Swarengen, Associate Professor of Mechanical and Materials Engineering and Coordinator of Manufacturing Engineering at WSU Vancouver will serve as program leader. Dr. B.R. Ramaprian, Acting Director of the School of Mechanical and Materials Engineering will oversee the academic and programmatic content of the program. Professor David Hutton, Boeing Professor of Manufacturing in MME will serve as program advisor, and Ms. Laurel Rea serves as program coordinator on a half-time basis. MME Coordinator Prof. Russell Westphal at WSU TC has taught several classes on WHETS to Boeing employees and has expressed a desire for TC and Vancouver to cooperate on classes between the two branch campuses and to Boeing. More recently WSU Spokane has expressed interest in participating.

The Coordinator of MFG E at WSU Vancouver is responsible for training the program faculty to provide sound academic advising for students, scheduling classes in a manner that will allow students to complete the program in a timely manner, providing the MME Director with the necessary information to assess the program’s quality and plan for its further development, and (in general) ensuring that faculty and students meet the obligations of the program and university. As the program grows, it may become cost-effective to have a full-time resident administrator on site in the Puget Sound area.

Faculty
All of the three-credit classes (lecture and lecture with lab) will be provided by WSU engineering faculty at (or from) Vancouver (Table 3), Tri-Cities, and Spokane. Teaching Assistants will be provided at Boeing sites as needed, depending upon the size of the classes. These TAs will be either Boeing engineers or graduate students who are enrolled in the Masters program in Manufacturing Engineering at UW. Until it can be assured that the infrastructure (classrooms, teaching assistants, and faculty workload) is sufficient to assure the quality of the educational experience, classes initially will be capped at a total enrollment of 15 students. Laboratory classes require special consideration; proposed approaches will be described below.

Table 4. Manufacturing Engineering Faculty at WSU Vancouver

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<thead>
<tr>
<th>Name</th>
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<td>Jack Swarengen</td>
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<tr>
<td>new hire (8/00)</td>
<td>Asst. Prof</td>
<td>Full time</td>
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Admission and Advising
The Boeing Company requires a minimum grade of C minus for employees to qualify for tuition reimbursement. Boeing applicants will apply to WSU using Extended Degree Programs on-line procedures, and EDP will work with Admissions to complete the GER
evaluations and set up a DARS record. Certification into MFG E will be done by Professor David Stock and Annette Cavalieri in MME in Pullman. Once the initial evaluation is complete, WSU Vancouver faculty will assume responsibility for advising the student through coursework leading to the BS MFG E degree. In-person advising will be available to students through scheduled visits of the teaching faculty, who will travel to the Boeing sites twice each semester for advising and teaching. The program coordinator at WSUV will maintain personal contact with the Boeing students to facilitate the admissions and registration processes, and will review records and plans at the beginning of each term to ensure that each student is making satisfactory progress toward the degree.

In summary, the office of Extended Degree Programs (EDP) in Pullman is responsible for the following activities:

- coordinating admissions to the University and assessing GERs
- class registration and withdrawals
- scheduling WHETS and BEN classrooms and links, including K-20 sites as necessary
- faculty training for WHETS classes
- course support: materials distribution, exam proctoring, classroom quality
- collecting special fees and billing Boeing for reimbursable items

The WSU Vancouver MFG E Program Coordinator will be responsible for

- ensuring academic program content
- developing the capability to deliver laboratory classes at distance
- developing relationships with partner educational institutions in Puget Sound region
- reporting progress to Boeing management
- maintaining student records and advising
- Planning class schedules within constraints
- assigning faculty to classes
- reporting progress to MME and CEA

Diversity
WSU has an institution-wide commitment to increasing diversity, and the program in Manufacturing Engineering will participate fully in all of the university’s activities to recruit and retain a diverse faculty and student body and to provide all students with a learning environment where diversity is not only tolerated but respected and supported.

At WSU Vancouver a senior-level administrator promotes, coordinates, and monitors programs to achieve ethnic and racial diversity in an effective and timely manner. The campus also has a student services specialist who serves as a liaison to the Disabled Students Services Office, who has organized a multicultural study group to make recommendations for improving recruitment and retention of minority students, and who works with the State Schools for the Blind and Deaf (both located in Vancouver) to provide institutional support for students from these institutions making the transition to WSU Vancouver. WSU Vancouver is working on plans for minority career fairs to increase networking with local governments and non-profit organizations.
The Manufacturing Engineering program will continue to make special efforts to recruit and retain students who are persons of color or disability. The program administration and staff maintain an aggressive non-discriminatory policy, both in written materials (i.e., brochures, advertisements, posters) and in the interpersonal recruiting and advising. Efforts to retain such students after enrollment will include identification of mentors who can work directly with students to assist them with resolution of academic or other problems, while providing a sense of belonging to the program. In this endeavor we will work cooperatively with the “People Organization” (human resources) at Boeing.

Facilities and Support

1. Library
The WSU Vancouver Library will provide the Boeing Manufacturing Engineering students with access to its local collection and to the greater WSU Libraries' collections through Griffin, the libraries' web-based catalog. Boeing students will also be able to directly access the licensed WSUV journal literature databases, and numerous WSU Libraries system-wide site-licensed databases, from any Internet Service Provider (ISP) through remote user authentication programs based at both WSU Vancouver and WSU Pullman. WSUV/Boeing students will be able to request WSU Libraries' material through the use of secure electronic document delivery request forms on the WSUV Library website. These students will be assigned a local WSU Vancouver reference librarian, who will be responsive to email and telephone reference requests.

