

University of Colorado at Colorado Springs



Student Learning and Achievement

2004 Annual Report

Student Achievement Assessment
Committee



Online Access

This report can also be found online at www.uccs.edu/%7Eirpage/IRPAGE/Assessment_Index/saac.htm.
For more information about UCCS go to our website at www.uccs.edu.

The Vision

The University of Colorado at Colorado Springs (UCCS) will provide unsurpassed, student-centered teaching and learning, and outstanding research and creative work that serve our community, state, and nation, and result in our recognition as the premier comprehensive, regional research university in the United States.

UCCS has earned acclaim among universities.

This achievement is the result of over a decade of commitment to instruction of unexcelled quality combined with faculty dedicated to program improvement on an on-going basis. Evidence of UCCS's rising stature includes the campus being:

- Ranked among the top 5 percent of public master's universities in the nation in the peer assessment/academic reputation criterion of the *U. S. News & World Report America's Best Colleges, 2004*.
- Ranked in the top 5th of public master's universities in the West in the *U. S. News & World Report America's Best Colleges, 2004*.
- Ranked in the top tier of institutions in the Colorado Commission on Higher Education (CCHE) Quality Indicators for high achievement rates among nursing and teacher education graduates.
- 100% pass rate in the past year among mechanical engineering graduates electing to complete the *Fundamentals of Engineering* exam.
- Named one of two *Most Publicly Engaged* universities in the nation by the American Association of State Colleges and Universities. This award was made in part due to the active engagement of students in the greater Colorado Springs metropolitan area.

Rising Academic Reputations Attract Higher Quality Students

As the academic reputation of UCCS increased, so did the number and the quality of students seeking admission; more students and better students were attracted to UCCS. In the past decade, the number of first-time students seeking admission more than doubled. At the same time, the academic quality of new first time students admitted, as measured by the CCHE Admission Index, also rose. The CCHE Index is a calculated score based upon student high school GPA, high school graduating rank, and ACT/SAT scores.

First-Time Student Characteristics 1995-2004

Fall Semester	Number of Admits	CCHE Index Score
2004	1,862	105.4
2003	1,810	106
2002	1,723	104
2001	1,680	105
2000	1,682	105
1999	1,544	105
1998	1,491	104
1997	1,130	103
1996	1,111	102
1995	920	100

The high regard held for academic reputation is also a primary motivation for students attending UCCS. When asked why they chose UCCS, 94 percent of entering first-year students in 2004 reported academic reputation as an important reason. The good reputation of the faculty was reported as the next highest important reason, followed by the fact that student's major was offered here.

Institutional Reputation is Based Upon the Quality of Academic Programs

Academic programs committed to increasing student learning and achievement are responsible for elevating the stature enjoyed by UCCS. These programs have lifted the reputation of the entire campus to a higher rung.

UCCS faculty develop educational objectives for each academic program to improve the quality of their teaching and its impact on student learning. Faculty within each program undertake measurement of student achievement as specified by these educational objectives and refine instruction as a result of those measurements.

The Student Achievement Assessment Committee (SAAC) is the group at UCCS that interacts with academic program faculty to advise on setting objectives and appropriate measurements.

SAAC gathers information from each program annually concerning data collected on student achievement and documents improvements to curriculum and increases to the quality of instruction made in the last year.

The *Appendix* of this report portrays the sometimes intricate, the sometimes sweeping, improvements to teaching and learning methods, curriculum, and the composition of the faculty that were reported to SAAC in 2003. These changes involved keeping content up-to-date, if not on the cutting-edge of many fields of study.

These changes address weaknesses in program implementation as they are brought to light in data collection. These changes close the distance between teachers and learners alike in a shared effort to increase the quality of learning and advance student achievement.

UCCS students, employers, alumni, and other universities are involved in these data collection activities. It is the openness and commitment of UCCS faculty to fulfilling their profession at a higher level that makes these changes happen. As a result, the quality of academic programs will continue to rise. In turn, UCCS will reap even greater stature as a university.

