The Faculty Senate was called to order by Robert Greenberg, Chair, on Thursday, October 8, 1998, in FSHN, T101, at 3:40 p.m. Forty-nine (49) members were present, twenty-nine members (29) were absent with four (4) vacancies. Seven (7) nonvoting members were present. (See attached Attendance Sheet)

Minutes of September 17, 1998 Meeting were approved as circulated.

Announcements Information Items.

1. Faculty Senate officers met with the Provost on September 29, 1998.

2. The following faculty have been appointed by the Steering Committee to the Honorary Doctoral Degree Committee: Michael Griswold, David Stock, Charles Peck, Nicholas Lovrich, Robert Olsen and Clayton Crowe.

3. A report from Planning Review Committee on Planning for Higher Education in Spokane is in Exhibit B as follows. This report has the endorsement of the Steering Committee.

To: Faculty Senate Steering Committee
From: KNona Liddell for the Planning Review Committee
Date: October 1, 1998
Subject: PRC review of "Planning for Higher Education in Spokane"

This memorandum constitutes the Planning Review Committee's report on its review of the draft document "Planning for Higher Education in Spokane" which was submitted to the HEC Board by the WSU administration on September 1, 1998. The report is divided into five sections which deal with the process the PRC followed in its evaluation of the Spokane plan; the information sources and procedure WSU used in developing the plan; a brief summary of important features of the proposed developments involving WSU Spokane; general guidelines the PRC believes should be followed in further elaborating this plan and in developing new academic programs and cooperative relationships to better serve Spokane's needs; and specific comments of the committee concerning certain details of the draft plan we reviewed.

PRC Review Process: Copies of the draft report were distributed to members of the committee at an organizational meeting on September 1. On September 8, the committee had a preliminary discussion of the plan and identified several broad areas of concern. Further meetings were held on September 15 and September 22. On the former occasion, Bill Gray (Campus Executive Officer and Dean) was available to answer questions by phone. Vice Provost for Academic Affairs Doug Baker and Bill Gray both attended the September 22 meeting. During the writing of this report, Jane Sherman provided information about the HEC Board's role in preliminary studies of Spokane's higher education needs. This PRC report was written by KNona Liddell, circulated to all PRC members for corrections and input, and approved by the full committee on September 29 for transmittal to the Steering Committee.
**Development of the Draft Plan:** Input for the September 1 draft plan came from a variety of sources. Projections of employment growth were based largely on a HEC Board economic study of Spokane and the surrounding area. There has also been a series of discussions, which is ongoing, with representatives of Gonzaga University, Whitworth College, Eastern Washington University, both Spokane community colleges, Spokane area businesses and industries, and local governments. During the last legislative session, the HEC Board was directed by the legislature to produce an educational needs assessment study; this second study is still not available and thus could not be used in preparing WSU's draft plan. The WSU administration has recently asked the HEC Board to expedite completion of the needs assessment. Lacking needs data, anticipated changes between the draft plan and the final plan include delaying startup of some new programs until the following biennium and reducing enrollment projections in areas where student interest is least certain.

**Summary of Components of the Draft Plan:** Two types of programs are sited at WSU Spokane, "destination" programs and programs based on community demand. Destination programs are intended to draw students from throughout the Pacific Northwest and intermountain regions. Health sciences programs fall in this category and include a significant research component; the graduate programs of the Design Institute also are destination programs. Programs in the community demand area include engineering and business programs. The former (engineering programs) must not already be available through the University of Idaho or Gonzaga University, or they must have been requested by local industry. The proposal for new computer engineering and manufacturing engineering programs originated with the Spokane business community. New business programs being planned for WSU Spokane also would fill niches not presently occupied by any of the institutions operating in the area and include hotel and restaurant administration, real estate, and insurance.

**Recommended General Guidelines for Further Planning of Programs for Spokane:** Based on the committee's understanding of the background information available when the plan was drafted, and its extended discussions, the PRC recommends that the following guidelines be followed in working toward establishment of additional programs involving WSU Spokane.

1. The PRC believes that there are two potential bases for developing any new program at WSU Spokane or another of the branch campuses: Either the new program is developed to meet an identified local or regional economic, societal, or political need, or it embodies unique features that may well make it attractive to students from beyond the immediate area. The proposed Health Sciences Consortium would meet projected regional employment needs centering around Spokane's prominent position in providing health care for northeastern Washington and surrounding areas; these new health sciences programs would also have novel multidisciplinary and cooperative aspects. The other proposed new programs also would address educational needs resulting from projected regional growth in employment opportunities. However, needs in non-health areas were less well defined at the time this report was prepared.

2. Because the enrollment projections for the proposed new programs are based largely on estimates of overall job growth, rather than on definite expressions of strong interest by potential enrollees, a market survey of prospective students should be done before proceeding with detailed program or facilities development. Although Spokane business leaders have indicated their general desire for new health sciences and engineering
programs, more definitive information on the viability of particular programs is not available at this time. Programs in these general areas are likely to be particularly costly because they would require patient care and laboratories; research start-up funds would also be needed for newly hired tenure track faculty.

3. New programs should not be started until operational money is available for them, and they should be phased in on a pay-as-you-go basis. It is the committee's understanding that the programs presently offered at WSU Spokane have been handled in this way, with sustained growth in student FTEs in a particular program considered a prerequisite to placement of the related faculty FTEs or permanent facilities in Spokane. The PRC strongly recommends that this approach continue to be followed. The committee also regards it as an important principle that expansion of the offerings at WSU Spokane not draw resources from the rest of the WSU system unless there have been clear decisions to make vertical cuts in programs elsewhere.

4. To ensure that new programs operate efficiently, care should be taken with the details of curriculum development and with the siting and scheduling of courses. For example, the proposed health sciences programs would share certain core courses; in the business programs specialized fourth year courses taken at WSU would build on prior courses offered by EWU or Gonzaga. These approaches should be encouraged, and use of WHETS facilities should be considered whenever possible.

5. ICNE provides a useful model for successful cooperative programs in the Spokane area. The PRC recommends that, as far as possible, the administrative structure developed for ICNE be used as a template for the new programs. Adapting the existing cooperative structure to accommodate additional partners and new programs appears to be a far simpler undertaking than the creation of an entirely new structure *de novo*. Centralizing the instructional and student services facilities for closely related programs in one location is a corollary.

6. Before new programs are started in the Spokane area, enrollment and other targets should be set. These should be realistic and achievable, but they should also be strict enough to provide a basis for suspending or closing unsuccessful programs after a defined trial period. It is the PRC's understanding that at the Spokane branch, several programs have in fact been suspended due to low enrollments. Periodically suspending and then restarting a program should be considered for programs that have continuing but low demand; such a program could be restarted when a sufficiently large cohort of potential students was again available. However, if this "slug flow" approach is adopted, fairly accurate projections of attrition from the cohort will need to be made to ensure that it operates cost effectively.

7. As explained above and in the draft planning document, WSU Spokane must steer a narrow course between the marketplace for vocations and "turf" previously staked out by other institutions. While pursuing this relatively short-term strategy dictated substantially by outside factors, WSU must also look after its long-term viability by ensuring that its students in Spokane are offered the fundamentals of a university-level undergraduate education — the pursuit of wisdom via integrative exposure to the breadth and depth of human knowledge. Such exposure involves meaningful, routine contact with faculty and students from across the range of academic disciplines. The quality of these undergraduate fundamentals is a primary determinant of the success of our graduates as leaders and citizens, and thus will also determine the long-term success and reputation of WSU Spokane and the way the branch reflects on the WSU system.
Specific Comments:
Facilities costs are of concern. Assuming that new facilities are designed for multiple potential uses, there appears to be a possibility of significantly increased overall costs if specialized laboratories or patient care facilities are involved.

All courses that a student in a given program would normally take during any one semester should be available at a single site. For examples, the draft plan envisages locating different engineering programs at WSU Spokane, EWU, and Gonzaga University, but this may be impractical if it would require students to travel between sites to obtain the courses they need. Frequent student travel between sites may well cause poor retention rates.

The reasons for identifying manufacturing and computer engineering as the potential new engineering programs for Spokane are not clear. Spokane presently does not offer an obvious advantage for engineering firms to locate there, and its industrial and high technology base appears unlikely to expand rapidly. However, because Spokane's health care industry is well established and growing, a biomedical engineering program should be considered.

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4. Faculty Senate Standing Committees reported committee consideration on the following issues (agenda and previously reported items not included) at the October 1, 1998 Steering Committee meeting:

- Academic Affairs: Math Placement Exam; Format for Procedures for Review of Graduate and Undergraduate Programs.
- Budget: Criminal Justice Program Statewide.
- Faculty Affairs: 40% Rehire; Faculty Manual
- Planning Review: Spokane Plan; Assessment; Procedures for Review of Undergraduate and Graduate Programs.

Reports.

1. Remarks by the Chair.—R. Greenberg

Greenberg reported that based on the Constituent’s Concerns from the previous meeting the Steering Committee has asked Academic Affairs Committee to investigate how the Math Placement Exam is performed in terms of it’s placement of students. Based on Dr. Spangenberg’s delicately articulated Constituent’s Concern Greenberg has included the following in his report to the Regents: “several faculty noted with pride that WSU has been recognized as a high quality national university by US News and World Report in it’s annual ranking of colleges of universities. WSU has also been recognized as one of the best values in higher education by Kiplinger magazine. Our large well qualified freshman class is further evidence that WSU high quality is being sought out by good students when they choose where they will invest in higher education. Personally this recognition has been a source of immense pride for me as Chair of the Faculty Senate. It gives me great satisfaction to see the efforts of the faculty and staff bearing fruit an advancing the status and advancing the status of WSU. I hope that the legislature will recognize that the University’s strong performance is a joint result of the leadership and the diligent efforts of a high quality
faculty and staff. Moreover I hope they will reward the faculty, staff and administrators who have contributed to WSU’s success when considering the higher education budgets this year. The faculty and staff will sincerely appreciate the support of the Board of Regents in the pay raise proposal that will be considered by the legislature.” Greenberg stated last spring the Senate passed Rule 66 and then later suspended it for one semester. This rule will go into effect for spring semester. The rule states that students may add course enrollments only during the first 5 days of classes. Greenberg stated that several actions need to be taken to mitigate this rule change. Some of the actions could be advertising the change in the Daily Evergreen, notify academic departments and advisers of this change so that they can tell their students. The transfer students who have a problem getting their transcripts evaluated could have their transcripts flagged so that they are processed more quickly and have the Transfer Center ready for those problems when they arise. Greenberg stated that faculty need to encourage students to get into the courses early because that is the best thing for them. Greenberg announced that President Smith will give a State of the University address on Monday, October 19 at 7:30 am in the CUB ballroom. All faculty and staff are invited to attend and Greenberg urged senators to attend.

R. Greenberg presented a plaque to David Stock in appreciation for his hard work as Senate Chair last year.


Provost Bataille reported on the following:
Research funds for WSU were up 6% and research proposals were up 3%. WSU had 2 million in industrial contracts. As WSU’s research profile goes up we will seek AAU status. Enrollments are up and a new Vice Provost will be appointed soon to oversee Admissions Office, Registrar’s Office and Financial Aid. Out of state student enrollments are down and this hurts are budget. We need to seek ways of increasing our out of state enrollments. Consultants were brought in to study WSU’s Office of Intellectual Property Administration and they provided a bare bones outline of what needs to be done to make that office more viable in providing the kinds of support for research that results in patents. Faculty pay raises will be the highest priority with the legislature. WSU is working with the state four-year schools in seeking 4.5% raises in each of the next two years plus a pool of monies that will provide salary increases for retention funds for the top 10% of the faculty. WSU has a separate budget request for expansion in Spokane if the money is not given then the expansion will not take place.

The provosts of the four-year schools are working with the HECB and the Council of Presidents to figure out ways of getting accountability measures that are more attainable. The 40% Rehire Policy is costing the University a great deal of money. No one has to retire and anyone can craft a retirement package between themselves and the department chair and dean. There is also debate about whether this is a right or privilege. The Faculty Affairs Committee is looking into this issue further.

A question was raised about the difficulty in filling vacant faculty positions and the negative impact on the quality of life for the remaining faculty because of the workload. Bataille stated she realizes the negative impacts but the other side if you bring in people to teach the classes and then you can’t pay them what the market demands and you can’t provide the proper lab or support or start up they need. They are unhappy and we have relieved the workload of the faculty here but you have added unhappy people in the long run. WSU can
provide more support using whatever portion of salary savings is left over after you hire part
time people to provide more support for graduate assistants or support for faculty that are
here. Bataille stated that there are a lot of issues here and tough decisions that must be made.

A question was asked about but issues the 2020 Commission would be raising with the
Governor. Bataille stated the report is to be out soon but they don’t know what will be in it.

3. Report from Legislative Representatives. — C. Clark, M. Carroll

Clark stated that in coming weeks she will be discussing with the Senate strategies to be
used with the legislature this coming year. As in years past Clark will be living in Olympia
during the legislative session and Matt Carroll will make several trips over during the crucial
parts of deliberations. Clark will be seeking stories from faculty to take to Olympia to use in
making the case for faculty pay raises. Clark presented the data on the recent distribution of
pay raises. The average increase was 2.08%. No one who was eligible got zero. The vast
concentration of raises were between one and three percent.

Additions or Changes to the Agenda.

There were no additions or changes to the agenda/
The agenda was approved.

Agenda Items. (Action Items)

1. Nomination from Committee on Committees to fill Vacancy on a Faculty Senate Committee
   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 2001. Senators are
   encouraged to study the Committee Manual along with the vitae of the nominee, prior to the
   meeting of October 8, 1998. Senators desiring to nominate additional persons from the floor
   MUST PROVIDE written information about the nominees for distribution before the
   meeting.

   **Faculty Affairs Committee**

   F – 2001 LEID, Wes, Professor, Animal Science Faculty, RIS, Graduate Faculty. WSU
   19 Years. Relevant Experience and Qualifications: Member of Honors Faculty;
   Provost Search Committee; Athletic Council; Committees on Committees;
   Graduate Studies Committee; College of Veterinary Medicine Committees;
   Department of Animal Science Graduate Studies committee; Various Scientific
   Review Boards such as American Journal of Veterinary Research.
   * * * * *

   Balloting resulted in Wes Leid being elected to Faculty Affairs Committee.

2. Nominations from Committee on Committees for Representation on the President’s Faculty
   Excellence Award Selection Committee Exhibit D is as follows:
Faculty Excellence Awards Selection Committee

**Instruction:**

F – 2000  
**FRIDLEY,** Kenneth J., Associate Professor, Civil and Environmental Engineering, Faculty. WSU 5 Years. **Relevant Experience and Qualifications:** ASEE (Engineering Education) National Effective Teaching Institute, Outstanding Teaching Faculty, CEE and CEA 2/98; Outstanding New Faculty Award, ASEE. **Committee Experience:** Accreditation Committee, Homepage/Newsletter Committee – CEE; Curriculum Committee – CEA; Graduate Studies Committee, Faculty Search Committee

F – 2000  
**MAGNUSON,** Nancy S., Professor, Microbiology, Faculty. WSU 12 Years. **Relevant Experience and Qualifications:** Committee on Committees

**Research**

F – 2000  
**BLATNER,** Keith A., Professor, Natural Resource Sciences, Faculty, WSU 15 Years. **Relevant Experience and Qualifications:** Served as Faculty Senator; Academic Affairs; Budget Committee; Ad Hoc Sustainable Development Committee; Graduate Program Review for the Ph.D. in Business Administration. Extensive research record with over 80 publications including 28 referred journal articles and over $650,000 in extramural research funding.

F – 2000  
**HOOKS,** Gregory, Associate Professor, Sociology, Faculty, WSU 7 Years. **Relevant Experience and Qualifications:** Numerous Senate and College Committees; Past vice-Chair and Chair of Faculty Senate. Served on Steering Committee and Planning Review Committee.

