



University of Washington  
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**End-of-Program Assessment: 1996 Annual Progress Report**

Lauren Basson

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The Office of Educational Assessment is an agency of the University of Washington which provides a variety of services related to educational research and assessment. The following are programs within which these services are provided:

- Institutional Research
- Student Outcomes Assessment
- Instructional Evaluation
- Test Scoring and Analysis
- Standardized Testing

# End-of-Program Assessment: 1996 Annual Progress Report

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## INTRODUCTION

Formal end-of-program assessment is now in its seventh year at the University of Washington. Based on a 1989 mandate by the Higher Education Coordinating Board, nearly all departments offering undergraduate majors have designed procedures to assess these major programs and have made substantive curricular and instructional changes as a result.

As end-of-program assessment progresses beyond its initial phase, it is important to keep in mind the goals of this program. The main purpose of end-of-program assessment is to assess departmental major programs in order to identify those aspects that are working well and those that are not, and to make improvements as necessary. Toward this end, most departments have designed specific assessment strategies that are employed on a continual basis. The results of the data generated are analyzed and used as a basis for making necessary changes.

This report focuses primarily on the changes departments have made this year based on the results of their end-of-program assessment procedures. Because end-of-program assessment is a continual process, however, not every department can be expected to make sweeping changes every year. Some undergraduate programs such as the Dance program made significant revisions to their major curriculum in 1994/95 and spent the past year assessing the effects of these revisions. Other departments, such as Oceanography, are actively engaged in improving their already strong assessment programs and thus may not report significant findings or changes in their major programs as new techniques for assessment are tried.

While the focus of end-of-program assessment is on changes made to departmental major programs on the basis of specific assessment measures, clearly, departments make curricular changes for reasons other than end-of-program assessment. In addition, curricular changes are often made to aspects of departmental programs that do not involve majors. For example, departments make changes to their introductory classes for non-majors or to their graduate programs.

The following pages provide a summary of changes and other findings based on what departments reported in their 1996 annual progress reports on end-of-program assessment. Summaries are presented in alphabetical order by department.

## CHANGES

### **Aeronautics and Astronautics**

A variety of assessment measures including exit and alumni surveys, a CIDR review, and interviews with majors have led the department to include two student members on the departmental computer committee. They will address student concerns about computer facilities and software use.

### **Art**

Based on feedback from majors, the Art History faculty has initiated the following changes:

- 1) The system of required core courses allowing students to acquire a broad range of art historical knowledge in a variety of cultural contexts has been maintained but the list of courses that satisfy this basic proficiency has been expanded. Students may now satisfy their core requirements in a more timely manner with more self-direction and choice.
- 2) Art H 401 has been dropped as a senior seminar because it could only be taught once a year, creating a curriculum bottleneck for seniors. In its place, majors are now required to complete any three 400 level courses in which they can work closely on research and writing projects with the faculty of their choice.
- 3) The Division of Art History initiated a school sponsored Seminar in Rome. Open to all majors on a competitive basis, this program provides students with firsthand experience and knowledge and allows them to receive 15 quarter credits that apply directly to major requirements.
- 4) The Division of Art and Division of Design faculty have reduced the number of required foundation course credits for studio majors from 27 to 17, allowing students to begin their specific major requirements at an earlier point in their education.

### **Asian Languages and Literature**

Major developments in this department include:

- 1) The implementation of a new instructional track in business and professional Japanese. This track will accompany a more traditional course sequence dealing with literary texts.
- 2) Continued implementation of a new series of courses devoted to works of Asian literature in English translation.
- 3) Discussions with faculty and administrators in the Jackson School of International Studies concerning the possibility of combining majors in Southeast Asian and South Asian languages and literatures with majors in Southeast and South Asian Studies. It is believed that a joint administration of these degrees would lead to higher quality degree programs.

- 4) Administration of minors in Chinese, Japanese, and South Asian languages.
- 5) Implementation of a new faculty mentoring process for undergraduate majors.
- 6) Approval to award UW credit for overseas language study at two additional Japanese universities.

### **Astronomy**

Based on the results of an e-mail survey and an end-of-year meeting with majors, the Astronomy department is making the following changes:

- 1) A new upper division course on analysis techniques will be revised to include an even stronger practical hands-on electronics and instrument design component, as well as the current training in astronomical software package use and in observational statistics.
- 2) Undergraduates will be invited to the weekly departmental pizza lunch to encourage more student - faculty interaction.
- 3) Seniors will be encouraged to attend the weekly departmental research colloquium which brings in prominent outside speakers to discuss their current research.
- 4) The department will experiment with a departmental mini-symposium on research activities directed toward students.