Ongoing Assessment of Learning

Every year departments update the educational objectives for academic programs, report on the techniques used to measure student learning and provide examples of where this information has been used to improve curriculum and increase the quality of instruction.

The following measurements and techniques have been adopted by UCCS faculty to assess the levels of student learning progress within their programs.

Baccalaureate Alumni Survey

Biology B.A.
Business B.S.
Computer Science B.S.
Economics B.A.
English B.A.
Geography & Environmental Studies B.A.
Mechanical Engineering B.S.
Health Care Services B.S.
Nursing B.S.
Physics B.S.
Political Science B.A.
Psychology B.A.
Art History B.A.
Visual & Performing Arts, Studio B.A.

Capstone Project or Examination

Business B.S.
Business M.B.A.
Art History B.A.
Visual & Performing Arts, Studio B.A.

Defense of Thesis/Dissertation Evaluation

Computer Science M.S.
Computer Science Ph.D.
Electrical Engineering M.S.
Electrical Engineering Ph.D.
Mechanical & Aeronautical Engineering M.S.
Master's of Engineering M.E.
Sociology M.A.

Diagnostic Tests

Chemistry B.A., B.S.

Employee Survey

Applied Mathematics M.S.
Mechanical Engineering B.S.
Nursing B.S.

Entrance Examination

Languages & Cultures, Spanish B.A.

ETS Academic Profile Exam Scores

Nursing B.S.

Exit Assessment of Pending Graduates by Faculty

Computer Engineering B.S.
Electrical Engineering B.S.

External Review of Student Work

Art History B.A.
Communication B.A.

Faculty/Course Questionnaires

Business B.S.
Physics B.S.

Graduate Alumni Survey

Psychology M.A.

Graduate School of Public Administration M.P.A.
Basic Science M.B.S.
Business M.B.A.
Communication M.A.
Applied Mathematics M.S.
Mechanical & Aeronautical Engineering M.S.
Master's of Engineering M.E.

Graduate School Admissions

Biology B.A.
Chemistry B.A., B.S.
Mechanical Engineering B.S.
Physics B.S.

Graduating Senior Survey

Computer Science B.S.
Economics B.A.
English B.A.
Gerontology (Minor)
Mathematics B.A.
Health Care Services B.S.
Nursing B.S.
Psychology B.A.

Internship/ Practicum Self-Evaluation

Nursing B.S.
Nursing M.S.N.
Psychology M.A.
Health Care Services B.S.

Internship/ Practicum Evaluation

Communication B.A.
Counseling & Human Services M.A.
Educational Leadership, Principal Licensure, Administrator Licensure
Graduate School of Public Administration M.P.A.
Nursing B.S.
Nursing M.S.N.
Psychology M.A.
Health Care Services B.S.
Special Education M.A.
Curriculum & Instruction M.A.

Literature Review

Electrical Engineering M.S.
Engineering Ph.D.

Major Field Test Score

Biology B.A.
Computer Science B.S.
Physics B.S.
Political Science B.A.
Psychology B.A.
Sociology B.A.

National or Licensure Examination

Counseling & Human Services M.S.
Curriculum & Instruction M.A.
Languages & Cultures, Spanish B.A.
Educational Leadership, Principal Licensure, Administrative Licensure
Nursing B.S.
Special Education M.A.
Economics B.A.

Oral Presentation Evaluation

Basic Science M.B.S.
Chemistry B.A., B.S.
Computer Science B.S.
Computer Science M.S.
Computer Science Ph.D.
Physics B.S.
Art History B.A.
Visual & Performing Arts, Studio B.A.
History M.A.

Ph.D. Program Admissions

Applied Mathematics M.S.
Mechanical & Aeronautical Engineering M.S.
Master's of Engineering M.E.
Psychology M.A.

Portfolio of Student Work Evaluation

Biology B.A.
Communication B.A.
Economics B.A.
Educational Leadership: Principal Licensure, Administrator Licensure
Ethnic & Minorities Studies (Minor)
Gerontology (Minor)
History M.A.
Languages and Cultures, Spanish B.A.
Philosophy B.A.
Sociology B.A.
Sociology M.A.
Art History B.A.
Visual & Performing Arts, Studio B.A.
Women's Studies (Minor)
Health Care Services B.S.
Nursing M.S.N.