**Public Service**

F – 2000  
**FUNK,** William H., Director Water Research Center, Professor, Civil and Environmental Engineering, Faculty, Graduate Faculty, WSU 32 Years. **Relevant Experience and Qualifications:** Past chair of Environmental Science RP Program; Past director of Environmental Research Center; Ad hoc Committee to review Water Resources Research Center; High Level Nuclear Waste Board for the State of Washington; Governor’s 2010 Committee.

F – 2000  
**MARING,** Gerald H., Associate Professor, Teaching and Learning, Faculty, WSU 21 Years. **Relevant Experience and Qualifications:** Teaching and research include a focus on service. Provost’s Library Committee, Graduate Studies Committee, College of Education; Commencement Committee; Research and Arts Committee; All University Writing Committee; Committee on Freshman Academic Deficiency.

* * * * *
Balloting resulted as follows: Instruction, Nancy Magnuson, Research, Gregory Hooks and Public Service, William Funk.

3. Recommendation from Academic Affairs Committee to Extend the BS in Natural Resource Sciences to WSU Vancouver Exhibit D is as follows:

MEMORANDUM

TO: Thomas Brigham, Executive Secretary Faculty Senate
FROM: Becky Bitter, Academic Governance Coordinator
FOR: Academic Affairs Committee
DATE: 24 August 1998
SUBJECT: Proposal to Extend the Bachelor of Science in Natural Resource Sciences to WSU Vancouver

At its meeting on 8 April 1998, the Academic Affairs Committee approved the proposal to extend the Bachelor of Science in Natural Resource Sciences to WSU Vancouver, effective spring 1999.

Members of the AAC approved the BS in Natural Resource Sciences, at WSU Vancouver following discussion with Edward DePuit, Natural Resource Sciences Chair.

At this time, Faculty Senate review and approval is recommended.

March 9, 1998

MEMORANDUM

TO: Tom Brigham, Executive Secretary, WSU Faculty Senate
FROM: Ed DePuit, Chair, Natural Resource Sciences
SUBJECT: Proposal to Extend Degree to WSU-Vancouver

The Department of Natural Resource Sciences is proposing to extend one of its existing degrees (the B.S. in Natural Resource Sciences, Plant Resource and Natural Resource majors) to the WSU-Vancouver campus. To that end, we have developed a detailed proposal following University and HEC Board guidelines, and received preliminary approval signatures from appropriate WSU administrators. If accepted by the University and IIEC Board, we would propose a January, 1999 initiation date for offering this degree at the Vancouver campus.

I attach ten (10) copies of the proposal for purposes of review by appropriate Faculty Senate committees. I have contacted Jane Sherman on the matter of external review of this proposal, and she has confirmed that outside review is not necessary for the proposal because it represents extension of an existing (i.e., not a new) degree.

Feel free to contact me should any questions arise, or if/when further input or activity is necessary on my part. Please accept our thanks for your assistance on this matter.

XC. J. Sherman
xc. (memo only) J. Zuiches H. Dengerink L. James S. Cameron
Proposal to Extend Existing Degree:

B.S. in NATURAL RESOURCE SCIENCES
At
WASHINGTON STATE UNIVERSITY, PULLMAN
To
WASHINGTON STATE UNIVERSITY VANCOUVER

Institution: Washington State University
Degree Department of Natural Resource Sciences,
Granting College of Agriculture and Home Economics
Unit:

Degree: Bachelor
of: Science
in: Natural Resource Sciences (Plant Resource and Natural Resource
Science Majors)

Proposed Starting Date: Spring, 1999

Academic Department Representative: Dr. Edward J. DePuit
Professor and Chair
Department of Natural Resource Sciences
Washington State University
Pullman, WA 99164-6410
Telephone: [509] 335-4499
FAX: [509] 335-7862
E-Mail: ejdepuit@mail.wsu.edu

I. PROGRAM NEED

A. Relationship to Institutional Role and Mission

This document proposes extension of an existing WSU-Pullman degree (B.S. in Natural Resource Sciences, Plant Resource and Natural Resource Majors) to WSU's Vancouver Branch campus. As discussed in the following paragraphs, we feel extension of this degree is highly appropriate in light of the significance of natural resources to the State and region, and in relation to the role and mission of Washington State University in responding to significant state/regional needs.

Washington's natural resource systems are of immense importance to the State. Roughly one half of the State is forested, and one-fourth of Washington is forested/non-forested rangeland. The resources provided by these and wetland, freshwater and coastal ecosystems contribute substantially to the State's economic vitality, not only through direct products generated by natural resource industries but also through a wide array of other commodity and amenity values (such as wildland recreation, tourism, hunting and fishing, and mineral development). From an aesthetic standpoint, our natural resources (in both rural and urban
settings) also very significantly influence the quality-of-life that is important to much of Washington's citizenry. Natural ecosystems provide inherent ecologic and environmental quality benefits ranging from biodiversity/fish and wildlife habitat to water and air quality. Thus, while many segments of the population are directly dependent upon natural resources for socioeconomic wellbeing, an even greater proportion of our citizens are indirectly influenced by the condition, management and values of natural resource systems.

Appropriate stewardship is necessary if natural resources are to be sustained in the face of societal needs. Demands upon natural resources have not only increased but changed over the past decade. While national, commodity-based values remain highly important, increased public concern over ecologic and environmental values has significantly changed the way natural resources are viewed and managed. The Governor's Task Force 2010 clearly identified protection of the resource base to be a high priority. U.S. Forest Service 1991 planning documents (RPA) highlight stewardship of forest resources, and more recent outcomes of the President's Northwest Forest Plan and the Interior Columbia Basin Ecosystem Management Project emphasize the essentiality of proper management of natural resources in Washington and other northwestern states for sustainable economic vitality, environmental quality and public well-being. These public and regulatory mandates have developed concurrent with a number of major ecologic and environmental challenges in the State and region, including declining forest and rangeland health/condition, threatened and endangered wildlife and plant species (and reduction of biodiversity), diminishment and declining condition of wetland and riparian systems, and water quality/quantity issues.

Therefore, at no time (and in no state) has the need been greater for appropriate and effectively delivered education, research and outreach programs focused upon natural resources and, as the State of Washington's Land Grant University, Washington State University has a responsibility to deliver programs directly relevant to such needs. Under its land-grant mandate, WSU serves a unique role in the State through interdependent teaching, research and service/outreach programs in areas that include agriculture and the natural sciences. The Natural Resource Sciences comprise an integral part of the overall educational, research and extension responsibilities of WSU's College of Agriculture and Home Economics, and the centrality of natural resource sciences is particularly relevant to the elements of the College's Mission Statement that are italicized below:

"Recognizing its unique land-grant research and education mission to the people of Washington and the state's increasing global involvement, the College provides leadership in discovering, accessing and disseminating knowledge through high quality research, instruction and extension that contribute to a safe, abundant food and fiber supply; promote the well-being of individuals, families and communities; enhance sustainability of agricultural and economic systems; and promote stewardship of natural resources and ecological systems." 

Educational programs in agriculture and natural sciences are thus explicit in WSU's role and mission, and programs in Natural Resource Sciences have similar centrality within the mission of the College of Agriculture and Home Economics. Because of this, the Department of Natural Resource Sciences (NRS) was re-organized and expanded in 1988; implemented major revisions in undergraduate and graduate curricula from 1988 to 1991; and has experienced increased faculty teaching and student FTE's from 1991 to 1997 on the Pullman campus. To exemplify the latter point, numbers of certified undergraduate majors
in NRS have increased by 88% and student credit hours generated by NRS courses have increased by 77% from 1991-92 to 1996-97 at WSU Pullman. As a result of these increases, NRS served 257 certified undergraduate majors and 4608 student credit hours were generated by NRS courses on the Pullman campus during 1996-97.

Under the principle of "one university geographically dispersed", the mission of WSU-Vancouver includes fully the land-grant mission of WSU as a whole. At least a portion of that mission was endorsed and highlighted by the BEC Board and the legislature in the process of creating branch campuses. One of the primary objectives in creating the branch campuses was to provide access to higher education for persons who were placebound and thus unable to access the existing destination campuses of Washington's higher education system. WSU-Vancouver's location in southwest Washington provides access to a large and growing population which otherwise has no in-state public access to upper division and graduate education.

In addition to providing general access to higher education, the branch campuses were asked to develop - both in operating procedures and programs offered - in concert with the community that each serves. While many of the recent headlines about southwest Washington have emphasized the high tech companies and the growing "silicon forest, many of the economic and other concerns of southwest Washington relate to natural resources. That remains the case in some portions of southwest Washington (e.g., Pacific, Wakiakum, Skamania counties) which continue to rely on natural resource related activities for economic vitality. In those portions of the region which are becoming urbanized (portions of Clark and Cowlitz counties), the specific role of natural resources is changing. For example, nursery stock is now reportedly the largest cash crop for the entire state of Oregon - larger than either food production or timber. The increased urbanization and industrialization have themselves elicited increased attention to the entire spectrum of natural resource issues. This proposed program, along with the B.S. in Environmental Science, at WSU Vancouver will provide the only in-state education resources to address these issues for placebound residents of southwest Washington.

1 Draft Strategic Plan for Washington State University, May, 1995
2 A Plan for Implementing Century 2 Priorities, WSU College of Agriculture and Home Economics, February, 1992

B. Documentation of Need for Program

The preceding section has described, in general terms, the importance of natural resources to the State and consequent need for appropriate and accessible educational programs in this field at WSU. Again, issues related to sustainability of natural resources and quality of the environments they create have become major foci of public awareness, concern and attention at global, national, regional and local scales. Nowhere is this more the case than in southwestern Washington, a region which faces a plethora of challenges related to the use, management and stewardship of natural resources in concert with a burgeoning population. Given the focus of branch campus programs on disciplines of significant local/regional need, it becomes highly appropriate to make natural resource sciences an area of educational emphasis at Vancouver -- as in fact was the case during initial planning for this campus.
In light of this, the College of Agriculture and Home Economics in 1994 funded a project to accomplish vital conceptual and foundational work related to establishing Natural Resource Science (NRS) courses and curricula at WSU-Vancouver. Efforts centered upon evaluating the need for such courses and curricula in light of particular interests and needs of student clientele in southwestern Washington and elsewhere in the immediate region. One of the objectives of this project was to assess the need for NRS programs at Vancouver in consultation with other educational institutions in the immediate region identified as stakeholders and/or cooperators with such programs. Two types of institutions in the region were included to meet this objective: other four year universities with similar programs, and two-year community colleges in close proximity to Vancouver who might serve as "feeder" institutions for students seeking a NRS degree at WSU Vancouver. With regard to the former, meetings with personnel in two colleges at Oregon State University have laid the groundwork for effective development of NRS programs at Vancouver that complement and augment, rather than duplicate, educational opportunities in natural resources in the northwestern Oregon/southwestern Washington region. Initial communication with administration of the College of Forest Resources at the University of Washington indicated a local need for NRS educational opportunities in Southwestern Washington, an area geographically distant from the UW main and branch campuses.

With regard to community colleges potentially supplying students to the Vancouver program, initial meetings with faculty and students at Clark and Lower Columbia Community Colleges indicated strong student and faculty interest in a NRS program at the Vancouver campus, with students indicating willingness to transfer and inquiring about academic preparation prior to transfer. Subsequent discussions with other community colleges in the immediate, Southwestern Washington region (Centralia, Gray's Harbor) have indicated similar interest. The notion of a NRS degree at WSU-Vancouver was discussed with a broader array of Washington community colleges offering natural resource coursework at a recent (May, 1997) meeting of the Northwest Natural Resources Technologies Consortium, and was met with strong support. A number of community colleges have expressed interest in direct coordination of their 2-year curricula with a NRS degree potentially offered at Vancouver (with goals of improved articulation agreements and "seamless" student transfer), and several (e.g., Centralia, Gray's Harbor, Clark) are interested in direct regional collaboration in natural resource course offerings via distance education, team-teaching and other innovative approaches.

Based in part upon outcomes of initial needs assessments, 7 NRS courses are currently offered at the WSU-Vancouver campus as taught either by Adjunct faculty or faculty in other academic units (NATRS 311 - Natural Resource Economics, NATRS 301 and 302 - Plant Resources I and II, NATRS 438 - Natural Resource Policy and Administration, NATRS 450 - Conservation Biology, NATRS 303 - Conservation of Natural Resources, and NATRS 419 - Special Topics). In aggregate, student enrollment in these courses has been substantial (total enrollment of 577 students in NRS courses since 1991), and has increased substantially over the past five years (i.e., total annual enrollments in NRS courses at Vancouver increased by 85% from 1991-92 to 199697). Total enrollments in and SCH's generated by NRS courses during the combined, three most recent semesters/sessions (Fall 1996 + Spring 1997 + Summer 1997) were higher than those for any other science department offering courses at Vancouver (including one other department that offers a degree at Vancouver). We feel that the interest of students in initial NRS course offerings supports the need for a NRS degree offering at this campus. We also predict (based upon
high and increasing enrollments in NRS programs on the main campus) that student interest will further, dramatically expand at Vancouver as the program evolves and matures at that branch campus. Again, numbers of certified NRS majors have increased by 88% on the Pullman campus over the past 5 years; of even greater relevance, numbers of majors certified under the B.S. in Natural Resource Science (the specific NRS degree proposed for Vancouver) have increased at the Pullman campus from 6 students in 1991-92 (the first year this degree became available) to 88 students in 1996-97.

The above information indicates substantial student interest in natural resource science education; we also believe that considerable demand and a breadth of employment opportunities exist for graduates of the NRS program. The most recent (1994-95) national statistics available demonstrated that 90% of baccalaureate graduates classified within the natural resource academic area either entered graduate school (24%) or successfully garnered employment (66%) following graduation. Of the latter, 733 employed graduates, 32% were employed as scientists and related specialists; 20% as managers or financial specialists; 9% in marketing/merchandising; 8% as communication or education specialists; 14% in social service professions; and 17% as natural resource production specialists. Graduates across these placement clusters were employed by a wide range of entities within the federal/state/local government (38%), academic/educational (8%) and private (54%) sectors, with an average starting salary of $21,502. Although not all graduates of NRS programs at the Pullman campus provide information on employment status during exit surveys, 83% of those who did respond over the past two years either entered graduate school (21%) or procured employment within the first year following graduation (62%) with an average starting salary of $22,000 -- figures quite similar to the national average.

A proposal to offer the B.S. in Environmental Science (ES) at WSU-Vancouver was approved in 1996. We believe that there is a need, as on the Pullman campus, for a discrete, complementary presence of both NRS and ES on the Vancouver campus due to the differences in focus and emphasis that exist between these two programs. ES broadly addresses interactions of humans with their biophysical environment, with emphases on impact assessment and methods for problem resolution. NRS focuses primarily on understanding and managing the natural resource base by integrating ecological and socioeconomic principles. Differences in curricular structure between ESRP and NRS are therefore pronounced. NRS and ES are both ecologically-based applied sciences, however, and we foresee collaboration between the two programs as essential (and, perhaps, more essential) on the Vancouver campus as it is at Pullman. Indeed, the importance of NRS courses (currently offered and potential) within the ES program at Vancouver emphasize the significance of NRS to the ES program, the degree of symbiosis (as on the main campus) between ES and NRS curricula, and the need to develop ES and NRS curricula in coordinated, complementary fashion at the Vancouver campus.

We feel that major benefits of the proposed NRS degree program at Vancouver would include:
- development of a degree program in an area of local significance and demonstrated student interest, with attendant benefits in breadth/numbers of students served,
- potential for expanded offerings of GER-approved Tier 2 and/or 3 science courses,
- direct and indirect benefits to related curricula in the sciences or humanities (e.g., ES, sociology, economics) that rely or could rely upon NRS course offerings, and
by virtue of faculty resources, provision of research and outreach capacity in a locally important subject area (natural resources) that otherwise may not be fully served in this area of the state.


C. Relationship to Other Institutions

1. Duplication

Several other four-year universities in Washington and the immediately proximal region offer degree programs focusing upon natural resource sciences, in considered response to the state/regional importance of natural resources. These programs have varying degrees of similarity to the B.S. in Natural Resource Science (Plant and Natural Resource Majors) proposed for extension to WSU-Vancouver.