### **Atmospheric Sciences**

As the result of a variety of assessment measures, several changes have been made to the major program. These include:

- 1) The introduction of a new course, ATM S 302, entitled Computer Applications for Atmospheric Sciences, designed to make certain that students are up to speed on the computer skills they need for success in the program. Student input about programming difficulties contributed to the formation of this course.
- 2) Course offerings have been revised to provide a more logical sequence for students. ATM S 451 W, entitled Instruments and Observations, replaces ATM S 362W, and is now offered in the senior year. ATM S 350, entitled Data Analysis, replaces ATM S 450, and is now offered junior year. It was decided that the Instruments and Observations course would be greatly enhanced if students learned about data analysis and statistics (ATM S 350) before entering the class.
- 3) Another workstation has been added to the undergraduate computer laboratory.
- 4) Regular meetings with students as a group have been continued to discuss job opportunities and internships as well as to address other concerns.

## **Botany**

Based on assessment survey results, the Botany department has made concerted efforts to increase access to classes for both majors and non-majors. One way in which this is being done is by increasing class sizes.

## **Chemistry**

Based on senior and alumni survey responses indicating that many students would appreciate more opportunities to engage in the practical applications of chemistry through research and other means, the department has decided to introduce three new degree tracks. These are:

- 1) A flexible B.S. in Chemistry. This program will offer students five elective upper level chemistry courses rather than the traditional two electives.
- 2) A Research B.S. in Chemistry. This program would replace the 15 credits of elective upper level course work offered in option # 1 with a 15 credit cohesive research program to be carried out in a UW lab, and culminating in a written and orally defended thesis.
- 3) An Extra-Mural Research B.S. in Chemistry. This program would replace the 15 credits of elective course work in option # 1 with a 15 credit cohesive research program to be carried out in an industrial or non-profit research setting, leading to a written and orally defended thesis.

The latter two programs will offer students an alternative program with basic course requirements slightly stronger than the current B.A., and with the possibility of a full year of independent work emphasizing development of real scientific independence, exposure to state-of-the-art instrumentation in an unstructured environment, exposure to real work problems, and a series of required written and oral presentations designed to enhance communication skills.

## **Classics**

Based on assessment of its senior essay requirement, the Classics department has determined that their major program is helping their students develop the fundamental interpretive and analytic tools appropriate to the discipline. Their level of written expression has also been quite high. In addition to acting as an instrument for assessment, the senior essay has also provided a useful focus for students in their final year of study and an opportunity for a special kind of one-on-one work with the faculty.

The success of the major program can also be measured by the large number of students the department has recently sent to graduate programs in Classics. Some of these students are at the best Classics programs in the country and are doing exceptional work.

## **Comparative History of Ideas**

The CHID program has made a number of changes in the past year including the following:

- 1) Increased students interest has led to the addition of a summer program in CHID 110 The Question of Human Nature and the CHID 390 Colloquium.
- 2) The CHID 497/498 Peer Facilitating program has been revised to include a greater focus in the texts used in the pedagogical theory class and stronger emphasis on practical teaching skills.
- 3) CHID focus groups, student-led seminars on topics of special interest, have continued to develop and included studies of gender issues and science and religion.
- 4) The Public Sphere Project allowed a group of CHID students to create a television program produced in collaboration with KCTS.
- 5) The new Prague Spring program allows CHID majors to spend a quarter in Prague where they study Czech history, literature and culture.
- 6) Student input regarding advising have led to revisions in the advising structure. Peer advisors will handle paperwork and answer specific student questions. Faculty and staff will work closely with students for more detailed and substantive advising. New students will also be required to take an advising focus group the quarter after becoming a major.
- 7) The CHID program is working to foster a student sense of community through workshops, retreats, special seminars, and the journal *interSections*.

## **Comparative Literature**

As a result of the 1995 assessment of graduating seniors, the Comparative Literature department has made two significant changes:

- 1) C LIT 200, a large, introductory course, has been dropped as a major requirement. Other core courses for the major are now offered on a more regular basis (at least once per year) and more offerings at the 300 and 400 levels have been added.
- 2) A proposal for a B.A. in Cinema Studies has been developed.

## **Computer Science and Engineering**

Based on several assessment measures including exit interviews conducted by departmental advisors with all majors, the following changes have been made:

- 1) The department encourages co-op employment by its students. One result has been the extensive involvement of UW undergraduates with the development of the Nokia 9000 digital cellular phone. The application software for this phone which includes an

integrated world wide web browser, a telnet terminal, and a FAX, was done entirely by four undergraduates from the department working at Geoworks/Seattle.