The WSU Vancouver Library is presently supporting the Manufacturing Engineering degree on the Vancouver campus. The WSUV Library is focusing its collection development efforts on the engineering, computer science, and science areas, as these are the newest WSUV programs. Ten percent of the monographic acquisitions budget in 1998/1999 and 21%, so far, in 1999/2000 has been spent on the WSU Vancouver engineering program. The library is also building a core local journal collection. In 1999/2000 the Library is spending eight percent ($9000) of its serials budget on engineering, and this amount will increase in the following fiscal year. All WSU branch campus libraries use the main collections in Pullman to supplement their local core collections.

The WSUV Library provides access to EI Compendex Web, the major engineering index through PORTALS, a Portland/Vancouver library consortium. Management literature is available through ABI/INFORM via Proquest, a database with many fulltext articles. Access to very current literature references is provided through Current Contents online and CARL UnCover. Numerous other technical databases are available to WSUV students via the web interface. WSUV and WSU Pullman are working together to try to secure access to Inspec, an major resource for electrical engineering. The WSU Vancouver Library employs an Engineering/Sciences subject specialist librarian to support this Boeing program and the on-campus engineering programs.

The Boeing Company has a excellent technical libraries currently located in Kent, Bellevue, Renton, and in their Corporate Center, staffed by 24 librarians and 24 technicians. All Boeing employees are entitled to unlimited use of the technical libraries which house over 5,000 periodicals and magazines and 150,000 volumes ranging from highly technical subjects to management and techniques. (The Boeing Mission Statement
and Library Services brochure is displayed in Appendix III.) The WSU Vancouver Library and the Boeing Technical Libraries are working cooperatively to organize responsive library services for the WSUV/Boeing students. Boeing librarian will provide assistance to WSUV/Boeing students in accessing WSUV and WSU Pullman resources from the Boeing libraries. There is a need however to provide document delivery for material not owned at Boeing. There will need to be a document delivery and circulation management service arrangement between Boeing, Vancouver, and the other WSU libraries. WSU Vancouver Library will manage this function. The estimated cost for these document delivery and circulation management services (postage and staffing) is $8,000 per year in the fourth year. As with other WSU distance learners, Boeing students may use their WSU ID card to borrow from other university libraries. Boeing students may also find important resources at the University of Washington.

Because the WSUV Library is already developing its Manufacturing Engineering collection based on the earlier approval of this BS program at the WSU Vancouver campus the library will not need additional collection development funds for the Boeing program.

2. Computing Services
Students in the Manufacturing Engineering program are expected to have regular access to personal computers, with world wide web and e-mail accounts. The students from Boeing will be able to use company computers for class assignments on a non-interference basis. Software for class use will be purchased by the students or provided as needed on a class-by-class basis. Computer consultants are available through Boeing. The WSU student server computers will be required to support the additional services, including likely use of webbed courses, e-mail, and Internet access.

In particular, the new WHETS –plus –Internet delivery of ME 375 and ME 475 requires PCs with special software and touch-screen monitors at the Boeing sites, and a portable experimental setup with Internet connection in the WSUV WHETS classroom. The touch-screen PCs and special software were purchased using funds from the Society of Manufacturing Engineers Education Foundation, and the concept has been successfully proof-tested in fall 1999.

3. Classrooms
The Boeing Company provides electronic classrooms at several sites in the Puget Sound Region, linked by the Boeing Educational TV Network (BEN). These classrooms have two-way audio and receive-only video; and they have been used successfully for several years for the Master of Engineering Management (MEM) program. In the jargon of distance education, live two-way audio and visual classes are called “synchronous”. All of the MEM classes presently offered at Boeing sites are synchronous, albeit supplemented sometimes by e-mail and webbed material. Because of the demand for classes in the time slots that BEN has allocated to WSU (4:00 to 10:00 Mon thru Thur), the limited number of BEN classrooms, and the requirements for laboratory classes in the MFG E program, we are developing the alternative delivery modes and paths described below.
4. Laboratory Classes

Delivery of traditional lecture-format classes to distant sites by live video and audio is a mature technology at WSU and other educational institutions. The undergraduate Manufacturing Engineering curriculum, however, includes eight required classes that are either completely laboratory-format with experiments, or are classroom-format classes that include some hands-on hardware exercises. These classes are (refer to Table 1): EE 305, ME 311, ME 316, ME 375, ME 410, ME 416, ME 474, and ME 475. The hands-on exercises in EE 305 (microprocessor programming) and ME 316 (reverse engineering of ink-jet printers, and design, assembly, & competition of rope-climbing machines) have been conducted successfully at WSUV in a classroom with tables. Probably these classes can be replicated at BEN sites, which – like WHETS classrooms – have tables and chairs.

The required manufacturing laboratory classes (ME 311 and 410), which are being taught at Clark College Applied Technology shops, are replicable at community colleges near the principal Boeing BEN sites. Everett Community College (near the Boeing Everett Plant) and Green River Community College (near the Boeing Renton, Auburn, and Kent Plants) have agreed to work with WSU to host those classes. One reason for their willingness is that many Boeing employees who intend to pursue the BS in MFG E at WSU have recently enrolled at these community colleges in order to finish lower division requirements.