It is important to note that the B.S. in Natural Resource Science is not designed with a primary purpose of educating students in the traditional resource management disciplines of forestry, wildlife management, range management and wildland recreation management. Thus, this degree at WSU-Vancouver will not duplicate nor be closely similar to natural resource management degrees currently offered at the University of Washington (B.S. in Forest Resources - Forest Management, Forest Engineering and Wildlife curricula); Oregon State University (B.S. in Forest Management, Forest Engineering, Rangeland Resources, Wildlife Science); and the University of Idaho (B.S. in Forest Resources, Range Resources, Wildlife Resources and Resource Recreation/Tourism).

Programs with a general natural resource (or environmental) focus offered by other four year institutions in the State and immediate region include the following:

- **University of Washington:** BS in Forest Resources, Conservation of Wildland Resources curriculum
- **The Evergreen State College:** BS/BA, Environmental Studies
- **Western Washington University:** BS in Environmental Science; BA in Planning and (Huxley College) Environmental Policy; BA in Environmental Studies/Economics
- **Oregon State University:** BS in Natural Resources
- **Portland State University:** BA in Environmental Policy; BS in Environmental Science
- **University of Oregon (School of Law):** Statement of completion in environmental and natural resource law
- **University of Idaho:** BS in Natural Resources Ecology & Conservation

While some similarities in lower division and certain upper division courses exist with the WSU BS in Natural Resource Science degree, the structure and foci of the Western Washington University and Portland State University programs are primarily aligned with environmental science (and hence more similar to WSU's ES program than to NRS). The program at Evergreen also includes an environmental science area of emphasis but additionally contains natural history and socioeconomic themes relevant to natural resource
sciences; however, these themes are offered via a non-traditional curricular structure that is fundamentally different than that of the WSU BS in Natural Resource Sciences. The University of Oregon program is basically an environmental natural resource specialization within its Law Degree curriculum, and hence has a structure and function different than that of the WSU degree. For the above reasons, little duplication is seen between the BS in Natural Resource Sciences at WSU-Vancouver and programs at Western Washington University, Portland State University, The Evergreen State College and the University of Oregon.

The University of Washington's Conservation of Wildland Resources Curriculum (BS in Forest Resources) is fairly similar to the WSU NRS degree in basic goals and in certain lower division course requirements, but differs from the WSU NRS degree in curricular structure and composition of upper division coursework. The UW degree also is not available to place-bound students in southwestern Washington due to distance from the UW main campus at Seattle and branch campuses at Tacoma and Bothell.

The degrees at both Oregon State University (interdisciplinary BS in Natural Resources) and the University of Idaho (BS in Natural Resource Ecology and Conservation) are both designed to provide broad, general education in natural resources and hence are similar to the WSU NRS degree in that respect (and in certain subject matter elements of their curricula). The UI degree differs from the WSU degree in terms of specific structure and flexibility, whereas the OSU degree's structure is similar, although not identical, to the approach of the WSU degree. However, the OSU degree (and, for that matter, the UI degree) are of limited utility to students in southwestern Washington due both to higher costs associated with seeking education outside the State (e.g., non-resident tuition) and obvious inaccessibility of programs at OSU and UI to placebound students.

This function is provided by WSU’s B.S. in Natural Resource Management (Forestry, Wildlife Management, Range Management and Wildland Recreation Majors) at the Pullman campus, which is not proposed for extension to Vancouver.

2. Uniqueness

We feel the BS in Natural Resource Sciences offers unique features among comparable programs at other four year institutions in Washington with regard to three attributes: focus and breadth; flexibility; and specific structure/composition.

As noted in the preceding section, while several other universities in Washington offer programs with varying degrees of similarity, these related programs are primarily focused either upon the related field of environmental science (e.g.,), upon a combination of environmental/natural resource sciences (e.g., TESC), or upon a specific subfield of natural resources (e.g., forest resources at UW). WSU is the only Washington institution to offer a baccalaureate degree with Natural Resource Sciences explicit in the degree title, and this implicitly confers to the WSU degree both clear focus on natural resources and a scope allowing integration of the full range of ecologic and socioeconomic disciplines, issues and subject matter fields relevant to understanding and managing natural resources.

We also feel our program offers unique advantages in terms of flexibility to accommodate students with a diversity of interests and/or needs. For example, the General Studies Option and free electives under the Natural Resource Major, and the Directed Studies Options under
both the Natural Resource and Plant Science Majors provide students the opportunity to tailor an important portion (13 to 28% of total degree credit hours) of their program of study to meet individual goals of either subject matter breadth or specificity. While related programs in Washington (especially at TESC but also, with somewhat greater restriction, at UW and WWU) also provide curricular flexibility, flexibility is imparted in different fashion.

Although certain common elements exist, the overall structure and many specific course offerings/requirements of the BS in Natural Resource Sciences are different than those of related programs in the State and, with the exception of OSU, elsewhere in the region. The 4-tiered structure of our curriculum is unique among comparable programs reviewed, and we feel this structure succeeds in imparting both subject matter breadth (by virtue of courses in the GER and NRS common cores) and specificity (by virtue of different majors and associated major cores, and required options under each major). Lastly, the identity and focus of both majors (Plant Resources and Natural Resources) proposed for Vancouver and associated options under each major is unique among related programs in the State, and certain options have particular relevance to needs in the southwestern Washington area.

The above considerations notwithstanding, perhaps the most important factor of uniqueness is that the WSU degree will provide a means for place-bound students in southwestern Washington to attain education in natural resource sciences that presently cannot be feasibly met by other programs elsewhere in the state and region.

II. PROGRAM DESCRIPTION

A. Goals and Objectives

Following reorganization in 1988, the Department of Natural Resource Sciences at WSU revised goals and objectives of its undergraduate programs to meet the challenges of resource management and education into the 21st century. The foundational goal for all undergraduate curricula was to provide all students with integrated, interdisciplinary education in natural resource sciences that is relevant to current and future needs of society and the resource base upon which society depends.

Degree programs were restructured from 1988 to 1991 to meet desired levels of competency in essential subject matter fields, with emphasis upon three conceptual objectives for all curricula:

1) Broadly-based liberal arts/humanities and basic science education,
2) Impartation of management, critical thinking/problem solving, and cultural understanding/appreciation as essential life-long learning skills, and
3) Provision of competency in specific fields of major emphasis in natural resource sciences.

The revised curricula were implemented during 1991 and resulted in the two undergraduate degrees currently offered by the Department:

1) B.S. in Natural Resource Management, with majors in Forestry, Range Management, Wildlife Management, and Wildland Recreation Management, and
2) B.S. in Natural Resource Sciences, with Wildlife Resource, Plant Resource and Natural Resource majors
The second of the above, the B.S. in Natural Resource Sciences, is the degree proposed for extension WSU-Vancouver, and at present we are proposing to extend only the Plant Resource and Natural Resource Major. The goal of this degree is to prepare students for careers and/or graduate study that focus upon the application of science to the understanding, management and conservation of natural resources. By virtue of available majors and options within majors, objectives are to provide students opportunities that include:

1) Specific focus on selected aspects of natural resource sciences (i.e., the Wildlife Major and directed studies/subject matter-specified options under Plant Resource and Natural Resource majors), or

2) A broader, more generalized background in natural resources for students most interested in subject matter breadth and/or in preparation for later specialization in graduate school (i.e., the general studies option of the Natural Resource Major), and

3) Flexibility to tailor curricula to individual student interests and needs (i.e., directed studies and general studies options in Plant Resource and/or Natural Resource Majors).

This degree thus has a distinctly different function than the resource management emphasis of traditional natural resource degrees (such as forestry, range or wildlife management). It seeks to serve students pursuing a diverse education in natural resources, yet provides an opportunity, if desired, for students to focus on a particular subject area that is relevant and of interest, but which may not correspond to the more narrow focus of a traditional resource management degree. The degree provides students preparation both for more advanced study (e.g., graduate school in either biophysical or social sciences, or law school, with a natural resource emphasis), or for careers in the application of natural resource sciences in the public (local/state/federal agencies, government or planning groups), private (e.g., interest/advocacy groups, consulting) or industrial sectors.

One overall goal in extending this degree to the Vancouver campus is to create educational opportunities in NRS at Vancouver that well-serve the unique needs of southwestern Washington students. For the following reasons, we feel that the degree, majors and options proposed will provide a curricular structure allowing this goal to be met.

- The Natural Resource Major, B.S. in Natural Resource Sciences represents the most flexible curriculum available in NRS. Such flexibility will allow tailoring individual programs of study to individual student needs that, at this branch campus, may not be well-served by the more structured majors that comprise the predominant emphasis of NRS programs on the main campus.

- The Plant Science Major, B.S. in Natural Resource Sciences represents a field of study that is of substantial student interest in the Vancouver area, and a field of study potentially well served by and interfaced with CABE research faculty/programs at Vancouver plus College of Sciences and available adjunct faculty at Vancouver.

- Several specific, subject matter-focused Options under the Plant Science and Natural Resource Science Majors emphasize subject areas of known/anticipated, particular student interest in the Vancouver/southwestern Washington region (e.g., Environmental Horticulture, Natural Resource Policy, Natural Resource Social Science, Wetland/Aquatic Resources, Landscape Ecology)
- The flexibility of the degree and majors will prove conducive to better integration of NRS programs with courses in other related biophysical and social science fields within which curricula are being developed at this branch campus.

5 *Departmental Plan, Natural Resource Sciences, Washington State University, June, 1989*


7 Insufficient availability of essential courses for the major at present and for the immediate future will preclude proposing the Wildlife Resource Science Major at the Vancouver at the present time.

**B. Curriculum**

1. **Course of Study**

The basic structure of the B.S. in Natural Resource Sciences, Plant Resource Science and Natural Resource Science Majors, is depicted graphically in Figure 1. The curriculum consists of four components: a common core of basic science and GER courses; a common core of basic natural resource courses; a core of courses specific to each major, and an array of restricted/approved elective courses specific to options under each major. Table 1 provides a listing of course requirements for each of the first three components, as met on the Pullman campus and as to be met at Vancouver via both transfer courses from community colleges and existing/new courses at the Vancouver campus, plus identification of Options under each Major. Table 2 further describes Options available within majors, while Table 3 describes two GER Areas of Coherence that are particularly feasible for students pursuing this degree. Table 4 provides a listing of equivalencies for required lower division courses as presently available at community colleges in southwestern and western Washington.

**Figure 1**
Basic curricular structure, B.S. in Natural Resource Sciences, Washington State University, Vancouver, WA

<table>
<thead>
<tr>
<th>Common Basic Sciences/GER Core Courses</th>
<th></th>
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<tbody>
<tr>
<td>(Selected to meet the needs of degree; 62-65 credits)</td>
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</table>

<table>
<thead>
<tr>
<th>Common Natural Resource Sciences Core Courses</th>
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<tbody>
<tr>
<td>(15 credits)</td>
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<table>
<thead>
<tr>
<th>Plant Resource Science Major Core Courses</th>
<th>Natural Resource Sciences Major Core Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>(27-30 Credits)</td>
<td>(9-11 credits)</td>
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</table>

<table>
<thead>
<tr>
<th>Specified Options</th>
<th>Specified Options</th>
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<tbody>
<tr>
<td>(16-20 credits)</td>
<td>(16-20 credits)</td>
</tr>
</tbody>
</table>

Table 4 provides a listing of equivalencies for required lower division courses as presently available at community colleges in southwestern and western Washington.

Table 1
Course requirements for B.S. in Natural Resource Sciences, Plant Resource and Natural Resource Majors, as met at WSU-Pullman and to be met at WSU-Vancouver
A. COMMON BASIC SCIENCE/GER COURSES

1. Communications:
   a) Engl 101 3 cr
   b) HD 205 or SpCom 102 3 cr
   c) Engl 402 3 cr

2. Biological Sciences:
   a) BioSci 103 4 cr
   b) BioSci 104 or Bot 120 4 cr
   c) Nats 300 or BioSci 372 4 cr

3. Chemistry/Physical Sciences:
   a) Chem. 101 or Chem 105 4 cr
   b) Geol 102 or BC/BP 364 or Phys 101 or
   c) Soils 201 3 cr

4. Math/Statistics:
   a) Math 107 4 cr
   b) Stat 212 or Subject matter intr. Stats course 3 cr
   c) Math 140 or Math 171 or Math 202 or Stat 401 or Stat 412 or Stat 422 2-4 cr

5. Social Sciences:
   a) Econ 101 or [Econ 101 3 cr]
6. Social Sciences or Art/Humanities:
   a) G, H, S, K or U elective 3 cr [Transferable elective 3 cr] or WSU-V G, H, S, K or U elective 3 cr

7. Arts/Humanities:
   a) G or H elective 3 cr [Transferable elective 3 cr] or WSU-V G or H elective 3 cr

8. Intercultural Studies:
   a) I, G or K elective 3 cr [Transferable elective 3 cr] or WSU-V I, G or K elective 3 cr

9. World Civilizations:
   a) GenEd 110 3 cr [Transferable elective 3 cr]
   b) GenEd 111 3 cr [Transferable elective 3 cr]

10. Tier 3 Capstone Course:
   a) Elective 3 cr

Sub-Total Credits – GER’s: 62-65 cr

Vancouver Program

Pullman Program

At Clark or Other Community College At WSU-Vancouver
[WSU Equivalencies for]

B. COMMON NATURAL RESOURCE SCIENCE CORE COURSES

a) Natrs 100 1 cr [Transferable equiv or Natrs 303 or New
    and Natrs 101 1 cr Natrs 301 alternatives 2 cr] WSU-V course as
    and
    Natrs 101 1 cr alternatives for
    NATRS 100+101
    2-3 cr

b) Natrs 204 2 cr [Transferable equiv or New WSU-V
                  or alternatives 2 cr] measurements
                  course 2 cr
                  Natrs 301 3 cr
                  Natrs 311 3 cr
                  New offering of
                  Natrs 312 WSU-V
                  2 cr
                  Natrs 450 (M) 3 cr

Sub-total Credits – NRS Common Core: 15 cr
C. CORE COURSES AND OPTIONS FOR MAJORS WITHIN NRS DEGREE

1. Wildlife Science Major: Not to be initially offered at WSU-V

2. Plant Science Major:
   a) Chem 106 4 cr [Chem 106 4 cr]
   b) Chem 240 4 cr [Chem 240 4 cr]
   c) Gen Ed 301 4 cr [Transferable intr or
genetics course 3-4 cr]
   d) Natrs 302(M) 3 cr
   e) Plant anatomy or Morphology
      Elective 3-4 cr
   f) Plant Ecology
      Elective 3-4 cr
   g) Plant Physiology
      Elective 3-4 cr
   h) Natrs 488(M) (Sr. Thesis) 3 cr
   i) Completion of specified
      Option (see Below) 16-20 cr

   Options for Plant Resource Science Major (See Table 2 for description of Options):
   1) Directed Studies
   2) Applied Physiology
   3) Applied Ecology
   4) Environmental Horticulture

   Subtotal Credits, Plant Science Core + Option Courses: 43-50 cr

TOTAL CREDIT HOURS FOR B.S. IN NATURAL RESOURCE SCIENCES, PLANT
SCIENCE MAJOR: 120-130 CR

Vancouver Program

<table>
<thead>
<tr>
<th>Pullman Program</th>
<th>Community College</th>
<th>At WSU-Vancouver</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Clark or Other</td>
<td></td>
<td>At WSU-Vancouver</td>
</tr>
<tr>
<td>[WSU Equivalencies for]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Natural Resource Science Major
   a) Natrs 488(M) (Sr. Thesis)
   b) Social Sci elective 3-4 cr
   c) Basic/applied Ecology elective

   New offering of
   Natrs 488(M) at WSU-V 3 cr
   Existing Soc, PolS & Econ courses
   At WSU-V 3-4 cr
   Natrs 419, existing ESRP or new
Options for Natural Resource Science Major (See Table 2 for description of Options):

1. General Studies
2. Directed Studies
3. Natural Resource Policy
4. Natural Resource Social Science
5. Wetland/Aquatic Resources
6. Landscape Ecology

Sub-Total Credits, Natural Resource Major Core+Option Courses: 25-31 cr

Free Electives 9-18 cr

TOTAL CREDIT HOURS FOR B.S. IN NATURAL RESOURCE SCIENCES, NATURAL RESOURCE MAJOR: 120 cr

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8 See Table 4 for listing of equivalencies for required lower division courses as presently available at community colleges in southwestern and western Washington.
9 Available as AG 200 at Clark College
10 Ecology of the Planet and Science and Society are particularly feasible Areas of Coherence; See Table 3
*d) **Environmental Horticulture:** At least five elective courses/16 credit hours (including at least 9 credit hours in upper division courses) approved by the Department and selected to focus upon use of trees and ornamental plants for aesthetic and environmental purposes, and/or upon nursery culture and management of ornamental or native plants. With proper selection of courses and at least 16 hours of Horticulture courses (including Hort 201, and 234 or 251), students pursuing this option may also qualify for a Minor in Horticulture. To be offered at Vancouver campus only.