- 2) The introductory course sequence, CSE 142/143, has been entirely renovated. The sequence enrolls more than 2000 students per year and makes interesting use of educational technology.
- 3) A new course on computer animation has been introduced and is taught to teams of students from art and computer science. Silicon Graphics invested nearly \$500,000 in an instructional laboratory for the course.
- 4) Working with corporate partners, the department has secured additional instructional laboratory donations totaling more than \$1 million in the past several years.
- 5) A senior software engineering course is being taught jointly with Boeing, using Boeing projects as case studies for students.
- 6) The department has worked with UW Bothell to create a 2+2 completion degree program with Bellevue Community College in Computing and Software Systems.
- 7) The department has worked to create a stronger relationship with the state's community college computer science instructors. Efforts include running an all-day seminar/dialog in May and encouraging instructors to make use of departmental web-based instructional materials and to attend the summer offerings of departmental introductory courses for free.
- 8) An active tutoring program has been started for students from under-represented groups in the major in order to help them succeed in the department. The program is staffed by graduate students and senior undergraduates from under-represented groups.

## **Dance**

One of the ways in which the Dance program assesses its majors is through the Student Choreographic Award. An outside panel of three dance professionals is invited to attend the Dance Major Concert and to select the students who has most effectively composed, costumed, rehearsed, and produced a dance. One of the past winners of this award recently received his M.F.A. from the Art Institute of Chicago and is now working as a successful performance artist in Chicago where he also manages a gallery performance space. Last year's runner-up is having her work produced this spring by On the Boards in Seattle. This assessment procedure is not only identifying successful students within the program, but is also indicating that Dance majors are receiving an education that is competitive with other institutions nation-wide.

## **Drama**

Responses to a senior exit survey have led to the following changes:

- 1) Complaints about the lack of faculty of color have contributed to the hiring of an African-American man for a new faculty position.
- 2) In order to remedy the lack of acting courses at the intermediate level, the department plans to offer a two quarter intermediate acting sequence.
- 3) The lack of course work in non-western theater traditions will be partially remedied through the addition of a new course in African-American theater and perhaps more courses in a non-western tradition in the future.

## **Economics**

The results of its third annual exit survey has led the Economics department to make the following changes in its major program:

- 1) In response to requests for more information about the major and for a friendlier department, entering majors now receive an information packet about majoring in Economics and a welcoming letter from the chairman and director of undergraduate studies.
- 2) Requests for more applied courses have led the department to offer two courses on a permanent basis: ECON 447 Economics of Gender and ECON 483 Applied Econometric Modeling. A new course, ECON 437 Economics of Biological Resources, will also be offered. ECON 437 and 447 also satisfy requests for more interdisciplinary courses as does another new course, ECON 306, Topics in Economics, focusing on Economics and Law.
- 3) In order to enhance students' math/statistics background, two new courses have been created: ECON 150 Quantitative Preparation for Economics and Business will help unprepared students while ECON 310 Microeconomics for Scientists and Engineers will offer a more mathematical version of microeconomics attractive to scientists.
- 4) Finally, the department has instituted a B.S. in Economics designed for students with double majors in statistics, computer science, math or other scientific departments and offering more opportunities for engaging in research projects. The B.S. degree will also provide better preparation for students pursuing a graduate degree in economics or related topics and for students pursuing careers that demand expertise in both economics and the sciences.

## **Electrical Engineering**

On the basis of an extensive review by the Accreditation Board for Engineering and Technology, the Electrical Engineering department has placed a master list of its courses on



the departmental home page in order to ensure consistency in course descriptions. Students transcripts are also now double checked prior to graduation in order to ensure that students have met the requirements of the published curriculum. Finally, the number of credits required for graduation have been reduced from 192 to 180 in order to ensure that students can graduate in a more timely fashion.

## **English**

The English department made several changes to its major program on the basis of assessment results.

- 1) Due to student complaints that older faculty members appeared bored with the courses they taught, two of these professors have developed new courses for next year, including one course on Canadian Literature.
- 2) Instructors of senior seminars have been asked to comment on their experiences in order to encourage them to reflect upon and thus improve their teaching.
- 3) A strong series of efforts are being made to prepare train departmental T.A.s and to prepare them for future faculty positions.

## **Fisheries**

During the past year, the School of Fisheries implemented the following changes:

- 1) A biennium instructional plan has been formulated for the undergraduate and graduate curriculum.
- 2) Due to confusion among both faculty and students, the procedures for the senior project, FISH 495, have been revised. Procedures for the project are now centralized in the Undergraduate Student Services Office. The course is limited to 3 credits and encourages either a research or experiential learning focus.

## **Forest Resources**

On the basis of a number of assessment measures including feedback from external review boards and interviews with graduating seniors, the College made many changes to its undergraduate programs including the following:

- 1) The list of business courses available to student in Forest Management was expanded to provide more choices and help these students graduate within four years.
- 2) The integration of concepts and skills in the senior capstone course (FM 496) was improved by expanding faculty participation. Greater diversity in materials was incorporated, along with a broader dialogue among participating faculty.