Interactive Distance Lab Courses: In contrast to the classes discussed in the preceding paragraphs, several of the laboratory classes - required and elective - require specialized equipment. The required classes in this category, and their associated specialized equipment, include ME 375 (servo control trainers and instrumentation); ME 474 (rapid prototyping machine); ME 475 (microprocessor or PC-controlled assembly machines and PLC); and ME 416 (shop or CAE computers for design project). In addition to the eight required classes, five of the elective classes require specialized equipment. These include Metrology (coordinate measuring equipment, digital readouts, & image analyzers); Electronics Assembly (wire bonding and micro-packaging equipment); Robotics (industrial robots); Computer Integrated Manufacturing (PC-controlled assembly systems); and Materials Handling (programmable conveyor, stacking/de-stacking and packaging equipment, vibratory feeders, etc.). WSUV has obtained considerable equipment of this type by donation from Portland-Vancouver area companies, for the purpose of facilitating the Manufacturing Engineering program. Some community colleges (e.g., Clark) have acquired some specialized equipment of this kind for training operators and maintenance technicians, and Boeing has equivalent equipment at one place or another in the Puget Sound region. However, the production equipment at Boeing may not be available for class exercises. The classes with equipment requirements are summarized in Table 4.

Laboratory classes with specialized hardware requirements could be taught at a distance if the students at the distant site could access the hardware interactively. Since the worldwide web provides a medium that spans thousands of sites through networked computers and since it is readily accessible, the web is a natural candidate for creating virtual laboratory courses at a distance. Indeed, www is the platform for the rapidly emerging virtual - or distributed - manufacturing enterprise which will keep US manufacturing internationally competitive. Although www can be used theoretically,
when applied to a practical virtual engineering lab class it has a major drawback. The visual/ audio feedback from the lab equipment and instructor cannot be delivered synchronously to the remote site due to the slowness of video transmission over the Internet.

Another approach would be to use a WHETS camera and microphone to transmit video/ audio from the laboratory at WSUV while the students at the distant site interact via the www with the local equipment using software & hardware specially developed for the purpose. The cost of technology development for the proposed approach must be assessed in comparison to the cost of replicating laboratory equipment and hiring adjunct faculty at one or more Puget Sound sites. Even a rough calculation strongly favors the www approach because on the one hand, the WHETS system is already in place, and on the other hand, the required labs will utilize over $1 million worth of equipment that would otherwise have to be replicated at the distant sites. A third approach might be considered -- namely, to develop parallel courses using similar specialized laboratory equipment available in the Puget Sound region. This alternative would require at least one full-time resident WSU manufacturing engineering faculty, locating and gaining reliable access to specialized equipment, and writing of separate laboratory exercises for the local equipment.

### Table 5: Manufacturing Engineering Laboratory Equipment

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<td>CMM</td>
<td></td>
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<td></td>
<td></td>
<td>✓</td>
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</tr>
<tr>
<td>PLC Trainer</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
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</tr>
<tr>
<td>Robots</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
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</tr>
<tr>
<td>Material Handling Equipment</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>✓</td>
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<td></td>
</tr>
<tr>
<td>Canning, Injection Molding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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Faculty Senate Minutes  
March 30, 2000  
Page 37
V. PROGRAM ASSESSMENT

Reports to Boeing
In their letter of selection, the Ed Wells Initiative Committee asked for regular communication regarding the progress and content of the degree program. In addition, they strongly encouraged coordination with the departments at the University of Washington that are participating in Boeing’s Manufacturing Engineering Masters Program. They wish to be involved in that interaction as well. (See Appendix I.) Subsequent to that letter, Boeing invited OIT to offer the Bachelor of Science degree in Manufacturing Engineering Technology to Boeing employees, and requested that WSU seek to coordinate offerings with OIT wherever possible for economies. Initial meetings have been held with UW and OIT faculty and administrators. Regular, in-person reports have been provided to the Ed Wells Initiative Committee.

Boeing Educational Programs (Appendix IV) will reimburse employees only for participation in accredited programs. Nevertheless, because this program has been derived from an accredited Mechanical Engineering curriculum, and because WSU has committed to pursue accreditation of the Manufacturing Engineering degree as quickly as it can be accomplished, Boeing has informed its employees that classes in this program are eligible for Boeing educational benefits.

Program quality will be assessed according to the same outcomes criteria that are being implemented at the Vancouver campus. For WHETS classes an additional evaluation tool is imposed. During the last week of school students are asked to provide an evaluation of each class and of WHETS as a delivery system. Each instructor reviews these evaluations and summaries are provided to the program. Metrics will be derived for monitoring outcomes of the electronic learning experience compared to live instruction, and for the kinesthetic (hands-on) component of laboratory learning.

Accreditation
The Accreditation Board for Engineering and Technology (ABET) has published a statement of accreditation for engineering programs that will become the new standard in 2001. During the three-year phased implementation (1998-99 through 2000-2001), institutions may elect to have their programs evaluated under the current criteria or under Engineering Criteria 2000. The new Criteria shift the emphasis from evaluation of the process to evaluation of the product, or outcomes. The ABET 2000 Criteria are being incorporated into the engineering programs in the College of Engineering and Architecture. In addition, the supplemental Criteria submitted by the Society of Manufacturing Engineers (SME) are being incorporated into the coursework in the Manufacturing Engineering program at WSU.