II. Options Under **Natural Resource Science Major:**

*a) **General Studies:** At least five elective courses/16 credit hours (including at least 9 credit hours in upper division courses) approved by the Department and selected to address a broad range of subjects relevant to natural resource sciences. This option provides maximal flexibility in individual program design, and is offered to serve students more interested in breadth than in subject matter depth in natural resource sciences. To be offered at both Pullman and Vancouver campuses.

*b) **Directed Studies:** At least five elective courses/16 credit hours (including at least 9 credit hours in upper division courses) approved by the Department and selected to focus upon a specific subject area relevant to natural resource sciences that is of individual interest to the student, and that is not represented by other, subject matter defined options. To be offered at both Pullman and Vancouver campuses.

*c) **Natural Resource Policy:** At least five courses/16 credit hours (including at least 9 credit hours in upper division courses) approved by the Department and selected to focus upon policy/political subjects relevant to natural resources. Natrs 438 (Nat Resource Policy & Administration) is require the other four courses/13 credit hours from approved electives. With proper selection of courses and at least 18 hours of PolSci courses (including PolSci 101, 102 and 103), students pursuing this option may also qualify for a Minor in Political Science. To be offered at both Pullman and Vancouver campuses.

*d) **Natural Resource Social Science:** At least five elective courses/16 credit hours (including at least 9 credit hours in upper division courses) approved by the Department and selected to focus upon elements of social science relevant to natural resources. With proper selection of courses and at least 18 hours of Soc courses (including Soc 101 and 320), students in this option may also qualify for a minor in Sociology. To be offered at both Pullman and Vancouver campuses.

* Options marked with an asterisk (*) are those which would be initially emphasized during the start-up phase of the degree program at the Vancouver campus.

**Table 3:**
**Particular Feasible GER Areas of coherence, B.S. in Natural Resource Sciences, Plant Science and Natural Resource Science Majors**

Courses in NRS Curriculum

A. **Ecology of the Planet**

Tier 1 (1 course) BioSci 103
Tier 2 (3 courses)  
Chem 102 or 105  
S, H, K or I Elective from approved list of Tier II  
courses (also used to meet Arts/Humanities, Social  
Sciences or Intercultural studies GER requirements)  

Tier 3 (1 course)  
AmSt 472 or Engl 472 or Hist 409 (note: Hist 409  
may also be used to meet Social Science GER  
requirement)

B. Science and society  

Tier 1 (1 course)  
GenEd 111  

Tier 2 (3 courses)  
Chem 102 or 105  
Phys 101  
Econ 101  

Tier 3 (1 course)  
CptS 401 or Soc 430 (note: both these courses may  
also be used to meet Social Science GER require)

2. Admission Requirements

Basic admission requirements follow general policies and criteria of Washington State University as modified for its branch campuses. It is the policy of WSU to admit all applicants if the total evidence (academic records, test results, recommendations and/or interviews) indicates a reasonable probability of academic success.

WSU-Vancouver offers only upper-division courses, and thus admits only transfer students who already have completed an appropriate level of lower-division college credit elsewhere. In compliance with WSU-Vancouver admission policy, transfer students who pursue the B.S. in Natural Resource Sciences at WSU-Vancouver must have earned at least 27 semester (40 quarter) hours of transferable college credit at the time of application, and have a minimum GPA of 2.0.

Students pursuing baccalaureate degrees at WSU-Vancouver must either have completed all required lower division courses prior to transferring, or complete remaining required lower division courses after transfer via concurrent registration at a community college or another four year college/university. To the extent possible, students planning to major in Natural Resource Sciences at WSU-Vancouver should plan to complete the basic required courses in communications, biological sciences, chemistry/physical sciences, mathematics, social sciences and arts/humanities prior to transferring. Transfer students who have completed an approved AA or AS degree at a Washington community college or the AA-Oregon Transfer Degree from an Oregon community college may be considered to have fulfilled the lower division general education requirements (GER's) for graduation from WSU, subject to review and evaluation by the WSU Office of Admissions.

Natural Resource Sciences is not a limited enrollment program, and currently requires only minimum WSU standards for certification of degree/major1 (i.e., completion of a minimum of 24 semester hours of credit and a minimum cumulative GPA of 2.0). Transfer students at WSU Vancouver with more than 24 credit hours will normally be certified in a degree program upon admission unless uncertain about their major.
Additional certification requirements have been proposed, but have not yet been institutionally approved.

C. Faculty

At the initiation of the proposed program it will be overseen by a full-time, resident faculty member hired specifically for this purpose. Additional instructional resources will be incorporated by relying on department faculty in Pullman or elsewhere in the WSU system, as well as college faculty who are currently employed at the Vancouver Research and Extension Unit. Resident faculty who are part of other degree programs (e.g., Biology) at WSU-Vancouver will also contribute. As the program grows, additional full-time resident faculty will be hired to staff the program both to expand offerings and to replace the temporary or part-time contributions of others.

The Department of Natural Resource Sciences (NRS) presently includes 17.45 permanent faculty FTE which includes 2.0 off-campus research/extension faculty (in Seattle and Puyallup) and 15.45 faculty on the Pullman campus (all of whom directly contribute to teaching programs of the Department to some degree). This faculty, in aggregate, will provide a comprehensive knowledge/support base for the extended program at Vancouver. As indicated in Table 5, certain Pullman-based NRS faculty are presently slated to directly contribute to the teaching program at Vancouver through distance-delivery of courses (via WHETS) or courses delivered during summer session residence on the Vancouver campus. Such courses include NATRS 303 (distance delivered by Hardesty), NATRS 312 (to be distance delivered by Carroll), NATRS 460 and/or 461 (to be delivered as shortcourses in-residence by Moore during summer session), and several other courses potentially developed in distance-delivered or summer session format.

It is anticipated that other Pullman and off-campus NRS faculty will also indirectly or, on occasion, directly contribute to the teaching program at Vancouver. If warranted and feasible, a Pullman-based faculty with appropriate expertise may be relocated to the Vancouver campus in the future.

Table 5 includes a new faculty hire in NRS at the Vancouver campus. An existing 0.50 FTE adjunct NRS faculty member, temporarily supported both by CAHE and WSU-Vancouver, is also a key faculty resource for the program. This faculty member (Robson) currently teaches NATRS 301, 302, 450 and 419.

The B.S. in Natural Resource Sciences has a strong interdisciplinary focus and, hence, reliance on supporting coursework offered by other departments at Vancouver in the basic/applied biophysical and social sciences. Several existing/proposed faculty at Vancouver will make particularly important contributions (via courses of direct service to the NRS curriculum), and are therefore also included in Table 5. These faculty currently teach or will teach NATRS 311 and 438 (new adjunct WSU-V faculty member in Econ/AgEcon); BioSci 372 and ESRP 404 (Hacker); and win teach new basic and applied science (Johnson, Bishop, Klauer, Chen and Tanigoshi) and environmental science (Brook and new ESRP hire) courses that will directly contribute to the curriculum.
A strategy for enrichment of our teaching program involves future teaching contributions from WSU Research/Extension Center faculty, State Extension faculty and/or collaborating faculty at other universities - either in-residence or via distance delivery. Ibis would occur through either teaching by off-campus NRS faculty (e.g., Jon Johnson at Puyallup) or adjunct appointment of collaborating non-NRS faculty within or external to the WSU system.

In summary, faculty listed under Part A of Table 5 may be viewed as the initial core NRS faculty for the Vancouver program, while those under Part B are considered key contributing faculty from other units. Again, contributions from these faculty will be augmented by those from other faculty at Vancouver teaching courses that meet core or elective requirements of the NRS curriculum; from distance-delivered courses originating elsewhere; and by additional permanent and/or adjunct faculty appointed in the future as the program grows.

Table 5
Program Faculty during Year 1

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Status</th>
<th>Percent Effort</th>
</tr>
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<tbody>
<tr>
<td>A. NRS Faculty directly contributing to program at WSU Vancouver</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matthew S. Carroll</td>
<td>Assoc Professor</td>
<td>FT (Pullman)</td>
<td>*13</td>
</tr>
<tr>
<td>Linda H. Hardesty</td>
<td>Assoc Professor</td>
<td>FT (Pullman)</td>
<td>*</td>
</tr>
<tr>
<td>Barry C. Moore</td>
<td>Assoc Professor</td>
<td>FT (Pullman)</td>
<td>*</td>
</tr>
<tr>
<td>Carl J. Goebel</td>
<td>Professor (Emeritus)</td>
<td>PT/Temp (WSUV)</td>
<td></td>
</tr>
<tr>
<td>Kathleen A. Robson</td>
<td>Asst Professor (Adjunct)</td>
<td>PT/Temp (WSUV)</td>
<td>50%</td>
</tr>
<tr>
<td>New NRS Faculty</td>
<td>Asst/Assoc Professor</td>
<td>FT (WSUV)</td>
<td>100%</td>
</tr>
<tr>
<td>(and NRS Program Principal at WSUV)</td>
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</table>

| B. Faculty in Other Units at the Vancouver campus teaching courses of major, direct service to the NRS program | |
| J. Scott Cameron          | Assoc Professor (Hort) | FT | 5% |
| (and Asst Dean/CAHE ANR Program Coordinator at WSUV) | | | |
| Sally Hacker              | Asst Professor (Botany) | FT | 10% |
| John Bishop               | Asst Professor (Botany) | FT | 10% |
| (new – Fall, 1998)       | | | |
| Edward Brook              | Asst Prof (Geology/ESRP) | FT | 10% |
| Charles R. Johnson        | Professor (Horticulture) | FT | 10% |
| New WSUV Faculty Asst Prof (Adjunct, Econ/AgEcon/NRS) | 25% |
| New WSUV Faculty Asst/Assoc Prof (ESRP) | FT | 10% |
| (and new College of Sciences Program Coordinator at WSUV) | | |
| Stephen Klauer            | Research Assoc (Hort) | FT | 10% |
| (non-tenure track) | | |
| Chuhe Chen                | Research Assoc (Hort) | FT | 10% |
| (non-tenure track) | | |
Lynell Tanigoshi Assoc Professor (Ent) FT 10%

Total FTE Faculty Directly Contributing to Degree Program: 2.60 FTE

Augmented by program oversight by NRS Department Chair in Pullman, plus other Pullman, Puyallup or State-based NRS faculty making occasional or indirect contributions to Vancouver Program

FTE of asterisk-marked NRS faculty not listed since contributions from these faculty will be via courses offered through EDP and/or during summer sessions at Vancouver

To be hired by/serve in-residence at WSU-Vancouver

D. Students

1. Projected enrollments for 5 years

The projected numbers NRS majors (i.e., headcount) in Table 6 are based upon the assumption that by Year 2 (the first year that the program will contain both Juniors and Seniors) NRS majors will represent at least as high a proportion of total undergraduate, declared major students at Vancouver as that at the Pullman campus for majors offered at both campuses. During Spring, 1997 on the Pullman campus, the number of students majoring in NRS represented 5.45% of all students pursuing majors that also were available on the Vancouver campus. During Spring, 1997, 594 students were pursuing undergraduate majors at Vancouver offered in common with the Pullman campus. Our Year 2 projected NRS headcount (32 students) represents 5.45% of 594. Our projected Year 1 headcount was estimated to be one-half of that in year 2. Following Year 2, the average annual growth in certified NRS majors at the Pullman campus over the past 5 years (1.3% per year) was used to project growth in Years 3, 4 and 5.

In Spring, 1997, total student FTE's at WSU-Vancouver were 62% of total student headcount. Using this percentage as a conservative estimator, the projected Year 1 through 5 headcounts were multiplied by 0.62 to yield projected average annual student FTE's.

Table 6
Size of Program

<table>
<thead>
<tr>
<th>No. of Students</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. Annual Headcount</td>
<td>16</td>
<td>32</td>
<td>36</td>
<td>40</td>
<td>46</td>
</tr>
<tr>
<td>Av. Annual FTE (per year)</td>
<td>10</td>
<td>20</td>
<td>22</td>
<td>25</td>
<td>28</td>
</tr>
</tbody>
</table>

It should be noted that Table 6 reflects estimated headcounts and student FTE's contributed only by NRS majors at Vancouver. Additional student FTE's would be generated by registration of non NRS majors in NATRS courses that concurrently serve other degree programs at that branch campus. It is noteworthy, in this regard, that despite no as-yet available NRS degree track at Vancouver, students taking NRS courses yielded a total of 185 SCH's at that branch campus in Fall, 1996 + Spring, 1997 (i.e., an average annual student FTE of 6.2).
15 Most students at WSU-Vancouver are non-traditional/non-full time due to concurrent job or family-related responsibilities, and hence enroll in course loads less than the normal 15-16 credits per semester.

2. Expected time for program completion

Total credit hour requirements for the B.S. in Natural Resource Sciences at WSU-Vancouver are 120 for the Natural Resource Science major, and from 120 to 130, depending on electives selected, for the Plant Resource Science major. As indicated in Tables 1 and 4, from 52 to 64 credit hours from required lower division courses (including many GER's) are available from regional community colleges, and presumably will have been taken by community college graduates prior to transferring to NRS at WSU-Vancouver. However, a maximum of 60 credit hours are transferable for credit for a degree at WSU. Therefore, from 60 to 78 credit hours would remain to be completed while matriculated at Vancouver.

Given the above, the time to degree for students carrying a normal load of 16 credit hours per semester (or quarter credit equivalencies at community colleges) may be summarized as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Time to degree (at community college with transfer credit to WSU-Vancouver, + while matriculated at WSU-Vancouver) for 120-130 semester credit hours:</td>
<td>8 semesters</td>
</tr>
<tr>
<td>Time to degree at WSU-Vancouver (assuming all/most lower division and GER requirements prior-met at community college) for 60 to 78 credit hours</td>
<td>4 to 5 semesters</td>
</tr>
</tbody>
</table>

These times for program completion assume effective communication and articulation relationships with community colleges; proper course selection by community college students prior to and after entering the NRS program at Vancouver, and, again, a normal course load of 16 credit hours per semester or equivalent. They thus must be considered minimum completion times.