Pre-Post Knowledge Examination

Anthropology B.A.
Gerontology (Minor)
Communication B.A.
Chemistry B.A., B.S.

Professional Organization Membership & Participation

Mechanical & Aeronautical Engineering M.S.
Master's of Engineering M.E.

Program Exit Focus Groups

Graduate School of Public Administration, M.P.A.

Program Exit Survey

Business M.B.A.
Computer Engineering B.S.
Electrical Engineering B.S.
English B.A.
History B.A.
Applied Mathematics M.S.
Philosophy B.A.
Sociology B.A.
Women's Studies (Minor)
Ethnic & Minorities Studies (Minor)
Graduate School of Public Administration, M.P.A.

Program Retention & Completion Rates

Applied Mathematics M.S.

Qualifying Examination

Computer Science Ph.D.
Sociology M.A.

Research Project/ Paper Evaluation

Curriculum & Instruction M.A.
Mechanical & Aeronautical Engineering M.S.
Master's of Engineering, M.E.
Special Education M.A.
Communication M.A.

Senior Essay evaluation

Anthropology B.A.

Senior Exit/ Comprehensive Examination

Communication B.A.
Communication M.A.
Computer Science Ph.D.
Counseling & Human Services M.A.
Curriculum & Instruction M.A.
Engineering Ph.D.
English B.A.
Ethnic & Minorities Studies (Minor)
Geography & Environmental Studies B.A.
Applied Mathematics M.S.
Master's of Engineering M.E.
Nursing M.S.N.
Sociology M.A.

Senior Seminar Project or Examination

Mathematics B.A.
Philosophy B.A.

Skills Assessment

Counseling & Human Services M.A.
Educational Leadership, Principal Licensure, Administrative Licensure
Computer Engineering B.S.
Communication M.A.
Electrical Engineering B.S.
Nursing M.S.N.

Student Assessment of Course Curriculum

Computer Science B.S.

Student Self-Evaluation

Art History B.A.
Communication B.A.

Thesis/Dissertation Evaluation

Communication M.A.
Computer Science M.S.
Computer Science Ph.D.
Electrical Engineering Ph.D.
Electrical Engineering M.S.
Applied Mathematics M.S.
Mechanical and Aeronautical Engineering M.S.
Psychology M.A.
Sociology M.A.
Nursing M.S.N.

Undergraduate Thesis Evaluation

Anthropology B.A.
History B.A.
Philosophy B.A.
Political Science B.A.

Exemplary Programs — Department of Communication

SAAC annual reviews have consistently found the bachelor's and master's programs in Communication to be hallmark examples of thorough and well-implemented assessment plans that lead to improvements in student learning and outcomes on a continuous basis.

The educational goals and measurable objectives established by the Communication department provide prospective and current students with a detailed explanation of their program of study, as well as the knowledge, skills sets, values, modes of inquiry and professionalism graduates with these degrees will possess. The educational goals of the two Communication programs, and all other UCCS academic programs, are updated and published annually in the campus *Bulletin*, www.uccs.edu/~pubs/bulletin/.

Engineering Ventures into New Grant Area Emphasis

What started as a curriculum innovation to the *Introduction to Robotics* course taught by Professors Michael D. Ciletti and Gregory L. Plett may have opened a door to accessing new and significant revenues of grant funding for UCCS.



Drs. Michael Ciletti and Gregory Plett, along with several of the eager learners at their Introduction to Robotics class.

In the last several years the National Science Foundation (NSF), the National Institutes of Health, the U. S. Department of Agriculture, and the U. S. Department of Education, to name a few grant sponsors, have assessment requirements tied to any grant that has a learning component. Now, for the first time, conducting good student assessment can lead the way to many more grant funding opportunities.



Kathy Ellis, Department of Communication assessment coordinator examines the assessment testing results of Communication major Amy Fedders.