The ABET and SME criteria are woven into the curriculum displayed in Table 1. In most cases the competencies are measured at a more granular level than class titles and will have to be reported at the appropriate level. How will we know when we are on course toward the ABET, SME, and WSU objectives? The WSU College of Engineering and Architecture is developing a Student Outcomes Assessment Plan delineating four kinds of outcomes assessments for undergraduate engineering education. These assessments will be adopted and tailored for the
MFG E program at Vancouver and – by extension – to the program at Boeing. The outcomes assessments will assure the attainment of the objectives delineated in Table 2. The WHETS system has its own quality assessment process, and this process is utilized on top of the engineering program assessment.

Figure 2. Allocation of Accreditation Criteria among Upper-Division Courses in the Major.

<table>
<thead>
<tr>
<th>SME Proficiencies</th>
<th>ABET Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. materials &amp; mfg. processes</td>
<td>a. apply knowledge</td>
</tr>
<tr>
<td>b. process, assembly, product engr.</td>
<td>b. design &amp; conduct experiments</td>
</tr>
<tr>
<td>c. mfg. competitiveness</td>
<td>c. design to requirements</td>
</tr>
<tr>
<td>d. mfg. Systems design</td>
<td>d. function on interdisciplinary teams</td>
</tr>
<tr>
<td>e. laboratory experience</td>
<td>e. define &amp; solve engineering problems</td>
</tr>
<tr>
<td>f. professional &amp; ethical responsibility</td>
<td>f. professional &amp; ethical responsibility</td>
</tr>
<tr>
<td>g. effective communications</td>
<td>g. effective communications</td>
</tr>
<tr>
<td>h. broad education</td>
<td>h. broad education</td>
</tr>
<tr>
<td>i. life-long learning commitment</td>
<td>i. life-long learning commitment</td>
</tr>
<tr>
<td>j. contemporary issues</td>
<td>j. contemporary issues</td>
</tr>
<tr>
<td>k. ability to use engineering tools</td>
<td>k. ability to use engineering tools</td>
</tr>
</tbody>
</table>

VI. BUDGETARY IMPACT

As businesses have difficulty finding technically trained employees who are “able to hit the ground running” and educators face budget cutbacks, cooperation between industry and education is increasingly important. Partnerships between the public and private sectors can take the form of equipment donations, direct investments, formal or informal agreements and, like the opportunity proposed here, on-site “distance education” of private sector employees. As the largest employer in Washington State and a major benefactor and beneficiary of the WSU College of Engineering and Architecture, The Boeing Company’s selection of the WSU Bachelor of Science in Manufacturing Engineering program will provide an influx of students and resources to accelerate development of the program.
Start-Up Costs
In December 1997 the Boeing Ed Wells Initiative provided approximately $50,000 (Appendix I) to cover start-up costs for extending the Manufacturing Engineering program to Boeing. The money was used to create and conduct the interest survey (Appendix II); create and print advertisements for Boeing employees; conduct a series of informational meetings at Boeing; set up the distance program infrastructure; advise Boeing applicants on-site at Boeing facilities and by telephone & e-mail; meet with community college educators from the Puget Sound region; meet with University of Washington Mechanical and Industrial Engineering faculty; arrange classes for introduction of the program; prepare this proposal to the Washington Higher Education Coordinating Board; and provide progress reports to the Boeing Education Program management team.

Development Costs
In recognition of the need to teach laboratory courses at a distance, WSUV faculty prepared a proposal to the Society of Manufacturing Engineers Education Foundation (SME-EF) to develop and test the WHETS – plus – Internet methodology for distance delivery of ME 475 “Manufacturing Automation.” Another proposal was prepared for NSF to develop a complementary approach for ME 375 “Manufacturing Control Systems.” In this approach the student at Boeing (or any remote site) interacts with a laboratory machine at WSU Vancouver through a touch-screen PC monitor that is configured to function as a machine control panel. The student and instructor interact through the TV, and the student also observes machine response to his commands.

Both proposals have been funded, thereby placing WSU Vancouver at the vanguard of distance education in engineering. Dr. Hakan Gurocak is the instructor of both classes and the P.I. on both proposals. A portion of the $50,000 from Ed Wells Initiative was claimed as industry investment in the cost-shared proposal to SME-EF, and Boeing wrote a letter of endorsement (Appendix V).

Cost Forecast
Operational costs for delivering the BS in Manufacturing Engineering at a distance include elements that are unique to distance delivery, and elements that are beyond WHETS experience (including the Masters in Engineering Management program at Boeing). The reason for a cost increment over the Manufacturing Engineering program at WSU Vancouver is the addition of distance learning; and the reason for the differential over other WSU WHETS classes is the existence of laboratory classes in the Manufacturing Engineering program.

Lecture-format MFG E classes will be delivered to Boeing synchronously via WHETS & BEN in the familiar WHETS format. However, scheduling classes in conjunction with the MEM program has oversubscribed the available BEN hours. In effort to bypass this constraint, the MEM program will experiment with asynchronous delivery (streaming technology and taped classes). In addition, we will offer MFG E lecture classes in K-20 classrooms at Everett and Green River Community Colleges and advertise, as individual courses, them to the community as well as to Boeing employees. We also will offer a laboratory class (ME 311) at EvCC and GRCC on Saturdays, using laboratory equipment at those schools in the same way that we teach ME 311 at Clark College in Vancouver. However, we must bear in mind that a major reason that the
Boeing Ed Wells Initiative Committee selected WSU to deliver the MFG E program because synchronous classes are thought to be one of the keys to attracting undergraduates into the program.