3. Employment Opportunities for Graduates

As noted in Section II.A, the goal of this degree is to prepare students for careers and/or graduate study that focus upon the application of science to the understanding, management and conservation of natural resources. The strength and breadth of the curriculum's base in social and biophysical sciences will prepare students who are so-inclined to pursue further, graduate education in a variety of fields, including not only traditional natural resource disciplines (e.g., forestry, wildlife science) but also other basic and applied sciences (e.g., plant/animal ecology, agronomy/horticulture, sociology, political science, law). Students pursuing employment following completion of the baccalaureate will have a variety of opportunities depending upon the NRS major and options selected, and the specific design of their program of study. Job/career alternatives for graduates exist within four broad categories:
a) **Careers in Natural Resource Management and Services** include work with public natural resource/land management agencies (municipal, county, state and/or federal); as private landowners (farms, woodlots, natural areas, etc.); in natural resource-based service businesses (nurseries, landscaping, guiding/recreation, etc.); certain types of work with natural resource-based industries (forest products, minerals, etc.); and as resource management consultants.

b) **Careers in Natural Resource Policy, Administration and/or Advocacy**, with public/private interest groups, public agencies, as elected/appointed officials, and (with additional education or training) in natural resource law or law enforcement.

c) **Careers in Natural Resource Education** include public relations/education work with agencies, business and industry; interpretive work with parks; and, with appropriate additional undergraduate or graduate training, teaching natural resource and environmental subject matter at community colleges, technical schools or primary/secondary schools.

d) **Careers in Natural Resource Science** (i.e., research and development) as technicians for programs with industry, academia or state/federal research agencies; or, with additional graduate education, as research scientists in those sectors.

As discussed in Section I.B, most graduates of natural resource science baccalaureate programs (83-90%) are successful in either pursuing graduate study (i.e., 21-24%) or garnering immediate/near-immediate employment (i.e., 62-66%) following graduation. With regard to the latter and specific reference to the immediate area served by WSU-Vancouver, employment offices estimate 20+ openings per year for conservation and/or forestry-related personnel, and approximately 100 openings per year for managerial positions in engineering/math/science in the greater Vancouver/Portland area. The natural resource focus of our curriculum will qualify graduates for many of the former positions, while the math and science breadth (and flexibility) of our curriculum should qualify graduates for certain of the latter positions.

4. **Diversity**

The Department's commitment to diversity is explicitly summarized in the following position statement:

*The Department of Natural Resource Sciences is dedicated to a positive learning and working environment. We value and are sensitive to human diversity in the broadest sense, and promote a learning/working climate that fosters understanding and respect for such diversity.*

In support of this position, NRS in 1996 established a Working/Learning Environment Task Force composed of faculty, staff and students to identify climate and diversity issues in the Department, and identify departmental strategies for attaining college/university diversity goals. Outcomes of this initiative include several planning elements of direct relevance to diversity issues in undergraduate education.

**Goal 1:** Improved enrollment, retention and degree completion of students from under-represented groups
Issues: Currently low enrollment of students of non-white culture/ethnicity and, to a lesser degree, women in NRS degree programs; particular retention and degree completion problems for non-white students.

Strategies: a) Provide and/or procure special support (financial, interpersonal and/or environmental) for nurturing/retaining students from under-represented groups, including women, Native Americans, Hispanics/Latinos/Chicanos, African Americans and Asian Americans. Specific approaches to include:
- Assisting students in locating and accessing sources of financial support targeting to particular under-represented groups
- Encouraging and assisting peer support/mentoring groups for under-represented groups
- Devotion of particular attention to faculty advising/mentoring of students from under-represented groups
- Facilitate interaction/mentoring of students from under-represented groups with practicing professionals who are from such groups
- Non-tolerance of elements of communication, personal interaction and the physical learning environment that are discriminatory against or negative to students from under-represented groups

b) Develop student recruitment programs targeted to specific underrepresented groups with known/anticipated high interest in natural resources, particularly women and Native Americans. Specific approaches to include:
- Working with WSU minority recruitment personnel, market educational opportunities in natural resources with clientele (potential students and families) in ways that are specifically appropriate for under-represented groups (e.g., through Native American Tribes; in Spanish language format, etc.)
- Pursue voluntary involvement of natural resource professionals from under-represented groups in recruiting efforts
- Establish communication and articulation agreements with regional 2 and 4 year colleges serving under-represented students (e.g., Northwest Indian College, Heritage College)

Goal 2: Curriculum Diversification

Issues: A need to better incorporate diversity-related issues, and recognize and value perspectives and contributions from a diversity of individuals and cultures within courses and curriculum.

Strategies: a) Maintain required curricular elements (e.g., social science courses) within which diversity issues are integral to course content (e.g., NATRS 312)
b) As appropriate, increase or add treatment of diversity issues and/or incorporation of diverse perspectives/contributions within science courses required in the curriculum, to reinforce the importance of diversity throughout the curriculum

c) Provide opportunities for faculty training on incorporating diversity into courses and curricula, and on fostering learning environments that are positive from a diversity standpoint

E. Administration

This program will be jointly administered by WSU-Vancouver (WSUV) and the College of Agriculture and Home Economics (CABE). Key personnel will be the WSUV Campus Dean, the CABE Dean and Academic Program Director, the Natural Resource Science (NRS) Department Chair, the CABE Program Coordinator at WSUV and a to-be-designated NRS faculty member serving as NRS Program Principal in-residence at Vancouver. The latter individual will be either a new faculty hire or a NRS faculty member from Pullman relocated to Vancouver.

Authority and responsibility for content, quality and offering of NRS courses and curriculum will reside with the Chair of NRS, in consultation with the CABE Academic Programs Director and CABE Program Coordinator at WSUV. Because of the interdependency of the NRS with several other programs/units at the Vancouver campus, cooperation with leaders of several other units represented on this campus (including Environmental Science, Horticulture and Landscape Architecture, Botany, Sociology and Political Science) also will be important in this regard. The faculty member appointed as NRS Program Principal will (in addition to normal teaching duties) serve as the primary faculty contact/facilitator for program operation (including coordination of student advising); and, through the CABE Program Coordinator at WSUV, will serve under the oversight of the NRS Chair on matters pertaining to courses/curriculum and under the oversight of the WSUV Campus Dean on matters pertaining to branch campus functions. This individual will also have primary responsibility for liaison between the NRS program at WSUV and that on the Pullman campus.

The Dean of CAHE, with the CAHE Academic Programs Director, will have authority for allocation of college resources to the program as well as general oversight of the NRS program. The WSUV Campus Dean will have authority for allocation of branch campus resources to the program and, with the CAHE Program Coordinator at WSUV, will take the lead role in overall branch campus planning as it relates to the NRS program. Administration of NRS faculty affairs (hiring, evaluation, tenure/promotion, professional development, etc.) will be jointly assumed by WSUV and CAHE, with primary responsibility to the NRS Department Chair and WSUV Program Coordinator. Administration of student affairs (services, records, etc.) will be assumed primarily by WSUV.

WSUV will provide administrative/clerical staff support for student, faculty and operational services at the branch campus. Table 7 describes staff FTE's to be dedicated to this program in Year 1.
Table 7

Administrative/Clerical Staff

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Responsibilities</th>
<th>Percent Effort In Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>WSU-V Staff Member</td>
<td>Secretary (WSUV)</td>
<td>Student services and Records at Vancouver</td>
<td>25%</td>
</tr>
</tbody>
</table>

Total FTE Staff Devoted to Degree Program (Year 1): 0.25

F. Library Impact Statement

1. Adequacy of existing library collections, services etc.:

The WSU Vancouver branch campus library moved into its new facilities in June 1996. With this move came the needed additional shelving and seating for collections and users. The collection has more than doubled in size in the last twenty four months with more than 500 journals, more than 7,000 monographs, and access to over fifty bibliographic and full-text databases including General Science Abstracts, Agricola, Biological and Agricultural Index, Biology Digest, BIOSIS Previews, Environmental Science & Pollution Management, GeoRef, and World Resources.

The library is a co-sponsor of the WSU Libraries Extended Campus Library Service (ECLS). The Vancouver Library, along with the Tri-Cities, and Spokane branch libraries, finance an intercampus document delivery service which provides branch campus students and faculty members with rapid access to monographs and journal articles located within the decentralized WSU Libraries system. The WSU Vancouver Library is also a charter member of the Portland Area Library System (PORTALS), a consortium of sixteen Portland, Oregon/Vancouver, Washington academic and public libraries. Consortia agreements permit WSU Vancouver student and faculty to freely borrow from all library members. As Vancouver is part of the greater Portland metropolitan area, many of these libraries are no more than thirty minutes away from the WSU Vancouver campus. Both of these services, ECLS and PORTALS, provide for very rapid access to materials from the participating libraries.

The library has been allocated funds to hire a third faculty librarian in 1998/1999. The library will seek a librarian with a background in science and technology. As the science programs at WSU Vancouver are continuing to develop it is now necessary to add a science subject specialist to the library staff.

2. The need for new library collections:

a) Serials: (e.g. journals or indexes in print electronic format, microform, etc):

The following titles will likely be added to the collection:

- Agronomy Journal $85
- Conservation Biology $125
International Journal of Plant Science $145  
Journal of Environmental Management $475  
Journal of Soil & Water Conservation $39  
Soil Science Society of America Journal $85  
Water Resources Bulletin $115  
SUB-TOTAL $1069

These journals and those added at the request of new faculty in the Natural Resources Sciences program will necessitate an increase in the permanent budget of $2000.

The library is already planning to jointly subscribe along with the Environmental Information Center Library (which is co-located at the WSU Vancouver Library) to the CD-ROM version of Cambridge Scientific Abstracts.

b). Monographs

The WSU Vancouver Library has a local collection of 1500 titles in the areas of natural resources sciences, biology, and environmental science. Additionally, the WSU Vancouver Library houses the Environmental Information Center (EIC) Library which includes several hundred videotapes, and four hundred environmental and natural resources monographs. The EIC Library is a partnership between WSU's Cooperative Extension Program, WSU Vancouver, the Southwest Washington Air Pollution Control Authority, the City of Vancouver, and Clark County. The Research Stations of the U.S. Department of Forestry have pledged to continue donating government publications related to natural resources science in the name of departed research colleague. A core natural resource sciences collection exists at WSU Vancouver, however the library's budget will need a permanent increase of $2000 to build this program’s collection.

Many new monographs come with software. The WSU Vancouver Library received new computers in our capital building budget for the new library facilitate. The computers all have CD-ROM drives, graphics and sound cards. They are capable of running additional software programs.

The WSU Vancouver Library does maintain a video and laser disk collection. Presently the majority of natural resources and environmental science videos available at the WSU Vancouver are the in the Environmental Information Center's special collection. Funds are presently available for purchase of videotapes pertinent to the natural resources sciences program at Vancouver. The branch campus has video and laser disk players available for instructors' in-classroom use. The WSU Vancouver Instructional Technology Group manages several computer labs for students which are available sixty eight hours per week.

Note: Proposed permanently budgeted funds to support the Natural Resources Sciences program are $4000 per year ($2,000 serials and $2,000 monographs.)

3. The need for new library personnel:  
There is currently a search committee being formed for a Reference Librarian with a specialty in sciences and technology. This librarian will be hired by Fall semester 1998. No additional classified staff will be necessary to support this program.
4. The need for additional library services: 
There will be an increase in requests from document delivery services of ECLS and PORTALS. Presently the ECLS budget is adequate to support an increase in requests to other WSU Libraries. There exists a reciprocal borrowing agreement between Portland Area Library System (PORTALS) partners, therefore there will be no additional costs for using resources in the Portland area’s academic libraries. There will not be any need for additional funds for this increase in service demand.

5. For Branch Campus/Extended University Proposals: 
   a). To what extent will collections and services be provided from Pullman? 

The WSU Vancouver branch campus library already has a core natural resources collection which is being augmented by the growing Environmental Information Center Library's collection. The Vancouver library will need to continue borrowing from Pullman as its program grows. The Vancouver Library will never be able to duplicate the substantial collection in Pullman, but will endeavor to build a highly useful, quality local collection. The Vancouver branch library has been invited to continue using the cataloging services of the WSU Libraries.

   b). To what extent will collections and services be provided from the branch campus? 

WSU Vancouver Library will devote funds to continue building a natural resources sciences collection of serials, monographs, and databases (indexes). The library will be providing reference and library instruction services, circulation and reserves, and document delivery/interlibrary loan services to the program.

   c). Are there other local libraries (non-WSU) that will be serving these needs? 

Local libraries which will help WSU Vancouver meet the needs of this program are the libraries participating in the Portland Area Library System (PORTALS): Portland State University, University of Portland, Linfield College, Lewis and Clark College, Reed College, Northwestern School of Law at Lewis and Clark College, Oregon Health Science University, Portland Community College, George Fox University, Pacific University, Mount Hood Community College, Clark College and the Multnomah County Library. Many WSU Vancouver students also use the Fort Vancouver Regional Library System.

   d). What arrangement have been made with these local libraries? 

The WSU Vancouver Library is a charter member of the Portland Area Library System (PORTALS). Our membership fees support a reciprocal borrowing program amongst the libraries and also contribute to supporting local access to several very important databases, including BIOSIS (Biological Abstracts). The PORTALS consortium was founded on the belief that by sharing our resources and making our collections available to each other's faculty and students we would help to foster a better research and development environment in the Vancouver/Portland metropolitan area.
6. List any other library resource considerations

WSU Vancouver's in kind contribution to the Environmental Information Center (EIC) is space. The EIC's Library is cataloged into the Griffin system. All the material in the EIC is available to students and faculty in the WSU system. This collection will continue to be supported by agencies in Southwest Washington. This semester the assistant campus librarian and the Director of the EIC are giving library instruction classes in the area of environmental resources available in and through the WSU Vancouver Library.

III. PROGRAM ASSESSMENT
A. Assessment Plan

As per HEC Board and WSU guidelines, assessment will consist of activities within five areas.

1. Evaluation of Student Baseline Data Upon Program Entry

Detailed information on academic background, prior academic performance and interests/aptitudes will be collected for new students upon entering the NRS program at WSU-Vancouver. Transcripts from past-attended colleges/universities and the DARS Transfer Credit Report will provide essential detail not only on transferable credit, but also on status and performance in meeting GER and departmental requirements in required subject matter areas, and areas of apparent aptitude strength and/or weakness. Entry interviews with faculty during initial advising will define student interest and expectations from the NRS program. With this information, faculty advisors will work with students to select an appropriate NRS major and option; and to design a program of study that satisfies curricular requirements, meets student interests/needs, and both addresses identified shortcomings in academic background/aptitude and reinforces apparent academic strengths. Students with records suggesting, or who express suspicions of, specific learning disabilities will be encouraged to undergo testing and evaluation, which will allow appropriate, feasible and reasonable accommodation.

2. Intermediate Assessment of Student Quantitative and Writing Skills, and other Parameters

Intermediate assessment will include review of cognitive, analytical, quantitative and written/oral communication skills during normal testing and other modes of performance evaluation associate (with individual courses. Students experiencing problems in any of these areas during specific courses will be encouraged to seek immediate counseling from either/both the course instructor or their academic advisor, to allow provision of special assistance and promote improved performance prior to course completion. This form of immediate assessment and intervention will be particularly important for students with known or suspected learning disabilities. Students attaining poor grades in courses important to their major/option will be encouraged to retake those courses, and failing grades in required courses will make re-taking such courses mandatory. Students with persistent, non-correctable difficulties in areas essential to the major/option selected may be counseled to pursue other areas of focus within the degree (or other degree programs).
Intermediate assessment of quantitative and writing skills will be addressed in courses requiring these abilities (most upper division courses have writing components, several have quantitative subject matter, and a few have a primarily quantitative focus). Writing skills will be further assessed through upper-division writing-in-the-major (M) courses (i.e., NATRS 302, 438 and 450), and through the completion of a required senior thesis (NATRS 488[M]). All students will also be required to successfully complete the WSU writing portfolio.