Beginning in Fall 2003, Drs. Ciletti and Plett applied David Kolb's model of the Learning Cycle to their robotics class. Kolb's work identifies four stages in the cycle of learning: experiencing, reflecting, conceptualizing and planning. Kolb's cycle refers to the process by which individual students, teams, and organizations attend to and understand experience. This process consequently leads to behavior modification based upon received experiences. Learning activities that are geared to the different learning styles of students are important pieces of Kolb's model. (Kolb, D. A. (1984) *Experiential Learning: Experience As The Source of Learning And Development* New Jersey: Prentice-Hall). Drs. Ciletti and Plett earned the UCCS *Innovations in Teaching with Technology* award as a result of their efforts.

Most recently, other colleagues from the Department of Electrical and Computer Engineering, namely, Rodger E. Ziemer, Ramaswami Dandapani, T. Kalkur and Mark A. Wickert joined Drs. Ciletti and Plett in submitting a proposal that was funded for \$100,000 by the NSF Grants for the Department-Level Reform of Undergraduate Engineering Education. One section of their NSF winning proposal calls for addressing a balance of learning styles in the undergraduate curriculum through integrating hands-on experiences, introducing group experiences, enhancing oral and written communication, and fostering undergraduate research.

Innovation Grants to Faculty

SAAC offers a grant program available to all UCCS faculty. These awards of up to \$5,000 are for individual faculty members or teams of faculty to carry out innovative assessment research in the areas of student achievement and student learning. To date, the following grant projects have been funded:

- “Development and Validation of an Instrument to Measure Cognitive Learning Within and Across Disciplines,” **Kathy Ellis**, Department of Communication
- “Introducing Sociology through Group Projects: An Assessment of Online Collaboration in a Large Class,” **Jarl Ahlqvist**, Department of Sociology
- “Response Technology,” **David R. Anderson** and **Barbara Gaddis**, Department of Chemistry
- “Development of an Assessment Plan for Computer Engineering Program and Review and Revision of the Electrical Engineering Program Assessment Plan,” **Ramaswami Dandapani** and **Richard Y. C. Kwor**, Department of Electrical and Computer Engineering
- “Assessing Learning from Animation, Modeling, and Video in an Online Organic Chemistry Course,” **Allen Schoffstall**, Department of Chemistry
- “ENGL 131 Primary Trait Writing Competency Assessment,” **Debra Dew**, Writing Program, Department of English
- “Changing Science Curriculum through ‘Clicking’: Evaluating Student Learning and Programmatic Effectiveness through Electronic Audience Response Technology,” **David R. Anderson**, Department of Chemistry
- “Working Retreat for Visual Performing Arts on Assessment,” **Kathryn Andrus**, Department of Visual and Performing Arts
- “The Development of a Program-Level Assessment Test for Biology Majors,” **Sandra Berry-Lowe**, Department of Biology
- “Computer Science Program Assessment Plan and Guidebook Development,” **A. Tim Chamillard**, Department of Computer Science
- “Developing an Adaptive Assessment Database,” **William Benjamin Martz, Jr.**, College of Business Administration
- “Professional Writing Program Assessment,” **Harriet Napierkowski**, Department of English

Experiential Learning

The quality and breadth of experiential learning was a primary reason why UCCS was named one of two most publicly engaged institutions in the nation by AASCU in *Stepping Forward as Stewards of Place*. One-quarter of undergraduate students at UCCS any given semester are enrolled in community-based learning opportunities and career exposure experiences. That means that nearly every student will be provided with the option of participating in internships, cooperative learning, and service learning placements with over 200 leading businesses, organizations and agencies in the greater Colorado Springs metropolitan area.

An education at UCCS has the advantage of providing academics with experience in a professional setting. In these experiential learning situations, students put classroom knowledge and skills into practice, often for monetary gain. Students frequently take these practical experiences back to the classroom to share with faculty and other students. Engaging students in practical work settings also helps revitalize the greater community as students share their abundant energy and enthusiasm for learning at their placement settings.