Equipment for two of the required MFG E laboratory classes (ME 311 and 410) is available at several community colleges in addition to EvCC and GRCC. However, equipment for specialized upper division manufacturing lab classes is not available at community colleges. It is not reasonable to expect that state funds will be available to replicate specialized manufacturing engineering laboratories at community colleges. For this reason we wrote the proposals to SME-EF and NSF. Although two additional distance lab classes must be implemented before the BS MFG E degree at a distance can be fully available, we have demonstrated the capability to do so. Incremental costs will accrue from hiring adjunct faculty and community college instructors for laboratory classes, paying the user fees for K-20 classrooms, publicity, travel, and administration costs for education at a distance.

Baseline costs to offer the BS MFG E at WSU Vancouver were developed and presented in the Program Proposal to the Higher Education Coordinating Board in 1998. As shown in Appendix VI, the costs are $37,134 per FTE in the first year, dropping to $13,683 per FTE in the fourth year as enrollment grows. Assuming that we are in the second year of the program at WSUV and a linear trend, per-FTE baseline costs for the second year of the MFG E program are approximately $28,000 per FTE. To this baseline we must add incremental costs for extending the degree to Boeing. The investment from SME-EF and NSF have made the Boeing program possible by funding development of methods to access expensive laboratory equipment from a distance. Incremental costs for the Boeing program are summarized in Table 5, itemized for year 1 (no laboratory classes) and year 4 (full operation). Salaries and Wages include benefits. The Table does not include the $50,000 start-up funds from the Boeing Ed Wells Committee or the investment from SME-EF and NSF.

Table 5. Incremental Program Costs - Year 1 and Year 4 ($)

<table>
<thead>
<tr>
<th>Line Item</th>
<th>Year 1 Total</th>
<th>Year 4 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program coordinator (half-time until enrollment necessitates full time)</td>
<td>16,000</td>
<td>32,000</td>
</tr>
<tr>
<td>Travel (program manager, faculty &amp; coordinator)</td>
<td>5,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Adjunct Faculty in Puget Sound Area</td>
<td>0</td>
<td>7,000</td>
</tr>
<tr>
<td>TA wages</td>
<td>0</td>
<td>6,000</td>
</tr>
<tr>
<td>Community College Fees (instructor wages, K-20 charges)</td>
<td>0</td>
<td>14,000</td>
</tr>
<tr>
<td>Goods &amp; Services</td>
<td>3,000</td>
<td>4,000</td>
</tr>
<tr>
<td>Telephone, FAX, misc.</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>WSU Boeing Consultant (shared with MEM program)</td>
<td>0</td>
<td>13,000</td>
</tr>
<tr>
<td>Library</td>
<td>0</td>
<td>8,000</td>
</tr>
<tr>
<td>WHETS (see Note #1)</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Total Direct Costs</td>
<td>34,600</td>
<td>102,600</td>
</tr>
<tr>
<td>Indirect Costs</td>
<td>16,300</td>
<td>48,273</td>
</tr>
<tr>
<td>Total Incremental Cost</td>
<td>50,900</td>
<td>150,873</td>
</tr>
<tr>
<td>Estimated Student FTE at Boeing</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Incremental cost per FTE</td>
<td>12,725</td>
<td>7,543</td>
</tr>
</tbody>
</table>

Note 1: Contingency for marginal costs of new uses for existing WHETS system, e.g. streaming video and synchronous lab classes.
It is important to reiterate that first year costs are lower because the classes being delivered are lecture only. It is the laboratory classes that make this program different from the Engineering Management program. Furthermore, the cost of creating the laboratory classes at a distance is additional and it is assumed that the development costs will not be borne by WSU, but with support from National Science Foundation and Society of Manufacturing Engineers.

As stated above, the total cost of delivering the BS MFG E program to Boeing is obtained by adding the incremental cost of distance delivery to the base cost of offering the degree at WSU (Appendix VI). The calculations are displayed in Table 6.

Table 6. Total Program Costs

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline Cost per FTE at WSU</td>
<td>28,000</td>
<td>13,683</td>
</tr>
<tr>
<td>Vancouver (see Appendix VI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incremental cost-per-FTE to deliver</td>
<td>12,725</td>
<td>7,543</td>
</tr>
<tr>
<td>Boeing (Table 5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Cost per FTE at Boeing</td>
<td>40,725</td>
<td>21,226</td>
</tr>
<tr>
<td>Estimated Student FTE</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Total Program Cost at Boeing</td>
<td>162,900</td>
<td>424,520</td>
</tr>
</tbody>
</table>

Cost Recovery

The program will be operated as a state-supported process, with FTEs at Boeing counted at WSU Vancouver and additional costs paid by the customer, i.e., Boeing. The sources of revenue are itemized in Table 7.