- 3) Funding for an additional 12 quarters of T.A. assistance to help with courses that grew in enrollment has been assigned on a temporary basis.
- 4) The College is addressing inter-faculty and administrative-faculty conflicts by scheduling forums for civil dialogue on forest policy issues, appointing an ethics committee to discover ways of improving the work/study environment, and making policy debates a central concern of the strategic planning process.
- 5) A major purchase of computers was made in Spring 1996 to support field instruction at Pack Forest.

### **French and Italian Studies**

French and Italian Studies have made the following changes to their major program:

- 1) French 110, an accelerated introductory French course, has been established to allow students with a high school French background to complete the first year of French in two quarters.
- 2) Two new spring programs have been established at Poitiers and Nantes where students will be able to complete an entire second year of French in a single quarter.
- 3) A year-long junior year abroad program has been established at the University of Paris VII.

### **Geography**

On the basis of assessment survey results for 1995/96, the Geography department implemented a new Tutorial for Majors course, GEOG 397. The course focuses on the structure of the major and the connections between the discipline, the curriculum, and career development.

With the help of extra T.A.s, the department has also created significantly more slots in its lower-division courses and has created a new course, GEOG 280 The Geography of Health and Health Care, which attracted over 100 new students.

Revised major requirements have been made in an attempt to address program gaps through modifications and enhancements such as:

- 1) The introduction of a curricular inventory.
- 2) A set of prerequisites and required courses designed to force students to be more uniformly armed with the statistical and mapping/analytical skills necessary to flourish in upper-division courses.
- 3) Expansion of 200-level course access.

- 4) Expansion of a service learning program.
- 5) Development of a departmental WWW site and e-mail ListServe.
- 6) Expansion of departmental career guide, "What You Can Do With a Degree in Geography."

### **Germanics**

Based on student and faculty recommendations and a wide variety of assessment methods, the Germanics department has implemented the following curricular changes to its major program:

- 1) German 401 and 403 (Advanced Writing and Conversation) have been changed from three to five credit courses. German 402 has been dropped.
- 2) The Area Studies core courses have been streamlined and systematized so that they will complement each other and present students with a long-range overview and a sense of continuity in German culture and institutions.
- 3) A set of 200 and 300 level literature, film and culture courses is scheduled to be offered on a regular basis and taught in English translation.

### **History**

On the basis of a year-long assessment of the history major requirements by the Undergraduate Studies Committee and comments from students completing the major, the History department is implementing the following changes:

- 1) An e-mail network now provides history majors with news of future course offerings and departmental news and events. The department has also created a home page on the World Wide Web to provide information about its faculty and programs.
- 2) Revisions to the undergraduate major will include:
  - a) Requirements for a well-founded knowledge based on broad courses in European, United States, and non-Western history (at least one in each category); at least ten credits in both the pre-modern and modern periods; and a senior capstone seminar.
  - b) New majors will be linked with individual faculty who will help them plan specialized tracks within the major.
  - c) The department will seek resources to teach a pilot program of junior-level seminars to provide history majors with important analytical, communication and bibliographical skills.

## **Industrial Engineering**

Based on feedback from students and from the community, the Industrial Engineering department has implemented the following changes:

- 1) A new sophomore admission policy has been adopted that will allow students to join the program after fulfilling basic prerequisites.
- 2) The number of credits required to graduate has been reduced to 180.
- 3) The number of technical electives has been increased to 17 hours in order to provide flexibility for students.
- 4) Content has been streamlined and new topics have been introduced in the design and manufacturing courses.
- 5) Senior Design Projects, a capstone course required for graduation with a B.S.I.E. degree, has been introduced. Senior Design projects have successfully provided both important professional practice experience for Industrial Engineering seniors and state-of-the-art information to local industry.

## **Laboratory Medicine**

On the basis of assessment efforts, the Department of Laboratory Medicine has made the following curricular changes:

- 1) Greater emphasis is being placed on teaching management skills, using computers, and using new technologies relating to molecular biological assays.
- 2) Work flow designs to encompass cross training in former specialty areas will be included as a portion of the student practicum.

In addition, the department has designed evaluations to determine the effectiveness of the five computer laboratory tutor programs currently in use. Statistical results from these evaluations show a significant rise in the learning curve from pre-test to post-test for each tutor used.

## **Linguistics**

The Linguistics department made the following curricular and instructional changes in 1995/96:

- 1) A Romance linguistics major has been added with three possible tracks: Spanish Structure, French Structure, and Comparative.
- 2) Meetings for interested faculty and students were introduced to discuss curricular improvement. As a result of these meetings, two introductory courses (LING 200 and

400) will be better distinguished in terms of their content in the future. LING 200 Introduction to Linguistic Thought will become an Area of Knowledge course for non-majors while LING 400 Survey of Linguistics Method and Theory will be emphasized as the standard preparatory course for linguistics majors.