Stewards of Place

“... (W)e in public higher education need to send the message that, as an advanced knowledge resource, our colleges and universities must be actively engaged in the enhancement of their communities and regions. In so doing, these institutions will benefit as well and increase the nation's ability to educate students for their role in the New Economy. Building on that legacy, public engagement can be the defining direction for our future.”

—“Stepping Forward As Stewards of Place,” American Association of State Colleges and Universities (AASCU), Washington, D.C. 2002

2003-04 SAAC Members

Member	College/Department
C. David Moon , Chair	Academic Affairs
Kathy Andrus	Teaching & Learning Center
Steve Chambers	Institutional Research
Lindy Crawford	College of Education
Janeen Demi-Smith	Institutional Research
Deb Dew	Writing Program, Dept. of English
Cecily Dupree	Student Representative
Kathy Ellis	Dept. of Communication
Don Gardner	College of Business
Dan Guerra	Dept. of Biology
T. Kalkur	Electrical & Computer Engineering
Beverly Kratzer	Student Success Center
Marcia London	Beth-El College of Nursing
Judith Rice-Jones	Kraemer Family Library

Appendix

Curriculum and Program Improvements reported by UCCS Academic Units in 2002-03

Anthropology B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. The evaluation of student-learning objectives in the Sophomore courses has led to a greater emphasis being placed on the core course concepts. This refocusing towards course objectives has increased student learning and academic performance.
2. We revisit the format of Senior Seminar every year and use the results to direct the selection of topics for the following year. Additionally, approaches in method and theory are modified to enhance learning.
3. Each year professors are encouraged to use the results from previous years to fine-tune and expand their approaches to the foundational concept areas taught and measured.

Art History B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. A methodology course has been added. Last year's report stated: "The lowest averages are in areas that evaluate the structuring of an argument and the use of appropriate professional language." We have added the first course to the curriculum at the 200- level to address this at an earlier stage. AH 250: Art Matters introduces students to scholarly discourse and methodologies, and is focused upon vocabulary and written/oral communication skills. It will be a requirement for majors and a pre-requisite for upper-division Art history courses. Furthermore, a second course, AH 386: Contemporary Art and theory, is currently being offered each spring and all studio and art history majors will be encouraged to enroll.
2. A student portfolio of work requirements has been implemented. This has great potential for students as formative documentation and for summative assessment of our curriculum. With the traditional portfolio already in use in the studio classes, this should have been instituted long ago. Even the process of gathering and reconsidering older work has dramatically changed the quality of work produced for the Senior Capstone course.
3. The introductory course (AH 100) has been adopted as the pre-requisite for all upper division courses. AH 100: Languages of Art, has been substantially redesigned and normed across 4 sections to insure that the degree of verbal and written communication and use of specialized vocabulary is equivalent across all classes.

AREA FOR FUTURE PROGRAM IMPROVEMENTS

1. The introduction of an electronic student portfolio of work. In an electronic format, students could demonstrate the connectedness between their visual and verbal products of learning. We will need to begin a process by which the first pieces produced for any course are saved electronically, and this might involve a classroom-assessment component in every course. We also might need to give credit to the students for this effort, as well as provide support and training.

The assessment part of this project will be web-based based and thus easier to involve other faculty, outside readers and peer reviews.

2. Research internships with faculty — we are planning to take advantage of the new fellowships for research to be offered by LAS so that our advanced students can get more in-depth experience in preparation for graduate studies. This is in response to student requests from students in the program and feedback received from alumni in graduate programs.

Basic Science M.B.S.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

Students enrolled in any of the Biology options (typically about 60% of the students) have been required since last year to have a sponsor/mentor faculty member before being accepted into the program. This refinement was instituted to an assessed student need for academic support in Biology. In discussions with the Biology sponsor/mentor faculty, this refinement has been further strengthened — we now have a sponsor agreement that both sponsor and student sign and return to the MBS office clarifying expectation as this has been problematic. In addition, enrollment in a new course Biology 501, Seminar in Biology, is now required of incoming students in the Biology option.