Table 7. Sources of Revenue

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Tuition and Fees paid by Boeing @ $5,310 per FTE (See Note #2)</td>
<td>21,240</td>
<td>106,200</td>
</tr>
<tr>
<td>State Support (See Note #3)</td>
<td>37,716</td>
<td>188,580</td>
</tr>
<tr>
<td>Subtotal</td>
<td>58,956</td>
<td>294,780</td>
</tr>
<tr>
<td>Additional Revenue Required from Boeing to Cover Full Costs</td>
<td>103,944</td>
<td>129,740</td>
</tr>
<tr>
<td>Total</td>
<td>162,900</td>
<td>424,520</td>
</tr>
</tbody>
</table>

Note 2: Part-time undergraduate Res. Rate = $177/credit x 30 for fulltime equivalent = $5,310/academic year (fulltime undergraduate resident rate FY 2001 = $3,396 not applicable because these students will be paying part time rates.)

Note 3: State support at 100% of $9,429 state rate for Vancouver programs.

* * * * *

Motion carried.

1. Recommendation from Graduate Studies Committee for Graduate Major Change Bulletin #7 Exhibit G from 3/9/00 agenda is as follows:
The requirements and courses listed below reflect the Graduate Major Curricular Changes approved by the Catalog Subcommittee and the Graduate Studies Committee since approval of the last Graduate Major Change Bulletin. All new and changed courses are printed in their entirety. New and dropped courses are identified under the course prefix and number. Other changes are underlined. The column to the far right indicates the date each change becomes effective.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agri 587</td>
<td>Exploration and assessment of current issues associated with domestic and international agriculture programs.</td>
<td>Explorations in Agriculture 3 Prereq admission to graduate program.</td>
<td>8-00</td>
<td></td>
</tr>
<tr>
<td>AMT 517</td>
<td>Social and Psychological Aspects of Dress: Critical Perspectives on Appearance</td>
<td>Critical Perspectives on Appearance 3 Prereq graduate standing. Exploration of appearance issues, theory, and research from the perspectives of social science, feminist theory, postmodern and poststructural discourses. Graduate level counterpart of AMT 417; additional requirements. Credit not granted for both AMT 417 and 517.</td>
<td>8-00</td>
<td></td>
</tr>
<tr>
<td>Anth 567</td>
<td>Forensic Anthropology</td>
<td>Forensic Anthropology 4 (3-3) Prereq Anth 566. Graduate-level counterpart of Anth 467; additional requirements. Credit not granted for both 467 and 567.</td>
<td>8-00</td>
<td></td>
</tr>
<tr>
<td>Anth 568</td>
<td>Paleoanthropology</td>
<td>An in-depth survey of the fossil evidence for human evolution, incorporating research methods and theory.</td>
<td>8-00</td>
<td></td>
</tr>
<tr>
<td>Econ 501</td>
<td>Microeconomic Theory</td>
<td>Microeconomic Theory 3 Prereq Econ 301; 408, one year calculus, or c/ in Econ 408. Static optimization; theory of the consumer and the firm; markets and resource allocation. Cooperative course taught by WSU, open to UI students (Econ 510).</td>
<td>8-00</td>
<td></td>
</tr>
<tr>
<td>Geol 583</td>
<td>Radiogenic Isotopes and Geochronology</td>
<td>Radiogenic Isotopes and Geochronology 3 Chem 105 &amp; 106 or equivalents; Geol 480 or permission of instructor. Radiogenic isotopes and their use as chronometers (radiometric dating) and as tracers of earth evolution and differentiation. Graduate-level counterpart of Geol 483; additional requirements. Credit not granted for both Geol 483 and 583. Cooperative course taught jointly, open to UI students (Geol 483).</td>
<td>8-00</td>
<td></td>
</tr>
<tr>
<td>Hist 571</td>
<td>World History: Theory and Methodology</td>
<td>World History 3 May be repeated for credit; cumulative maximum 6 hours. Prereq graduate standing. Readings in themes An introduction to themes, theories, methods, and literature of a global approach to history.</td>
<td>1-01</td>
<td></td>
</tr>
<tr>
<td>HPA Add Non-thesis option to the Health Policy and Administration program of studies. Students choosing the non-thesis option would complete a 3-credit graduate project which will substitute for the thesis requirement.</td>
<td>Add Non-thesis option to the Health Policy and Administration program of studies.</td>
<td>1-00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPA 512</td>
<td>Health Management Decision Science</td>
<td>Health Management Decision Science 3 Prereq HPA 707. Application of decision science technology to risk-analysis problems in healthcare for both investor-owned and non-profit entities.</td>
<td>8-00</td>
<td></td>
</tr>
</tbody>
</table>
HPA 579 new Mental Health Policy and Law 3 Professions regulation, negligence, consent, privacy; civil commitment, treatment rights, guardianship, trial competency, insanity defense, sex offenders, execution capacity, entitlements, discrimination.

Nurs 578 new Plateau Tribes: Culture and Health 3 (2-3) Graduate-level counterpart of Nurs 478; additional requirements. Credit not granted for both 478 and 578.

R S 600 new Special Projects/Independent Study Variable credit. S, F 8-00 grading.

*****

Motion carried.

7. Recommendation from Organization and Structure Committee for Student Representation on Senate Committees Exhibit D is as follows:

RECOMMENDATIONS OF THE ORGANIZATION AND STRUCTURE COMMITTEE FOR STUDENT PARTICIPATION ON FACULTY SENATE COMMITTEES

*Academic Advising and Reinstatement Committee of the AAC* – Remove one undergraduate and one graduate student, leaving two undergraduates remaining on the committee.

*Academic Affairs Committee* – Remove two of the undergraduate students leaving 2 undergraduates and one graduate student on the committee.