## **Materials Science and Engineering**

Input from alumni and industrial representatives has led to a large undergraduate curriculum revision. The faculty has approved a general plan for a consolidated B.S. program and a minor in Materials Science and Engineering. Among the innovations being discussed and implemented are use of teamwork in engineering problem solving, enhanced engineering design activities, and discussions of topics such as ethics and leadership.

## **Mathematics**

The Mathematics department has made the following curricular changes:

- 1) A proposal has been submitted for a multidisciplinary undergraduate program in "Applied and Computational Mathematical Sciences" to be jointly administered by Mathematics, Applied Mathematics, Computer Science and Engineering, and Statistics.
- 2) A computer lab has been designed to accompany MATH 307 Differential Equations and will become a regular part of the undergraduate program.
- 3) Due to faculty and student suggestions that instruction in pre-calculus and calculus could be improved by reducing class size, a few small sections of pre-calculus and calculus will be taught on an experimental basis.

## **Mechanical Engineering**

Discussions with employers and the departmental Industrial Advisory Board as well as faculty reviews of the curriculum have led to the following changes in Mechanical Engineering:

- 1) The department is participating in the Manufacturing Engineering Education Partnership / Integrated Learning Factory (MEEP/ILF), a national partnership program designed to improve education in manufacturing. As part of this program, the department has introduced new courses in integrated manufacturing, entrepreneurship, product dissection, and quality. A new laboratory has also been created with manufacturing equipment, computational resources, and multi-media presentation. About one third of the undergraduates in the department are taking advantage of these opportunities.
- 2) The department has designed a sequence of courses to expose students to continuous design experience throughout their junior and senior years. These experiences have involved local industry, government agencies, and other departments.

- 3) A mentoring program has been established, pairing students with individual faculty members to discuss career opportunities and other professional aspects of being a mechanical engineer.

### **Microbiology**

In response to suggestions from majors and faculty, the Microbiology department has made several changes in its undergraduate degree requirements:

- 1) The requirement for the third quarter of the physics series has been dropped and a requirement for two quarters of biochemistry has been added.
- 2) The list of approved electives has been revised to include a wider variety of courses to suit individual student interests.
- 3) A minimum grade requirement of 1.8 has been established in each of the required microbiology courses.
- 4) The number of laboratory sections offered has been increased to accommodate the increasing number of students interested in enrolling in microbiology courses and to allow majors to graduate in a timely fashion.

### **Music**

Based on assessment of their redesigned core curriculum, the School of Music plans the following changes:

- 1) A different text will be used for the first term of theory.
- 2) Musicianship and theory will be separated in the pre-core course so that students who do well in one area but not the other can be more flexibly accommodated.
- 3) The faculty in Theory and History will meet regularly to discuss and coordinate all aspects of the new core curriculum and to revise it where necessary.

The School of Music has also reactivated a regional Theory Consortium to exchange views with teachers of music theory in community colleges and other regional institutions from which the UW receives transfer students

### **Nursing**

On the basis of student surveys regarding the new Nursing curriculum, the School has continued to make modifications. Some course content such as pharmacology has been expanded, elective courses providing more depth in specific health problems have been added, and clinical experience with families has been better integrated into the senior intensive courses.

In order to address the pressures students face due to multiple responsibilities, the School of Nursing has created a stable funded position for its counselor and has increased the specialized writing assistance and peer tutoring available from teaching assistants in the Office of Academic Programs.

Instructors of senior courses have begun to give their students more challenging writing assignments based on the results of analysis of previous senior writing samples.

### **Oceanography**

End-of-program assessment in Oceanography is based on written evaluations of student performance by instructors in two field research courses, one for sophomores and one for seniors. Past changes made as a result of this assessment have included increasing the use of computers in the data analysis and preparation of reports by sophomores, adding more use of computers in the sophomore course prior to the field course, spending more time with the sophomores on the nature of data analysis, and requiring the seniors to plan the logistics for obtaining the information needed for their field research.

This year, the department focused on improving its assessment program by establishing clearer goals and standards for the two field research courses and for their evaluation. This process has led to important discussions among faculty members regarding assessment but further refinements are necessary before the new assessment procedures can be expected to yield significant results.

### **Pharmacy**

With the assistance of a grant from the Office of Educational Assessment, the School of Pharmacy revised its senior surveys. The new survey emphasizes curricular content and student self-assessment of competency. Questions are subdivided into those relating to knowledge of the students and those concerning student competency in performing the technical and cognitive tasks expected of a pharmacist. A separate survey was added to obtain detailed information on student placement at the time of graduation.