Biology B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. Implementation of a comprehensive examination for all junior level Biology majors.
2. Establishment of minimum grade on internal comprehensive examination for all Biology majors for graduation.
3. Use of a standardized rubric for senior seminar oral presentation and project evaluations.

Business Administration M.B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. In response to student requests and alumni feedback, the Graduate Team has expanded the use of "Learning Lab" theme for the graduate program. These allow faculty to increase the emphasis on student learning through the incorporation of real-life projects, helping students to integrate and apply business skills acquired in the MBA program.
2. When questioned, 70% of on-campus students and 83% of distance education students thought course materials were up-to-date. One direct programmatic improvement was to give faculty and students subscriptions to *Business Week* and increase the availability of other relevant publications.
3. The distance course platform is now available for campus classes, making exposure of on-line delivery of materials available to all students.
4. The Graduate Team has assessed the pilot efforts of internships for graduate students and formalized the program to include post-internship reviews by the internship supervisor and industry sponsors to aid assessment of student-learning outcomes. A faculty member has been designated to coordinate internships for graduate students to ensure uniformity of experience and standardization of expectations.
5. In response to faculty feedback, a formalized policy for staff verification of prerequisites for resident and distance classes has been introduced, using the lists obtained from the student information database and where necessary, prerequisites are verified from official transcripts from other institutions.
6. In responses to student, faculty, alumni and industry feedback on needed changes to programmatic focus in light of the developments at companies like World Comm and Enron and the related ethical concerns in the corporate arena, our faculty and the Graduate Team have incorporated ethics and social responsibility into the MBA curriculum. We also feel that faculty's ability to clearly articulate how they are preparing students to become principled professionals indicates positive progress towards achieving this student-learning outcome.
7. We realized the importance of keeping the communication lines open with our alumni, and increasing the input of suggestions in programmatic improvements from alumni. We have instituted at least one alumni reception every year.
8. Distance MBA students indicated a shortage of elective courses and courses in specific areas of emphasis. In response, three new areas of emphasis went online in academic year 2002-03: Project Management, Health Care Administration, and Technology Management.
9. We now hold distance faculty meetings every semester to discuss learning enhancements.
10. Most faculty teaching resident classes are encouraged to develop and teach the class on distance as well, thereby ensuring comparable quality.
11. Distance faculty members are using forums more regularly in distance classes in response to a request for more intra-class communication.
12. In appreciation of the research work done on distance education, we limited the maximum class size of our distance classes to 40 students.

AREA FOR FUTURE PROGRAM IMPROVEMENTS

1. The Graduate Team has recognized the need for team and interpersonal skills prior to beginning courses involving teamwork. We are preparing to offer a specific non-credit team skills course in the first semester of the MBA program.
2. We will collect data more frequently to better monitor our students' progress and satisfaction with the program.
3. We will incorporate more dynamic features on our website and make it the primary information gateway for our faculty, students, and staff.

Appendix

4. We are investigating ways to strengthen our relationships with employers and alumni.
5. The graduate team continues to work on a more formalized policy for updating course syllabi and materials for both distance and resident classes in order to keep abreast of changes in the discipline.

Business B.S.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. The College has added a sophomore-level quantitative analysis class.
2. The College has implemented a Professional Program requirement whereby students are assessed each semester from Junior year to graduation as to academic performance.

Computer Science B.S.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. Students' feedback led to improved offerings in C language, especially with respect to the pointers structures that are part of this language. At the end of the fall semester of 2002, Programming with C (CS 206) was introduced and made into a required course for our majors (to replace ECE 1011 which had been found inadequate). This change began to benefit all enrolled in CS 410 during the spring of 2003.
2. The Department is pleased with the improved scores of the ETS Major Field Test, but also feel that the score for Indicator 2 (related to computer architecture) should be increased. The course that is most strongly associated with this indicator is CS 420: Computer Architecture I. This course was taught by lecturers in the past because the Computer Science Department did not have an expert in this field among its faculty. During spring 2003, a new faculty member was hired, whose field is computer architecture, and who now is teaching this course.
3. The Common Freshman Year has been replaced by the Common Freshman Core and we have been able to bring back CS 206, Programming with C. The course was taught during the spring 2003 semester for the first time (in recent years) and has been made a prerequisite for CS 216.
4. The analysis of the project reports in CS 330, Software Engineering I, showed a need for oral presentations. It was decided that each team should give an oral presentation of their project to the class and that all team members should participate in this evaluation.