*Admissions Subcommittee of the AAC* – Remove the two undergraduates on the committee, leaving one graduate or professional student on the committee.

*Distinguished Faculty Address* – Remove the undergraduate, leaving one graduate on the committee.

*Extended University Affairs Committee* – Two graduate students and two undergraduates should remain on the committee, but one each (G) and (U) should be from a branch campus. The two representatives from the branch campuses should represent different campuses.

*Graduate Studies Committee* – The five graduate students should remain on this committee, but at least one of them should represent a branch campus.

*Library Committee* – Remove one undergraduate student, leaving one graduate and one undergraduate on the committee.

*Organization and Structure Committee* – Remove the student representation from the committee.
Parking and Traffic Committee – Remove two of the four undergraduates on this committee, leaving one graduate and two undergraduates.

Planning Review Committee – Remove the student representation from the committee.

Research and Arts Committee – Remove the undergraduate representation, leaving the two graduate students.

Student Affairs Committee – Remove one graduate and one undergraduate, leaving 2 graduates and 3 undergraduates on the committee.

Teaching Assistant Training Program Subcommittee of GSC – Remove the two undergraduates, leaving four graduate students remaining on the committee.

*****

Motion carried.

8. Recommendation from Faculty Affairs Committee for Minor Changes to Promotion and Tenure Guidelines Exhibit H from 3/9/00 agenda is as follows:

MEMORANDUM

TO: Faculty Senate
FROM: Margaret Bruya, Chair, Faculty Affairs Committee
DATE: March 2, 2000
SUBJECT: Promotion and Tenure Issues

Below are a few minor changes to promotion and tenure guidelines discussed by the Senate last fall. The Committee made a few minor wording changes that the Senate had requested. At this time Senate approval is recommended.

1. Recommendation:
All faculty will prepare a statement of context (not more than 2 pages) as part of the portfolio of materials to be considered for third year as well as tenure and promotion reviews. Such a statement may include expectations placed on a faculty member by circumstances extant at research stations or branch campuses, the requirement of joint-appointments or other special circumstances such as commitments to student groups.

Rationale:
Such a context statement may provide an important opportunity for the faculty member being considered to bring to the attention of evaluators information that may not be readily apparent via other required documents or ongoing interaction with department members and administrators.

2. Recommendation:
The number of required external letters shall be reduced from five to four.
Rationale:
The additional requirement for external evaluations above four creates an impression of
greater validity without actually ensuring it. In some cases senior faculty at institutions
comparable to WSU who are familiar with the specific area of the faculty member’s
expertise are not sufficiently available. A carefully selected quartet of external
evaluators should provide a valid assessment.

3. Recommendation:
The teaching portfolio narrative shall be firmly limited to five pages.

Rationale:
This guideline promotes more efficient review.

*****

It was moved to change the word “will” to “may” in the first recommendation.
Amended motion carried.

Agenda Items (Discussion Items).

1. Recommendations from Organization and Structure for Changes to the Faculty Senate
Constitution and Bylaws (Exhibit G).—S. Ristow

A question was raised about faculty with long term contracts being able to vote and
participate. It was stated this will be worked on in the fall.
What is the rationale for adding the Student Affairs Chair. This committee deals with
student issues and the Steering Committee would like to have input in the issues as well
as hearing regular reports from the committee.
If the new quorum rule is approved what would the quorum today be? Burke stated with
the four vacancies the quorum would be 40 rather than 42.

2. Recommendation from Research and Arts Committee for a Center for Precision
Agriculture (Exhibit F).—R. Miller

Concern was raised about the center listed on page 8 of the proposal that is being used as
the model for this center. That particular center is not Senate approved. There have
been controversies in the past with external donors trying to influence research outcomes
and this center has an advisory board with large external contributions which could
cause such pressure. Who do the center faculty report to? They report more directly to
their department chairs even though they have responsibility in the center. How do
members of the advisory board get on and off and what is the process for getting
someone on and off the board? How does the board provide input and
recommendations? R. Miller stated the board will communicate with the members of the
center at two annual meetings. Miller stated there are two ways of becoming a member
one is to buy your way onto the board with a one time contribution of $500,000 or with
an annual contribution of $25,000. Half the board would be made up of these kinds of
members. The other way would be to be elected by the faculty of the center. Is the
feeling that the donors would not contribute unless they were on the advisory board?
The proposers feel the center needs money for survival and if that money is partly
contributed by people out doing agricultural business in return for their contributions
they receive a say. Will the faculty have sufficient autonomy or control over what it
studies and publishes regardless of the findings? Miller stated that is the issue that occupied most of the discussion in Research and Arts. Miller stated the proposal that now exists represents a major rewrite of the original proposal. It includes a large number of assurances that undo control of faculty behavior will not occur. The committee knows money talks and has an influence but after long discussions with Denny Davis and after reading the new proposal the committee felt comfortable with this proposal.

3. Recommendation from Academic Affairs Committee for Undergraduate and Professional Major Change Bulletin #10 (Exhibit H).—S. Wherland

There was no discussion of this item.

4. Recommendation from Academic Affairs Committee for the BA in Education at TriCities (Exhibit I).—S. Wherland

What is the demand for this program? A needs study was conducted and a pilot program was started in 1994 with stable enrollments each year. This proposal is to move this from a temporary program to a permanent one.