On the basis of the survey results, the School is conducting an in-depth review of service courses in biochemistry and pharmacology. The School of Pharmacy is also engaged in making sweeping curricular changes as it ends its bachelor's degree program and begins its new doctor of Pharmacy program.

### **Philosophy**

Based on responses to exit surveys, the department has made the following changes:

- 1) The department will begin to administer the exit surveys at the time students apply for graduation in order to increase the response rate.

- 2) To address the issue of how to cope with students from differing levels of background knowledge who enroll in 400-level courses, the department is considering several options:
  - a. Experiment with requiring prerequisites or special permission to enter 400-level courses.
  - b. Institute entrance requirements for the philosophy major
  - c. Develop a philosophical methods training course, to be required of all majors upon entrance into the program.
- 1) The department is considering offering a 400-level capstone course for majors.
- 2) Additional offerings of several courses have been instituted. In addition, the department has begun teaching some new undergraduate courses such as 114 Philosophical Issues in Law and a 200 level metaphysics course.
- 3) The department hopes to add two new faculty positions in the fall: one for a philosopher of science and the other for a philosopher of biology with expertise in environmental ethics/studies.

### **Physics**

Based on a wide range of assessment measures including surveys and discussions with students, the Physics department has made the following changes:

- 1) A mentoring program has been established between students and faculty members.
- 2) A proposal for a Physics minor has been submitted. The minor would be structured along three distinct paths - Physics Education, Experimental Physics, and Mathematical Physics.
- 3) In response to requests for more hands-on experience with computers and modern lab equipment, the following steps have been taken:
  - a) Computers in introductory mechanics labs were upgraded to Pentium status and new data acquisition interfaces were added allowing an enhanced level of experiment.
  - b) New equipment and more modern experiments are being added to the optics lab, the atomic physics lab, the solid-state physics lab, and the particle/nuclear physics lab.
  - c) New equipment is being purchased for non-major courses including Physics of Music and Physics of Sports.
  - d) New computerized projection capabilities have been made available in the new lecture halls.



The department is also planning the following changes:

- 1) Renovation of the equipment in PHYS 434, the computer interfacing lab.
- 2) Development of a new sophomore laboratory.
- 3) Development of a new computational physics course that will include both lectures and a lab section.
- 4) Revision of PHYS 334, the first electronics lab, to emphasize applications of analog circuits and an increase to four credit hours.
- 5) Modifications to lab requirements for major.

### **Psychology**

On the basis of assessment efforts, the Psychology department has implemented the following changes:

- 1) The junior-senior Honors Program has been revised so that honors students are required to take fewer honors credits and are excused from one required laboratory class. Honors students still work closely with a faculty advisor, complete an extensive review paper in their junior year, and conduct an independent research project in their senior year.
- 2) Fast-track registration for statistics and laboratory classes will be implemented in order to encourage students to take these classes immediately after completing PSYCH 209.
- 3) New students are now required to attend an orientation session and will be encouraged to make individual appointments with departmental advisors to plan their courses of study.
- 4) A second laboratory class has been added for evening degree students to provide them with greater choice and help them complete their degrees more quickly.

### **Rehabilitation Medicine**

#### *Occupational Therapy*

Based on assessment results, the faculty has implemented a one-week intensive fieldwork I experience versus the traditional 3 hours per week. This has provided students with a better sense of practice in the field and more relevant feedback from clinicians who get to know the students better. The faculty is also working to provide more hands-on laboratory class experiences.

## *Physical Therapy*

As a result of assessment involving students, alumni, employers, and patients, the Division of Physical Therapy will incorporate program enhancements in the following areas:

- 1) Conducting and interpreting standardized tests of functional status, and incorporating findings in the process of goal setting, progress review, and functional reassessment.
- 2) Patient evaluation related to recognition of pain and dysfunction which may not be of musculoskeletal origin, or is of musculoskeletal origin and may require referral to another health care practitioner for appropriate management.
- 3) Computer access to information sources related to patient management and problem-based learning.
- 4) Increased ability to determine needs for continuous quality improvement in clinical services offered.

Specific course modifications have also been made. These include:

- 1) Revisions and additions to REHAB 471 and 472 (Therapeutic Exercise I, II) to include detailed coverage of standardized tests of functional status, goal setting and review, and reassessment.
- 2) Expansion of an instructional unit in REHAB 413B (Clinical Problem Solving) to consider the utility of standardized testing for use in evaluating therapeutic approaches for specific conditions.
- 3) Increased emphasis in REHAB 405 (Physical Therapy Management of Musculoskeletal Disorders II) on key questions in the history portion of patient assessment, and on the physical exam, including chest and abdominal evaluation and recognition of unusual responses.
- 4) Adding to REHAB 416 (Principles of Physical Therapy Administration):
  - a) a new instructional "hands-on" session, to gain experience in accessing information in computerized data bases supported by the UW Health Sciences Library.
  - b) an independent study assignment related to quality assessment of clinical services.