3. End-of-(Student) Program Assessment

Final assessment of student educational achievement will be achieved through analysis of cumulative academic performance throughout the curriculum (course grades, special accomplishments/activities or coursework that exceed basic curricular requirements, extracurricular activities, student honors or awards, etc.). Student performance during capstone GER courses and/or the required senior thesis will be given priority attention as indicators of achieved scholastic development at the end of students' programs. As per current departmental procedure, each student will complete an end-of-program assessment through either/both an exit interview or a written exit questionnaire. The purposes of this activity are two-fold: to correct demographic information on graduates (age, gender, time to program completion, employment status/prospects after graduation, etc.) and, most importantly, to solicit student evaluation of their overall educational experience in NRS at WSU. Standard questions requiring numerically-rated response include the following:

A. Rating of University/College/Departmental Services and Experiences, including:
   1) Admissions and Registrar
   2) Financial Aide and Scholarships
   3) Career Services
   4) Counseling Services
   5) Library
   6) Departmental and College Office Services

B. Rating of Faculty and Curriculum, including:
   1) Overall evaluation of faculty in terms of-
      -quality of teaching
      -knowledge of field
      -interest in intellectual growth of students
      -sensitivity to student needs and interests
      -advising
   2) How well curriculum has prepared students for their future (including career)
   3) Opportunities for research and/or creative activities
   4) Overall quality of educational experience

Four additional questions are asked, for which in-depth oral or written responses are requested:

1) What faculty and courses are viewed as particularly outstanding, and why
2) What changes would students like to see in the educational environment of the Department
3) What are the most positive and most negative attributes of students' undergraduate education, particularly as they relate to the Department

4) What are any other comments students' may have regarding their undergraduate educational experience

Results of student end-of-program surveys are compiled, summarized (and reported to the College and University) to define both strengths and shortcomings of NRS teaching faculty, courses, curricula and learning environment as perceived by graduating students. Findings are utilized to maintain/build upon currently perceived strengths and take steps to alleviate any shortcomings of NRS academic programs.

4. Post-Graduation Assessment

It is proposed to re-survey NRS program graduates roughly 3 years following graduation to attain perceptions of the quality and relevance of their undergraduate education after a sufficient period of post-graduation professional and life experience. Demographic information will be sought (including current occupation, future plans and significant post-graduation achievements), and graduates will be asked to comment on the following subjects:
- Elements of the curriculum/educational experience of highest quality and/or value,
- Elements of the curricular educational experience of lowest quality and value,
- Particular, needed skills (e.g., communication, analytical, quantitative) that were best or least developed during undergraduate education,
- Overall, retrospective evaluation of undergraduate educational experience, and
- Suggestions, in retrospect, for improvements in the NRS program in light of experiences following graduation. If graduates indicate willingness for their current or past employers to be surveyed, the latter will also be contacted and queried for perceptions of:
  - Based upon apparent knowledge and skills, how well the graduates' undergraduate education prepared them for work responsibilities, and
  - Suggestions, based upon graduates' work performance, for improvements in the NRS program.

5. Periodic Program Review

The two majors of the B.S. in Natural Resource Sciences proposed for WSU-Vancouver are not degree tracks subject to or appropriate for review by currently available professional accreditation or certification programs. However, periodic internal review of this program has been (at Pullman) and will continue to be (at both Pullman and Vancouver) conducted by the Department's Undergraduate Studies Committee as essential for proper ongoing evolution of the curriculum. Outcomes of intermediate, end-of-program and post-graduation assessment activities will provide the primary basis for program evaluation and resultant modifications.

In addition to normal annual assessment, a specific, in-depth review of this degree program at the Vancouver campus is planned during Year 5 of the program (i.e., 3 years after the first program graduates at Vancouver, allowing post-graduation assessment activities as described in the previous section). This review will involve both branch campus and college administration, NRS and supporting faculty, and NRS students and graduates. Outcomes of this review will be submitted to the HEC Board to meet its "Existing Program Review" requirement for all programs approved within the preceding five years.
B. Assessing Achievement of Program Goals/Objectives

Outcomes of the Assessment Plan activities described in the preceding section will be utilized to evaluate how well goals and objectives of the NRS program are being met at the Vancouver campus. These goals and objectives (re Section II.A of this proposal) are multi-tiered, and are summarized with r-elated assessment activities as follows:

1. General goal for all NRS degrees/curricula: Provision of integrated, interdisciplinary education in natural resource sciences that is relevant to needs of society and the natural resource base.

   Associated objectives - Provision of:
   a) Broadly-based liberal arts/humanities and basic science education,
   b) Management, critical thinking/problem solving and cultural understanding/appreciation skills and orientations
   c) Competency in specific fields of major emphasis in natural resource sciences

   Relevant Assessment Activities: Provision of education that is interdisciplinary/integrated and appropriately broad-based in the arts/humanities/basic sciences will be evaluated during periodic program reviews of both curricular structure and course content (Element 5 of the Assessment Plan). Relevance of education will be evaluated based upon student input during end-of program and post-graduation assessments (Elements 3 and 4 of the Assessment Plan); these two elements plus intermediate assessment (Element 2) activities will provide insights on importation of important skills, orientations and competencies.

2. Specific goal for the B.S. in Natural Resource Sciences: Preparation of students for careers and/or graduate study focusing upon the application of science to the understanding, management and conservation of natural resources.

   Associated objectives - Provision of:
   a) Opportunities to either focus/specialize on specific aspects of natural resource sciences, or to pursue a broader, more general education in natural resource sciences
   b) Flexibility to tailor curricula to individual student interests and needs

   Relevant Assessment Activities: Adequacy of preparation of students for careers or further study in natural resources will be evaluated primarily by post-graduation assessment data (Element 4 of the Assessment Plan) and secondarily by input received from students immediately following the end of their programs at WSU (Element 3 of the Assessment Plan). Effectiveness in allowing students to either focus/specialize or pursue breadth in NRS education, and to offer flexibility in accommodating individual student interests/needs, will be apparent both from program entry activities in major/option selection and design of coursework for individual students (Element 1 of the Assessment Plan); and from student input during end-of-program assessment (Element 4 of the Assessment Plan).

3. Specific goal for extending B.S. in NRS to WSU-Vancouver: Creation of educational opportunities in NRS that best serve the needs of southwestern Washington students.

   Relevant Assessment Activities: How well this degree, its two offered majors at Vancouver and associated options within majors are serving the particular needs of
student clientele in southwestern Washington will be apparent from interactions with and input from about students at program entry (Element 1 of the Assessment Plan), and information gained during both end-of-program and post-graduation assessments (Elements 3 and 4). Furthermore, analysis of enrollment trends within majors/options during periodic program reviews (Element 5 of the Assessment Plan) will indicate well and/or under-subscribed curricular alternatives, indicating which majors/options are best and least meeting local student needs. Knowledge gained during these assessment activities will be used not only to modify (i.e., revise, strengthen and/or downsize/eliminate) existing elements and alternatives in the curriculum, but also to pursue new directions found to be of significant importance in the region.

IV. FINANCES – Summary of Program Costs

Table 8
Summary of estimated program costs – Year 1 and Year N(5)

<table>
<thead>
<tr>
<th>Line Item</th>
<th>Year 1</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal Reallocation</td>
<td>New State funds</td>
<td>YEAR 1 TOTAL</td>
<td>YEAR N (5) TOTAL</td>
</tr>
<tr>
<td>Administrative Salaries</td>
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<td>6,000</td>
<td>9,168</td>
<td>9,168</td>
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<tr>
<td>(0.2 FTE Yr 1)</td>
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<tr>
<td>(0.2 FTE Yr 5)</td>
<td></td>
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</tr>
<tr>
<td>Benefits @ 25%</td>
<td>792</td>
<td>1,500</td>
<td>2,292</td>
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<tr>
<td>Faculty Salaries</td>
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<td>(2.4 FTE Yr 1)</td>
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<td>(2.9 FTE Yr 5)</td>
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<td>Benefits @ 25%</td>
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<td>11,488</td>
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<tr>
<td>(0.50 FTE Yr 1)</td>
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<tr>
<td>(0.50 FTE Yr 5)</td>
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<td></td>
</tr>
<tr>
<td>Benefits @ 25%</td>
<td>1,065</td>
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Av Annual FTE Students (From Table 6)  
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<td>Cost-per-FTE Student</td>
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</table>

16 New state funds will be derived from anticipated 1999-2000 WSU-Vancouver enrollment funding

17 See Library Impact Statement (Section II.F of proposal); the $4,000 in this table represents funds budgeted annually for serial & monograph acquisitions. This support will be augmented by the services of a new WSU-V sciences/technology reference librarian to be hired in late 1998 to serve not only NRS but all science programs at the branch campus.

18 Equipment includes multi-media and other audio/visual hardware and software, and instruments for teaching laboratories and field exercises; does not include standard office equipment for faculty and staff.

19 Year 5 cost per average annual student FTE of $10,367 is within 10% of the 9,591 average cost per upper division student FTE established by the Washington HEC Board cost study

* * * *

Motion carried.

Budget, Library and Extended University Affairs Committees have approved this degree.

4. Recommendation from Academic Affairs Committee for the Program in Sustainable Development Exhibit E is as follows:

MEMORANDUM
TO: Thomas Brigham, Executive Secretary Faculty Senate
FROM: Becky Bitter, Academic Governance Coordinator
FOR: Academic Affairs Committee
DATE: 11 September 1998
SUBJECT: Program in Sustainable Development

At its meeting on 11 March 1998, the Academic Affairs Committee approved the establishment of the Program in Sustainable Development, to be effective fall 1998.

At this time, Faculty Senate review and approval is recommended.

To: Washington State University Faculty Senate and Committees
From: Jean Gorton, Adjunct Faculty, College of Business and Economics Chair, Sustainable Development Program Committee
Date: February 11, 1998
Re: Proposal for a Program in Sustainable Development Studies

During the Fall 1997 semester, the proposal for the Sustainable Development Minor in the College of Business and Economics was presented to the Faculty Senate for review through the academic approval process. Faculty Senate approval of the Minor was granted at the January 29, 1998 session.

The Sustainable Development Program Committee requests that the Faculty Senate further consider the creation of an interdisciplinary Sustainable Development Program through which the Minor will be administered. It was the intent of the Committee to propose a "Program" initially. Due to an earlier misunderstanding, this intent was not communicated properly.
Sections on the administrative structure, library impacts, and the budget for the Sustainable Development Program are contained in this transmittal. The approved application, "Proposal to Establish a Minor in Sustainable Development Studies" is appended for your information.

The signature page indicating approval by the Deans of the five Colleges which are involved in the creation and ongoing oversight of the Program is attached.

Thank you for your consideration of this request. Please contact me or any member of the Sustainable Development Committee if you have questions or comments on the proposal.

SECTION V. ADMINISTRATIVE STRUCTURE

Using the model under which the Environmental Sciences/Regional Planning Program is administered, it is proposed that the Program be jointly sponsored by the Colleges of Liberal Arts, Sciences, Agriculture and Home Economics, Engineering and Architecture, and Business and Economics, with a Council of the Deans of these Colleges to provide Program guidance, support and oversight. For day to day administrative purposes the Program would be placed under the Department of Economics within the College of Business and Economics.

In addition to the Council of Deans, a faculty committee representing each of the Colleges would work directly with the Program Director to provide liaison with the various Colleges and to advise on policy, curriculum, research, program development, and other operational matters.

The Program would not be a Major Degree granting program at this time. Advising relative to the Minor would be done by the students' Major departments, with assistance and administrative coordination performed by the Department of Economics. Dr. Mudzi Nziramasanga will serve as the Interim Director of the Program during academic year 1998-99.

SECTION VI. INTERIM BUDGET - 1998/99

COLLEGE OF BUSINESS AND ECONOMICS
Trillium Corporation Fund

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<td>EXPENSES:</td>
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<td>Spring, semester - 1998</td>
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</table>

|                      |     |
| Wages and Benefits (Time slip) | $3,000 |
| Travel              | 2,500 |
| Miscellaneous       | 1,000 |
|                      | $6,500 |
Fall semester, 1998 through Spring, semester, 1999

Salary (Summer support for program development) $6,000
Wages and Benefits (Time slip) 7,000
Travel 10,000
Miscellaneous (Phone, postage, printing, instructional materials, visiting faculty, etc.) 15,000
TOTAL: $38,000

It is anticipated that by Fall 1999, the endowment for the Chair in Sustainable Development Studies will be funded and a full time faculty member and Director of the Sustainable Development Program will be hired. To date $200,000 toward the $1,500,000 endowment has been pledged.

VII. LIBRARY

The WSU Libraries have provided excellent service and assistance to the Sustainable Development Program in its start-up phase. The section below responds to the format provided by the Faculty Senate Library Committee.

1. The adequacy of existing library collections, services, etc.:

When developing the course in Sustainable Development during Fall, 1996, the suggested reading list was sent to the Holland Library staff. An offer to fund the purchase of any needed materials was also made at that time. After discussions with Donna McCool and Seig Vogt, they determined that the suggested materials were already in the Library collection or on the existing subscription list. The library staff has continued to send to the Sustainable Development Program notices of related new publications, which indicate that they are very current with new materials.

The proposal for the Sustainable Development Minor was also forwarded to the Library Director for staff review. No comments were received. As all courses are currently offered within academic departments, no additional impact on the Library is expected.

However, library materials, subscriptions and services for the Sustainable Development Program will be included in the budget from the existing funding, as needs are identified.

2. The need for new library collections:

No needs for new serials or monographs have been identified. As Sustainable Development has become a popular topic, there is an increasing number of video productions of interest. Funds are included in the current budget for instructional materials, including downloading video by MMS.
3. The need for new library personnel:

The Sustainable Development Program will not require specialized expertise beyond that which already exists in the WSU Library system, nor will it add to student contact with library staff.

4. The need for additional library services:

As all courses in the Sustainable Development Program are currently offered, the Program itself should not require additional services. It is possible as the Program grows that there will be an increase in research in the topic, but the impact on Library services should be negligible. This can be evaluated regularly by the Sustainable Development Committee and Library as the Program evolves.

MEMORANDUM
TO: Catalogue Subcommittee, Faculty Senate
c/o Julia Pomerenk
FROM: Duane Leigh, Chair, Department of Economics
DATE: Oct. 6, 1997
SUBJ: Support for a Minor in Sustainable Development Studies

Jean Gorton recent asked me to write you indicating my support for a minor in Sustainable Development Studies, and I am happy to do so.

Two members of the Economics Department faculty, Jeff Krautkraemer and Mudzi Nziramasanga, have been actively involved in the development of this program, and have kept me informed about its implementation. It appears to me that a minor in Sustainable Development Studies is compatible with the offerings of the Economics Department.

I hope that this letter is helpful, and please let me know if I can be of further assistance.

MEMORANDUM
TO: Julia Pomerenk, Catalogue Subcommittee
FROM: Deborah Haynes, Director, Women's Studies
SUBJECT: Minor in Sustainable Development Studies
DATE: November 7, 1997

This memo to the Catalogue Subcommittee is to express my support for the proposal for establishing a Program with a Minor in Sustainable Development Studies. I have read two drafts of the Proposal, have given feedback to Jean Gorton, Program Director, and thus am aware of the development of this new program.

Specifically, I wanted to mention that this Program in Sustainable Development Studies will be fully compatible with the offerings in the Women's Studies -- with both our present major through General Studies and our minor, and with the new proposed major that we expect to have in place for Fall 1998. Like Women's Studies, Sustainable Development Studies is thoroughly interdisciplinary; it recognizes that no single disciplinary perspective is adequate for grappling with the complexities of the world in which we live.
I fully support this proposal.

c: Jean Gorton, Program Director Sustainable Development Program

October 28, 1997
Faculty Senate Catalogue Subcommittee
c/o of Julia Pomerenk
Registrar's Office
Washington State University
Pullman, WA 99164-1035
Regarding: Proposal for SD Minor

I am pleased to send this letter of endorsement in support of the proposal for a minor in sustainable development. The issue of sustainable development is a critical question of our times that needs to be inculcated in everyone's mind. Education in this regard is a critical avenue, in fact the first step in the process of conscious building. I know it is a significant issue for architects and the graduates of architecture schools. I am pleased to know that a group of faculty at WSU is taking the initiative to develop a minor in this area. Please add my support of the effort to those of the others.