5. Recommendation from Academic Affairs Committee for Resident Credit for Study Abroad Students (Exhibit J).—S. Wherland

There was no discussion of this item.

6. Recommendation from Academic Affairs Committee for 2+2 Program BA in Education with Northwest Indian College (Exhibit K).—S. Wherland

Ed Helmstetter asked that the following be added to the financial page as footnote:

The purpose of the CO-TEACH subcontract to the Northwest Indian College is to:
1. Assist with the recruitment, retention, and graduation of Native American students in the teacher preparation program.
2. To assure that the changes made in the WSU-Pullman teacher preparation program are incorporated into the 2+2 program at NWIC. Project funds are to be used to augment the 2+2 program at NWIC, and not to develop and maintain the program or to supplant funds from other sources. Use of funds for the purposes other than those stated above must first be approved by the US Department of Education.

7. Recommendation from Academic Affairs Committee for the Asynchronous Registered Nurse BSN (Exhibit L).—S. Wherland

There was no discussion of this item.

8. Recommendation from Academic Affairs Committee for the Collaborative Teacher Education Programs (Exhibit M).—S. Wherland

Helmstetter stated that a number of faculty in the college had not had the opportunity to review the proposal since it was rewritten and there are concerns about details on program of study, number of sections, how many adjuncts to be used, the role of the faculty in the department in terms of evaluating the program. Helmstetter made an
amendment to modify page six the second bullet that states “all programs will be closely monitored and assessed each spring by the WSU-Pullman and WSU- Vancouver program director and site coordinators” add after coordinators “and the teacher education faculty of Pullman and Vancouver” then add after “including” “program quality”.

Helmstetter stated he would like the faculty to work with those who wrote the proposal plus the dean because of the over abundant use of adjunct faculty and the effect it would have on accreditation. Education is up for accreditation with a site visit in 2002. Helmstetter wants the proposal to go through but in the interim have faculty work to establish goals to decrease the use of adjunct faculty to a level that will help establish quality of the program and that will not jeopardize accreditation. The faculty will work annually with administration to assure that necessary resources will be provided to meet the goals for these adjuncts.

The accreditation issue will need to be addressed before the Senate could pass this proposal.

How can a program this size be funded from internal reallocations? Carlson from the Provost’s Office stated that it is a complicated issue. The tuition that will come in alone on the number of students the first year brings in about $400,000 plus another $200,000 already exists in the Grays Harbor portion of this budget. When it says internal reallocation it is not all within the college it is within the University, tuition dollars from new students and some existing money at Vancouver. The results of not offering this is WSU will lose about $600,000. It will add 125 FTE and help us meet our enrollment targets.

How did they determine the demand. Warner stated they did a needs assessment and talked with administrators of the community colleges involved and there is significant indication that WSU will have the enrollment projected. Brigham stated this is a cohort sort of program and WSU already has in the stream 125 students at the community colleges waiting for this to start.

9. Recommendation from Academic Affairs Committee for the Revision to Rule 6f (Exhibit N).—S Wherland

Correction in Rule 6f remove “to fulfill their General Education Requirements” and in the first line remove the (s) from degree.

Will removing this section of Rule 6 have any impact. Wherland said there would be no impact that he could think of. Wherland stated they try to find the history of this rule and the best they could find was it was put into place to encourage people to decide quickly when they transferred with 70 quarter hours whether or not they were going to go back and finish their AA.

Moved from Action Item 9

10. Recommendations from Faculty Affairs Committee for changes to Promotion and Tenure Guidelines (Exhibit E).—M. Bruya

It was recommended that in III.D.5.b remove the term tenure-track. Liddell from FSC stated that at the present time there is no place in the Faculty Manual that states where criteria come from. There is an approval procedure but it does not say who writes it, it does not specify faculty input in the process or that faculty approve it. It was stated that any tenure-track person would already be under the rules that exist when they started and thus would be voting on rules for future tenure-track faculty. Is there a rationale to include tenure-track. Spangenberg from FAC stated that as standards change a junior
faculty would be able to look at it with a fresher approach knowing the latest changes in
the discipline that affected their process.
It was pointed out that in Section III.D.2.c the part that starts with “after the department
chair” needs to add the faculty member receives the acknowledgment. As it is written it
is unclear who the statement goes to but if you put a common after “appended” and
remove “by a” and substitute the word “the” it becomes clearer. Brigham stated that he
received concerns about the 15 working days because of the size of some colleges and
the timing of reviews this would be difficult to meet. Where it says faculty have a
minimum of 2 working days shouldn’t there be a maximum time limit. The last sentence
of this paragraph doesn’t make sense. What is the time limit before these reviews have
to be in the Provost’s Office? It depends on the college. Instead of 15 days it could
state that an acknowledgement must be received before it goes to the Provost.
Section III.D.4.a the last sentence that has been added about units keeping records, what
is the cost of keeping these records? Liddell stated this arose because of a case in
Faculty Status where faculty in the unit claimed the person had the college criteria and
the person claimed that though they pursued getting them they never received them. It
could be as simple as the letter of employment stating your relevant promotion and
tenure documents are included.
Section III.D.2.d second to the last sentence “accurate” is a very strong word who
determines if it is accurate? Remove the word accurate.

Constituents' Concerns.

There were no constituents concerns.

Adjournment.

Meeting adjourned at 5:30 p.m.

Thomas Brigham
Executive Secretary