Finally, the faculty has developed a proposal to expand the existing class size of the program to 36 slots.

### ***Division of Prosthetics - Orthotics***

Based on assessment measures involving both students and employers, Prosthetics-Orthotics has made the following curriculum changes:

- 1) To provide students with clinical experiences throughout their educational experience rather than only at the end of their academic studies, eight prosthetic-orthotic facilities in Seattle have been added as clinical community sites. Entering junior students will spend four hours per week with a certified practitioner in these clinical settings during their first year of study and will complete 500 hours at the clinical site by the end of their program.
- 2) To strengthen student preparation in spinal orthotics and lower limb orthotics, the faculty has reorganized some clinical patient management courses including Upper Limb Orthotics (REHAB 343), Upper Limb Prosthetics (REHAB 341, 342), and Lower Limb Prosthetics (REHAB 420) to reflect the current clinical practice demands.
- 3) Feedback from graduate and employer surveys has led to the development of a practice management course that will include an overview of the health services system, business practices such as billing procedures and reimbursements, and technical standards and decision making as related to the Prosthetics and Orthotics Canons of Ethics.
- 4) Since documentation is one of the areas in which students have typically felt least prepared, documentation will be required of students on a weekly basis during their clinical community experiences. Chart notes will be reviewed by the clinical practitioner and the instructor to provide students with suggestions and feedback. The documentation process will also receive continued emphasis in all courses in which students have exposure to clinical patients.
- 5) Vorum Corporation provided a one day lecture / demonstration on CAD-CAM technology in lower limb prosthetics and will provide additional demonstrations on spinal orthotics computer-aided design technology this coming year. Additional presentations by Prosthetic Research Study and Model and Instrument Development will round out the exposure students have to the systems most widely used in the United States.

### **Scandinavian Languages and Literature**

As a result of end-of-program assessment methods and a ten-year review process, the Scandinavian department has made the following changes:

- 1) The department has developed a Scandinavian Club to foster student cohesiveness.
- 2) An internship program for students has been started with the Nordic Heritage Museum.
- 3) Internships with local Scandinavian businesses are under consideration.
- 4) A graduation reception has been established. Awards are presented to the seniors with the best GPA and senior essay.

- 5) An e-mail network has been developed for majors and a World Wide Web departmental home page has been established.
- 6) The major program has been revised and consolidated. Instead of offering four different majors (Danish, Norwegian, Swedish, and Scandinavian Area Studies), the department will now offer a single major with five different tracks (Danish, Finnish, Norwegian, Swedish and Area Studies). Requirements will remain the same but the availability of upper-division courses will be expanded to a pan-Scandinavian focus rather than a narrow, national focus.
- 7) The department has developed foreign language trailer courses in conjunction with some of its courses. For example, a Swedish trailer was offered with a course on Scandinavian Women in Literature and Society in Winter 1996 and a Norwegian trailer will be offered with a course on Scandinavian politics next year.
- 8) T.A.s will be assigned to provide discussion sections in conjunction with three large enrollment courses in the department.

### **Slavic Languages and Literature**

The Slavic department is in the process of redesigning its undergraduate curriculum with the following goals in mind:

- 1) To offer more attractive courses that will increase enrollments.
- 2) To shift from the traditional emphasis on literature courses toward a cultural studies orientation.
- 3) To reduce the number of offerings so that all can be taught within a three-year period by the small faculty that now exists.

Some of the changes the department is planning in order to reach these goals are:

- 1) The literature courses that cover major authors and periods would be reduced to one course, Major Authors, which would cover different authors on a rotating basis.
- 2) A new course called Topic in Russian Literature and Culture would be introduced. Some of the topics covered might be New Russian Literature - Questions of Identity, Gender, and Sexuality; Literature of Imprisonment; Literary Bilingualism and Biculturalism; and 18th and 19th Century Russian Women's Writing.
- 3) A freshman linguistics seminar titled Slavic Languages - Unity in Diversity is currently being designed. The course will introduce students to the Slavic languages, with reference to their similarities and differences.
- 4) The department is considering introducing two additional linguistics courses. Literary Pragmatics and Discourse will focus on history of language usage in the cultural context,

the concept of cognitive prototype and its role in categorization and in possible lexical meaning extensions of words, development of metaphors, etc. Contemporary Slavic Discourse would focus on the social and cultural conditioning of everyday language use.