Sincerely,

Rafi Samizay, AIA
Professor and Director

October 22, 1997
TO: Catalogue subcommittee, Faculty Senate
FROM: Lance LeLoup, Chair, and Edward Weber, Assistant Professor, Department of Political Science

Dear Colleagues,

We are aware of the Sustainable Development program and its developmental progress. We urge adoption of this program for several reasons. We think it will provide a valuable integrated focus for students interested in environmental matters. It will create an essential skills base for WSU graduates who, upon graduation, must be able to cope with the interdisciplinary reality of decision-making found in business, government, and non-profit organizations. Further, given the likelihood of increased interest in, and importance of, all things environmental over the coming century, the Sustainable Development program will add value to WSU within the larger political and economic arenas. It will be seen as yet another example of the university's ability to prepare for the future. Finally, we do not see the program as conflicting with political science offerings, rather we view it as a complement.

Sincerely,

Lance LeLoup
MEMORANDUM

TO: Jean Gorton, College of Business and Economics  
FROM: Annabel K. Cook, Chair, Department of Rural Sociology  
DATE: October 22, 1997  
SUBJECT: Proposal to Establish a Minor in Sustainable Development Studies  

Thank you for sharing with me the materials you have developed in support of your proposal to establish a minor in Sustainable Development Studies. I have shared these materials with my colleagues in the Department of Rural Sociology and all who have seen the materials are excited about your proposal. We concur that a minor in Sustainable Development Studies "inherently fulfills the university goal of commitment to global and cultural pluralism," and that it is in the best interests of the university to develop such a program. This is clearly a program of study which the university does not currently offer and will fill an critical need in the university's current mix of academic programs.

We are also very excited about the interdisciplinary aspect of the proposed minor. I believe that you have significantly improved your proposal by drawing on the strengths of faculty from various disciplines within the university. Dr. Raymond Jussaume, whose courses on "Local Impacts of Global Commodity Systems," and "Cross-National Perspectives on Community" have been included as part of the curriculum for the proposed minor, is particularly excited about working with the Sustainable Development Studies program.

If there is anything additional I can do to assist you in the development of your proposal, please do not hesitate to contact me at your convenience.

MEMO

TO: Catalog Subcommittee of the Faculty Senate  
FROM: Jay Wright, Chair  
Department of Psychology  
RE: Sustainable Development Program  
DATE: October 14, 1997  

Jean Gorton, Program Director of the Sustainable Development Program and I discussed the possibility of a Minor in sustainable development study about a year ago. At that time I indicated that Environmental Psychology (Psych 466) may be an appropriate course to include in this program. This week I received a draft of the proposal to look over and it appears to bring together a number of courses from several disciplines concerned with environmental issues. I believe that Jean has articulated the need for the program very well along with a strategic plan that makes sense for our campus.

This proposal appears to be timely and should receive considerable student interest. The Department of Psychology is in support of this Minor.
PROPOSAL TO ESTABLISH A MINOR IN
SUSTAINABLE DEVELOPMENT STUDIES

Institution: Washington State University
Academic Unit: College of Business and Economics

Proposed Classification of Instructional Programs Code:

Proposed Starting Date of Program: August, 1998

Representative:

Sustainable Development Committee:

Tom Bartuska, Architecture
Keith Blatner, Natural Resource Sciences
Bill Budd, Environmental Science/Regional Planning
Riley Dunlap, Rural Sociology
Jean Gorton, Program Director
Jeff Krautkraemer, Economics
Jim McCullough, International Business
Gene Rosa, Sociology

Endorsement by
Chief Academic Officer:

PROPOSAL FOR A PROGRAM IN
SUSTAINABLE DEVELOPMENT STUDIES

I INTRODUCTION

Flying on the wings of rapid communication and transportation, our world is shrinking. The global population continues to grow, and societies are facing serious ecological challenges as they press for economic development. Today even the most optimistic viewer acknowledges that we do not have answers to the major impacts of human activities. It is a time for new economic, political and social responses, and for creating partnerships to solve the challenges facing a shrinking, interdependent world.

The current awareness of the struggle with major environmental, economic, social and human issues of both national and world wide significance leads to the proposal for the Program in Sustainable Development Studies at Washington State University. The Program is a fundamental approach to studying issues of development and seeking solutions through interdisciplinary education, research and service.
A. Definition:

Sustainable Development is considered to be the process of:

- Protecting and enhancing the integrity of our natural environment.
- Providing meaningful economic opportunities for individuals and communities.
- Contributing to societal health and well being.
- Maintaining awareness of the global context in which we live and work.
- Respecting the rights of future generations to be able to meet their own needs.

The content of Sustainable Development studies is strongly grounded in the disciplines of Economics/Business, Environmental Science, Social Sciences, Resource Management and Urban Design. There is a growing body of research and literature that attempts to integrate and focus these disciplines on addressing how economic and social systems interact with the major resource and environmental management challenges of today and for the future.

B. Need for a Program in Sustainable Development Studies:

Universities throughout the nation are focusing on how to design the curriculum to meet the challenges identified by the 1992 United Nations Earth Summit\(^1\) and the President's Council on Sustainable Development\(^2\). There is a recognized need to engage relevant disciplines at the highest academic levels within an organized Program to carry out the educational and research mission put forth by these bodies.

The worlds of business, environmental activism, education, and government are also reaching for ways to fulfill their growing commitments to economic and environmental sustainability. The reality that all sectors must cooperate in solving today's complex problems and relationships is rooted in the philosophy and the strategic planning of organization leaders. As in other areas requiring professional training, these sectors are looking to universities to provide advanced research and education for their future leadership and employee base.

At Washington State University the need for an interdisciplinary approach was recognized early and informal efforts were made by faculty to collaborate, and a course was offered in Spring 1995. As world-wide acknowledgment of the power of the concept of sustainable development has grown, faculty have recognized the academic teaching and research potentials. A formally designated program would offer faculty and students a structure within which to pursue these interests with purpose and direction.


C. Relationship to the Institutional Mission and Strategic Plans:

A Sustainable Development program fulfills the University goal of commitment to global and cultural pluralism. A founding principle of sustainability is concern for equity among diverse populations and for future generations. There is a concomitant expectation of individual responsibility to one's self, to society, and to a global community. Several of the strategies and action items listed in the 1996 "Strategic Plan for Washington State University" are directly relevant to this proposal.
The College of Business and Economics has included the Sustainable Development Program in its proposed Strategic Plan for 1997 under goals to improve learning for undergraduate students and to "strengthen ties with business and government for the purposes of being responsive to their needs, secure placement and internship opportunities for our graduates, and support for our core activities."

In assessing those strengths of Washington State University that would contribute most to the Sustainable Development Program, certain aspects become very evident. The high level of interest in sustainability at the university grows naturally out of its Land Grant mission and long history of applied research and community service, in both the regional and international contexts.

A further mission of the University, implemented since 1978 with great success, is the "internationalization" of the entire institution. In recent years, WSU has truly become a "global land-grant university." This history provides an extremely strong foundation upon which to expand into the arena that has captured world-wide interest since the 1992 Earth Summit in Rio de Janeiro -- that of broad-based Sustainable Development.

In addition, numerous existing interdisciplinary programs and cross-listed courses have established a basis for the connectivity needed to address questions of sustainable development. With a history of working across the normal academic boundaries, the faculty tends to be open and inclusive in its thinking about programs and relationships. This interdisciplinary approach is essential to the academic activities of research and teaching of sustainable development.

D. Sustainable Development Studies Program Mission:

The Sustainable Development Studies program is built on the premise that as a society we have a responsibility to ourselves and to future generations to steward resources in ways that foster long-term environmental and sociocultural health and economic viability for all peoples. Through research and education, the university will actively contribute to the knowledge base of how to identify and address the challenges involved in achieving a sustainable future. WSU graduates from around the world will become leaders in furthering environmental, economic and societal sustainability within their own diverse realms of influence.

E. Goals:

- To become regionally, nationally and internationally known for excellence in interdisciplinary research and teaching in the area of sustainable development.
- To strengthen university relationships with national and international organizations and institutions engaged in sustainable development research and education.
- To become the university of choice for scholars in the areas of sustainable development studies.
- To publish research and case studies for use by industry and educators.
- To conduct symposia, conferences, short course training, and other educational programs for industry, government and citizen leaders, regionally and internationally.
- To extend the reach of the Sustainable Development Program throughout the world utilizing the Virtual WSU capabilities.
• To strengthen WSU research and public service assistance to various communities and organizations on issues of sustainable development.

F. Clients:

Students - regional, national and international
Faculty and researchers
Business and industry
Other universities - national and international
Governmental agencies
Non-governmental organizations
Citizens of Washington State and the nation

G. Affiliations:

Relationships within the university, with other universities, and with organizations that share a common purpose of furthering research, education and/or applied sustainable development projects will extend the reach of the Program. Every effort will be made to share resources and to maximize the synergistic benefits of working with related programs. Some of the initial contacts to be solidified are noted below.

Washington State University:
• Center for Sustaining Agriculture and Natural Resources
• International Program
• Foley Institute
• Institute for International Business
• Cooperative Extension

Other universities and organizations:
• Sustainable Forestry Partnership, Oregon State University
• Washington Technology Center, University of Washington
• Environmental Management Program, School of Business Administration, UW
• Western Washington University Huxley College
• Sustainable Development Research Institute, University of British Columbia
• Pacific Northwest Regional Council of the President's Council on Sustainable Development
• Washington Forest Protection Association
• World Forestry Center
• World Business Council for Sustainable Development
• Redefining Progress
• BELL (Business-Environment-Learning-Leadership) - Membership comprised primarily of university faculty from colleges of Business and Economics
• MEB (Management Institute for Environment and Business)
• Sustainable Development Program Advisory Board (A group of regional business and government leaders who have given input to the proposed WSU program.)
II. CURRICULUM

A. Process of Developing the Program:

The initial Sustainable Development Program proposal was approved for further development by the Higher Education Coordinating Board in the fall of 1996. A Sustainable Development Committee, composed of representatives from five WSU Colleges, then defined the Program in Sustainable Development Studies. The Committee members are Tom Bartuska, Architecture; Keith Blatner, Natural Resource Sciences; Bill Budd, Environmental Science/Regional Planning; Riley Dunlap, Rural Sociology; Jeff Krautkraemer, Economics; Jim McCullough, International Business; Gene Rosa, Sociology; and Jean Gorton, Director, Sustainable Development Program.

The Committee first considered Program and Learner Objectives, and then developed criteria for an appropriate curriculum. It was agreed that the program must be interdisciplinary in nature, but that it should be housed administratively in the College of Business and Economics. One or more core integrative courses would be needed, but the program should draw from the resources of the entire university. Students should be grounded in an established academic discipline, which would be enhanced by a broader perspective found in related requirements outside of that discipline.

A further program objective is to be a leader among the growing number of university initiatives directed toward sustainable development. A plan is in process to endow a Chair in Sustainable Development and to attract a distinguished faculty member to provide leadership in energizing an outstanding regional and national reputation for the program.

The initial criteria included coverage of the history, theory, issues, ethics, methodology and current practices of sustainable development. Exposure to the literature and other learning resources, organizational relationships, case studies, problem solving, internships, field studies and international experiences are to be incorporated into the learning opportunities. The content must include knowledge of ecological systems, societal processes and structures, economic systems and functions, and the integration and application of economic, sociological and ecological principles.

The summary of the program and learner objectives given above can be supplemented by lists and documents developed by the committee during the planning phase upon request.

To test student interest in this topic, an integrative course titled "Ecological, Economic and Sociological Aspects of Sustainable Development" was offered during Spring and Fall semesters of 1997. The first offering had 28 students enrolled or auditing, including five foreign students and a mix from International Business, ES/RP and Sociology. The current semester course has 19 students, again including five foreign students, and a mix of majors from the three disciplines. Four foreign graduate students are participating in the class because they see the importance of this subject to their countries and to their own future careers. An attached letter from an Honors student enrolled during Spring 1997 captures the student response to the course.
After grappling with the fundamental structure and criteria for the Program the Committee surveyed the university to identify existing courses that matched the criteria. Department Chairs were asked to suggest appropriate courses, and faculty were then contacted to provide course syllabi or descriptions. The survey revealed many current course offerings that were directly relevant to the criteria. In addition, there were a number of faculty with high interest in the topic, who were planning to or had begun to incorporate sustainable development concepts in their classes.

The Committee also analyzed where there might be gaps in meeting the overall curricular goals and sought faculty involvement in adapting existing courses and designing new courses to complete the offerings. Some suggested courses were considered to be too specialized, and these were not included in the proposal at this time.

The next step for the Committee was to organize the courses into a coherent program and test whether meaningful Minors could be constructed to complement Major Degrees offered by various departments across campus. Finally, the proposed curriculum was sent out for review to all faculty teaching courses within it to be certain that they are in agreement with the overall proposal and the categories in which classes are placed.

Approximately forty classes are listed in the proposed Program at this point, originating in the Colleges of Liberal Arts, Science, Business and Economics, Agriculture and Home Economics, Engineering and Architecture, and Education. This includes seven in the "Policy, History, Theory" category; twelve under "Environmental Aspects;" thirteen as "Social/Cultural Aspects;" and eleven in "Economic Aspects." The variety of courses within each category allows students to design minors to their own interests, while considering their Major requirements, the frequency of course offerings and conflicting schedules.

The Sustainable Development Committee decided to recommend introducing the interdisciplinary Program as a Minor, available as a concentration or an Option within any Major degree. It is to be housed in the College of Business and Economics. If the topic continues to be of demonstrated interest to students, and if employment opportunities are available for graduates with this type of education, then a Major and/or a Master Degree Program may be put forth.

B. Course Requirements:

Eighteen semester hours are required for the Minor in Sustainable Development. Course requirements are as follows:

1. Required foundation course -- Aspects of Sustainable Development
   IBus/Soc/ESRP 375 3 hrs.

2. Electives selected from attached course listings for each of the four "Aspect" areas:

   Aspect 1: Policy, History, Theory 3 hrs.
   Aspect 2: Environmental 3 hrs.
   Aspect 3: Social/Cultural 3 hrs.
Aspect 4: Economic 3 hrs.

3. Additional elective to be selected from any one of the Aspect areas depending on interest and Major. 3 hrs.

Total Hours 18 hrs.

All coursework for the minor must be graded and a minimum GPA of 2.0 shall be maintained. At least 9 hours of coursework must be at the 300-400 level.

Students should work with advisors to determine courses from the four Aspect areas that are the most appropriate to their major and interests. The most likely directions for areas of coherence in sustainability studies are natural resource management, urban development, and international development.

The proposed curriculum for the Minor is attached as Appendix A.

III. FINANCES

At present, no new costs will be created by this program. With the exception of IBus/Soc/ESRP 375, all courses are currently being taught within established departments. The interdisciplinary nature of the program mandates that this model continue.

The initial funding for development of the Sustainable Development Program came from a grant by Trillium Corporation of Bellingham, Washington. The creation of the integrative course was endorsed by the various participating departments and colleges with the understanding that, if successful, the Program would be incorporated into the university structure. The gift of $400,000 has more than covered the costs so far, and will continue to provide administrative funding for the next year or two.

Trillium executives, working with the WSU Foundation and the CBE development staff, have committed to raise $1,500,000 to endow a Chair in Sustainable Development Studies. The first major contribution has been pledged, even before the campaign has gotten underway. Once the goal is reached, the university will provide a faculty position, and some matching funds will be available from the State. It is expected that by Fall 1999, the Chair position will be filled with an outstanding scholar capable of enhancing the program within the funding provided by these sources.

IV. ADDITIONAL COMMENTS

An early entry into the field of Sustainable Development Studies will give WSU considerable advantage in establishing its reputation and attracting students from the Northwest and internationally. Research opportunities, particularly those funded by international organizations, are beginning to appear, with language mentioning sustainable development as a part of, or a "priority" for, the research proposal.
As universities seek to address the rising tide of interest, they are introducing courses or programs in various departments. Few are seeking to overcome institutional barriers often found in large universities by initiating a truly interdisciplinary program with connections to the business and the environmental sciences and design departments or programs. Even fewer are including the social sciences in their planning. Yet how social systems respond to the complex policy issues of sustainability is essential to understanding our societal roles and our potential for solutions. With institutional support and leadership from the distinguished faculty hired for the Chair in Sustainable Development, the opportunity at WSU to create an innovative and compelling program is now.