- 5) The department has further developed its major in East European languages by adding courses such as The Other Europe - Contemporary East European Fiction and East European Film. Other courses it plans to add are Unexpected Reflections - The West Seen Through East European Eyes; Identity, Post-Colonialism and Nationalism in East European Literature and Film; and East European Women and Feminism.

### **Social Work**

On the basis of survey results from students in their junior year, adjustments were made to the three quarter fieldwork seminar. More class sessions and assignments are now aimed at improving knowledge and skills in the areas students rated the lowest: problem-solving skills, knowledge of community practice and administrative structures, and skills in working with clients from diverse backgrounds.)

Two new required courses have also been approved: SW 404, Cultural Diversity and Social Justice, and SW 311, Social Welfare Practice III, with an emphasis on practice with communities and organizations.

### **Speech Communication**

The Department of Speech Communication has not made significant curricular changes on the basis of its assessment findings because these findings have generally been positive and call for only minor modifications to the major program. The department has chosen to strengthen its undergraduate program, however, by adding two new courses: Speech Communication 306, Nonverbal Communication, and Speech Communication 482, Interpersonal communication in Cyberspace. In addition, a special topics course entitled "Interpersonal Communication in Cyberspace" was offered summer quarter 1996.

Speech Communication has also worked closely with the School of Communications to provide several joint course offerings. These are: Communications and Speech Communication 382, Introduction to Communication Research; Communications 421 and Speech Communication 478, Intercultural Communication; and Communications and Speech Communication 476, Communication Models and Theories.

### **Speech and Hearing Sciences**

The Department of Speech and Hearing Sciences does not yet have formal end-of-program assessment measures in place. However, on the basis of a 100% increase in the number of majors in the department over the last four years, significant curricular and administrative changes have been implemented.

The undergraduate curriculum has been revised to reflect state-of-the-art science in the discipline. Old courses have been revised and new courses such as SPHSC 425, Speech,

Language and the Brain; and SPHSC 308, Social-Cultural Aspects of Communication have been added. Most undergraduate courses have been redesigned for larger enrollments. Finally, two w-courses have been included in the new curriculum to enhance offerings that meet Arts and Sciences requirements.

A new advising and administrative scheduling system was introduced in March 1995 to track each student in the major. Upon entering the department, students are now asked to submit a plan for their two years of study with the help of the Director of Student Services. This information is kept in a database. Add and drop codes have been added to all high demand major courses to carefully monitor registration, with priority given to those students closest to graduation. This system has also assured that students from related departments have access to SPHSC courses. Finally, a Speech and Hearing Concentration Track has been made available to majors from other departments.

The department intends to develop an undergraduate assessment plan in 1996 with the goals of examining instructional quality and student services.

### **Technical Communication**

The Department of Technical Communication has made a number of changes to its undergraduate curriculum:

- 1) The requirements for the B.S.T.C. have been changed by dropping 12 credits of engineering fundamentals and adding 12 credits to the upper division major program. These changes maintain the rigor of the lower-level science/math/technical preparation, but allow students to delve more deeply into upper division technical communication courses and related electives.
- 2) A new course in Informational Multimedia (TC 498) was offered spring quarter as a precursor to a permanent course entitled "Design of Interactive Multimedia." This course explored the different capabilities and uses of multimedia.

### **Women Studies**

Assessment of senior theses and senior exit surveys have led to the following changes in the Women Studies program:

- 1) The number of "W" courses offered has increased since 1994.
- 2) The program has been organizing workshops on careers and graduate school in response to student demand.
- 3) Due to the demand for more international courses, the program has hired new faculty and developed new international, comparative courses including WOMEN 351 Women of the African Diaspora, WOMEN 405 Comparative Women's Movements and Activism, WOMEN 447 Economics of Gender, and WOMEN 458 Ideologies and Technologies of Motherhood: Race, Class, and Sexuality.

## Zoology

Based on discussions with academic advisors, students and faculty, the department has determined that access to upper division courses is the critical issue for their majors. The problem results in students having to take courses in which they are not interested and faculty having to teach these students. The faculty is currently discussing possible solutions that would increase the variety of upper-division courses offered to undergraduates.

## CONCLUSION

The wide array of assessment findings and changes documented in this report are a testament to the success of end-of-program assessment at the University of Washington. Over 90% of UW departments with undergraduate major programs submitted assessment reports this year and the vast majority of these described substantive changes that the departments had made as a result of their assessment procedures. In addition, many departments have reported that the process of implementing and conducting assessment of their major programs has led to interesting and fruitful discussions among faculty and administrators about the goals of these programs and the best ways to evaluate them. We look forward to hearing more about the results of these discussions and about new program improvements that emerge from end-of-program assessment in the years to come.