The WSU Sustainable Development Program is taking the initiative to convene representatives of colleges, departments and programs of Environmental and Resource Sciences, Social Sciences, Engineering and Architecture, Education, Extension, and Business from throughout the Northwest during the summer of 1998 in order to share information and begin to chart a course for sustainable development education in our region. There is every reason to expect that the Northwest will assume a predominate role in this arena, particularly if there is a shared vision, collaboration and understanding of the various strengths offered by our universities.

**Minor in Sustainable Development Studies**

*College of Business and Economics*

*Washington State University*

**APENDIX A**

**ASPECT AREA 1:**

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<td>Policy, History, Theory</td>
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<tr>
<td>American Environmental History</td>
<td>Hist 409</td>
<td>Paul Hirt</td>
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<td>Politics of Natural Resources and Environmental Policy</td>
<td>PoliSci 430</td>
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<td>Environmental Psychology</td>
<td>Psych 466</td>
<td>Larry Sanna</td>
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<td>George Hinman</td>
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<td>The Built Environment</td>
<td>Arch/ID/LA 202</td>
<td>TEAM: Tom Bartudka, Coord</td>
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<tr>
<td>Urban Theory and Development</td>
<td>Arch/CSTM 422</td>
<td>Mike Owen</td>
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<tr>
<td>Natural Resource Policy</td>
<td>NTRS 438</td>
<td>Matt Carroll</td>
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### ASPECT AREA 2:

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>COURSE NO.</th>
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<tbody>
<tr>
<td><strong>Environmental Aspects</strong></td>
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<tr>
<td>Environmental and Human Life</td>
<td>ESRP 101</td>
<td>William Budd</td>
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<td>Natural Science in the Environment</td>
<td>ESRP 150</td>
<td>Theodora Tsongas</td>
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<td>Introduction to Pollution Prevention</td>
<td>ESRP 428</td>
<td>Dwight Hagihara</td>
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<td>Planning</td>
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<td>Environmental Assessment</td>
<td>ESRP 444</td>
<td>Eldon Franz</td>
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<tr>
<td>Principles of Conservation</td>
<td>Zoo 330</td>
<td>Paul Verrell</td>
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<td>Current Debates on the Environment</td>
<td>Zoo 331</td>
<td>Paul Verrell</td>
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<td>Natural Resource Ecology</td>
<td>NTRS 300</td>
<td>Jon Bassman</td>
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<td>Conservation of Renewable Resources</td>
<td>NTRS 303</td>
<td>Linda Hardesty</td>
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<td>Sustainability by Design</td>
<td>Arch/ID/LA 494</td>
<td>TEAM: Ayad Rahmani and Tom Bartuska, Coord</td>
</tr>
<tr>
<td>Impacts of Ecotourism</td>
<td>RLS 496</td>
<td>Ed Udd</td>
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### ASPECT AREA 3:

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<th>TOPIC</th>
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<tr>
<td><strong>Social/Cultural Aspects</strong></td>
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<tr>
<td>Agriculture and Social Change</td>
<td>Soc 301</td>
<td>Sonnefeld</td>
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<td>Ecology of Human Societies</td>
<td>Soc 415</td>
<td>Lee Freese</td>
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<td>Population, Resources and the Future</td>
<td>Soc 331</td>
<td>John Wardwell</td>
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<td>Society and Environment</td>
<td>Soc 332</td>
<td>Riley Dunlap</td>
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<td>Technology and Society</td>
<td>Soc 430</td>
<td>Gene Rosa</td>
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<tr>
<td>Resolving Environmental Conflicts</td>
<td>Rural Soc 435</td>
<td>Emmett P. Fiske</td>
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<tr>
<td>Local Impacts of Global Commodity Systems</td>
<td>Rural Soc 430</td>
<td>Ray Jussaume</td>
</tr>
<tr>
<td>Cross-national Perspectives on Community</td>
<td>Rural Soc 335</td>
<td>Ray Jussaume</td>
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</table>
Peoples of the World  Anthro 203  Barry Hewlett
Anthropology and Human Problems  Anthro 304  John Bodley
Cultural Ecology  Anthro 309  Huckelberry
Human Issues in International  Anthro/Soc 418  Sonnenfeld (WHETS)
Race, Gender and Nature  WSt 460  Noel Sturgeon
Global Feminism  WSt 332  Marian Sciachitano
Ecotourism in North America: Comparative Studies  RLS 497  Ed Udd
Natural Resources and Society  NTRS 312  Matt Carroll

**ASPECT AREA 4:**

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>COURSE NO.</th>
<th>INSTRUCTOR</th>
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<tr>
<td>Economic Aspects</td>
<td>Econ 101</td>
<td>Various</td>
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<tr>
<td>Fundamentals of Microeconomics</td>
<td>Econ 102</td>
<td>Various</td>
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<td>Comparative Economic Systems</td>
<td>Econ 416</td>
<td>Bill Hallagan</td>
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<tr>
<td>Economic Development and Underdevelopment</td>
<td>Econ 472</td>
<td>Mudzi Nziramasanga</td>
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<tr>
<td>Economics of Environmental Issues</td>
<td>Econ 481</td>
<td>Jeff Krautkraemer</td>
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<tr>
<td>Natural Resource Economics</td>
<td>Ag Econ 311</td>
<td>Phil Wandschneider</td>
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<tr>
<td>Resource Economics</td>
<td>Ag Econ 480</td>
<td>Paul Barkley</td>
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<tr>
<td>Principles of Real Estate</td>
<td>RE 305</td>
<td>Donald Epley</td>
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<tr>
<td>Natural Resource Planning</td>
<td>NTRS 403</td>
<td>Keith Blatner</td>
</tr>
<tr>
<td>International Business</td>
<td>I Bus 380</td>
<td>Patriya Tansuhaj</td>
</tr>
<tr>
<td>Special Topics</td>
<td>I Bus 496</td>
<td>Various</td>
</tr>
</tbody>
</table>

**Note:** The Sustainable Development Studies Program is still in a formative stage, and is open to further development. On an ongoing basis, the specific classes will be subject to change as new courses are developed or dropped by their Departments of origin. The goal will be to maintain a core of courses that meet the content criteria established by the Sustainable Development Committee and allow students to meet their own requirements for career preparation.
Advising students for the Minor in Sustainable Development will require attention to the mix of Major and elective courses in order to supplement areas of weakness in the overall preparation. For example, environmental and natural resource science students should be guided to greater emphasis in the social sciences and business/economics Aspects. They may require a prerequisite of basic economics to then take a more advanced elective. It is equally important that the students concentrating their Major course work in the College of Business and Economics take both a basic environmental science course and a more advanced environmental elective in the Minor. Students coming from a liberal arts background may concentrate on both environmental and economic topics to round out their preparation.

The high level of interest by foreign students indicates a need for a macro approach to international development. Either the urban or the natural resource development area of coherence within the Sustainable Development Minor can have relevance in an international context; however, this area is more global in perspective.

Some examples of possible combinations of courses are given below. There is no intent to prescribe exact requirements, as students and advisors will be considering the student needs, gaps in the completed course work, and the availability of courses offered at appropriate times.

Areas of Coherence within the Sustainable Development Minor - Examples:

In addition to the requirement of IBus/Soc/ESRP 375, the following may be selected as an area of coherence.

**URBAN DEVELOPMENT:**

Select one course from among the following in Aspect Area 1: Hist 409, Philos 370, Psych 446, ES/RP 335, Arch/ID/LA 202, Arch/CSTM 442.

Select one course from among the following in Aspect Area 2: ES/RP 101, ES/RP 444, Arch/ID/LA 494, Zoo 331, NTRS 303.

Select one course from among the following in Aspect Area 3: Soc 415, Soc 332, Soc 430, Anthro 304, WSt 460.

Select one course from among the following in Aspect Area 4: Econ 101, Econ 102, Econ 416, Econ 481.

Select one additional course from any of the above listed.

**INTERNATIONAL DEVELOPMENT:**

Select one course from among the following in Aspect Area 1: Philos 370, ES/RP 335, NTRS 438.

Select one course from among the following in Aspect Area 2: ES/RP 101, ES/RP 150, ES/RP 428, Zoo 330, NTRS 300, NTRS 303, RLS 496.
Select one course from among the following in Aspect Area 3: Soc 301, Soc 331, Rural Soc 441, Rural Soc 335, Anthro 203, Anthro/Soc 418, WSt 332, RLS 497.

Select one course from among the following in Aspect Area 4: Econ 102, Econ 416, Econ 472, Ag Econ 480, IBus 380.

Select one additional course from any of the above listed.

NATURAL RESOURCE DEVELOPMENT:

Select one course from among the following in Aspect Area 1: PoliSci 430, Philos 370, Psych 466, ES/RP 335, NTRS 438.

Select one course from among the following in Aspect Area 2: ES/RP 150, Zoo 330, BioSci 372, NTRS 300.

Select one course from among the following in Aspect Area 3: Soc 332, Rural Soc 441, Anthro 309, NTRS 312.

Select one course from among the following in Aspect Area 4: Econ 101, Econ 481, Ag Econ 311, Ag Econ 480, NTRS 403.

Select one additional course from any of the above listed.

Date: September 24, 1997
To: Sam Smith, WSU President
From: Brian William, Environmental Engineering Student
Re: Sustainable Development course

Last semester I had the pleasure of taking the Sustainable Development course. It was one of the most informative and enjoyable courses during my four years here at WSU. I found myself exposed to a great deal of information and a variety of different perspectives that I would not have found in my required course of studies in Environmental Engineering. I hope that in the future, more students have the opportunity to explore the ideas of environmental sustainability and its role in development by taking this course.

Sustainable development is an idea that is finally gaining recognition and acceptance among politicians and businessmen. Although the basic concept of "meeting the needs of the present without jeopardizing the needs of the future" is quite intuitive, it has only recently been considered in industries, manufacturing, farming, and mining. In June 1993, President Clinton commissioned the Council on Sustainable Development to begin to address sustainability issues and generate possible options for the nation to pursue. At the same time, Trillium Corporation and other businesses are leading the way in exploring applications of sustainability in their affairs. In the future, it is likely that sustainable development will expand to take a greater role in both business and environmental interests. By becoming acquainted with the concepts while in college, students will be better prepared for ideas that will undoubtedly be encountered during their careers.
The course provided a much needed opportunity for interdisciplinary interaction among students from several majors. With the course cross-listed under Environmental Science, International Business, Sociology, and University Honors, a varied mix of students with differing academic and personal backgrounds was made possible. As an Environmental Engineering student, I found it enormously beneficial to be exposed to the perspectives of ES and IBus students, because both will likely be viewpoints that I will encounter repeatedly during my professional career. The opportunity to communicate and listen to one another while exploring and wrestling with the ideas of environmental sustainability was extremely valuable.

In addition to the simple exposure to differing perspectives, we were also given the chance to work through some of the difficult issues of sustainability together. My father works as a Horticulturist in the Extension Program for Oregon State University and devotes much of his time to addressing contentious issues concerning land and water use in rural areas. He seeks to resolve disputes by gathering the various persons with a stake in the outcome (farmers, ranchers, environmentalists, concerned local citizens, government agency officials, etc.) together and helping them understand the common goals and concerns that they share. The sustainable development course served to begin this process of addressing difficult and complex issues while working with others to propose possible solutions, an exercise which is extremely beneficial to us as students. With environmental sustainability, it is clear that all have a stake in the outcome and that all share goals. A comfortable standard of living is a common goal for all, as is maintaining the environmental foundation to allow our children and grandchildren to enjoy the same living standard. The method to best go about accomplishing this common goal provided the class with much engaging discussion.

Finally, I have followed the recent movement at WSU toward the incorporation of ethics into academic studies with a great deal of interest. During my studies at WSU, it has often seemed that the faculty are very experienced at imparting information and knowledge, but often neglect to address appropriate and conscientious uses of the information transferred to students. Throughout the sustainable development course the focus remained on the question of how to use our natural, economic, and human resources to best meet the needs of our society, both now and in future generations. I therefore view the course as essentially an ethical study in how we as a society, nation, and world may best go about using the environmental, economic, and technological information we possess. These questions of how we will use our extensive knowledge and resources to the greatest benefit of our world are extremely complex. The sustainable development course provides an excellent forum for students to begin to examine and struggle with these issues and encourages us to begin thinking and exploring ideas in a way that extends well past the end of the course itself.

I appreciate the chance that I had to broaden my education by taking this course, and hope that other students will have a similar opportunity to expand their own academic perspectives. I encourage the University, the Trillium Corporation, and other private donors to continue their support and backing for this valuable program.

Thank you for your time and interest.
Brian Williams

* * * *

Motion carried.
Budget and Library Committees have also approved this program.

Agenda Items (Discussion Items).

1. Recommendation from Faculty Affairs Committee for A Policy on Electronic Publishing and Appropriate Use of Computing (Exhibit E) – J. Crane

Questions raised about this document were:

- Can you give examples of violating University policy with electronic media?
- How can one use electronic media for example to discriminate?
- Could a personal WEB page be used to violate University policy?
- If someone expresses an opinion that is contrary to University policy is that a violation?
- Should a statement be added that states expressing opposition to a University policy is not in itself a violation of University policy?
- Would email be covered under the Freedom of Expression statement?
- May a person use state owned computers to access networks or databases?
- It refers to a WEB page has having to be linked to the WSU Copyright Disclaimer/Freedom of Expression Policy does the fact a WEB page has to be linked to the WSU policy infer that something that is published on a personal WEB page, is indeed copyright property of WSU?
- Some email on listservers have bulletin boards and publications that are copyrighted because of information how does this effect WSU employees who belong to those listservers as part of their profession?
- The definition of spam is too broad an unwanted message received from one person one time could be covered under this definition.
- Utilizing University resources to the extent it interferes with others uses of computers resources can happen any time the server is overloaded and slows everyone down. This is too broad a statement.
- Couldn’t email be covered under the same general policy that covers memorandums and letters sent from WSU and couldn’t the same University policies that covering publishing cover WEB publishing? Why do we need separate policies?

Crane stated that these questions would be given to the Attorney General so that they could be answered before the policy is voted on.

2. Recommendations from Graduate Studies Committee for Graduate Major Change Bulletins #2 and 3 (Exhibit F) – Joe Cote

There was no discussion.

3. Recommendation from Academic Affairs Committee for Revisions to Rule 90h Incomplete Grade and Rule 54 Minor or Second Major (Exhibit G) – K. Struckmeyer

There was no discussion.
4. Recommendation from Academic Affairs Committee for Undergraduate and Professional
   Major Change Bulletin #3 (Exhibit H) – K. Struckmeyer

   There was no discussion.

Constituents Concern’s

M. Kallaher stated that students are placed in math courses based upon gpa and SAT scores. He
stated that gpa’s do not measure content knowledge of students. The SAT quantitative seems to
agree with the math placement test. Students do not take the Math Placement test during Alive
Week. The Math Placement test is given statewide and required by all the four year institutions
except maybe Evergreen. Greenberg stated that these things should be looked at by AAC in their
review of the test. Plumb stated that when he originally raised concern about the Math Placement
test he was concerned about how it could possibly be that 35% of our freshman class can’t place
into something above Math 101 when you look at our admission requirements and they say you
have to have 3 years of high school math. Greenberg stated that maybe the message being sent is
that K-12 needs to look at the fact that the outcomes from their courses are not adequate. Kucera
stated that it may be a case of high schools relying too much on calculators and not enough on
common sense.

Carroll raised a question about the fact that QualMed will no longer cover WSU employees in
Latah County. Kessler stated that QualMed is downsizing and dropping several counties in
Washington as well.

Blackwell raised concern about the Terrell Mall area and the hazards of skateboards.
Skateboarders show no regard for the pedestrians and he is concerned about someone getting
injured. He requested the Senate office contact the appropriate agency concerning this issue.

Adjournment.

Meeting adjourned at 5:15 p.m.

Thomas Brigham
Executive Secretary