In addition, a need for a working prototype was identified. This prototype must be tested against the requirements as formulated by the team. It was decided that the course should incorporate the construction and testing of a prototype.

5. It was initially found in CS 305 that some students had difficulty with oral presentations. The instructor provided additional examples of good presentations, and the quality of the students' presentations has improved.

AREA FOR FUTURE PROGRAM IMPROVEMENTS

1. The survey of CS 316, Concepts of Programming Languages, showed that the prerequisites for this course are close to being adequate. However, the students felt inadequately prepared for the Scheme programming that is part of this course. This is mostly due to a weak understanding of recursion and a lack of experience with a LISP-style programming language. This could be remedied by placing more emphasis on recursion in CS 145, Data Structures and Algorithms. The Undergraduate Curriculum Committee will be asked to consider how this can be accomplished.
2. An analysis of the data of the 2000, 2001 and 2002 surveys given to our graduating seniors and has recommended some changes in our curriculum. The analysis suggests that there may be a lack of assignments in our senior level classes that address oral and written communication skills, and recommended written reports be required in every senior level course. The faculty will study how the number of written reports can be increased in these classes, but because of time constraints and the size of most senior level classes, it will be difficult to increase the number of existing oral presentations. Our students receive significant practice in communication skills during their junior year when they take CS 305, CS 330 and ENG 309 that all require written reports and oral presentations. Some other courses also have written and oral communication requirements. An analysis of the data of the 2000, 2001, and 2002 surveys given to our alumni (students that graduated the previous year) also concluded that students are not exposed much to written and oral communications during their senior year.

Counseling and Human Services M.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

A lack of quantitative data in the past led us to develop two rubrics for the Qualities of Effective Counselors: Skills Rubric and the Personal Characteristics Rubric.

Economics B.A.

AREA FOR FUTURE PROGRAM IMPROVEMENTS

1. The department is exploring options to consolidate the number of lower division offerings in order to expand the number of upper division offerings.
2. The department is considering increasing the mathematics requirement in the program of study.

English B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. From the 2002 Survey of Graduate Students, requested more access to ENGL 311, Advanced Grammar. In response, we now offer 2 or 3 sections of ENGL 311 per term, especially in the Fall semester. While Advanced Grammar is required for all English / Education majors, the chair of the department encourages all LAS majors who show grammar weakness to enroll in the course during their advising sessions with her. It is important for the SAAC to note that even some of our good students want and need to take Advanced Grammar because they did not get adequate grammar education at the pre-collegiate level (i.e., middle and high school); hence, we take the time to teach them the grammar they should have learned earlier in their school lives.
2. From the Senior Comprehensive Examination results and related student comments: We have capped 400-level senior seminars at 15 per class enrollment, and we offer two seminars each semester (e.g., fall and spring terms). Besides enhancing student participation, this smaller class size allows us to assign term papers, which students submit in both draft and final forms. After the professor reviews the draft, the student has a one-to-one conversation with the professor to go over the essay draft. The smaller class size also gives each student more attention from the professor. Our coaching of students does not entail reviewing the texts with them; rather, we work with them on how to find the best approach for reading and understanding the essay question and writing an analytical essay on the topic.

AREA FOR FUTURE PROGRAM IMPROVEMENTS

Survey of English majors two years after graduation: This survey will begin in spring 2004 as the faculty believes the need exists for follow up with program graduates at a time later after graduation.

Fine Arts, Studio B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. Change in criteria for evaluating portfolios from Expression, Content Development, Drawing Skill to Formal Complexity, Conceptual Development, Personal Expression, Technical Proficiency in keeping with changes in discipline and a realignment of assessment with student-learning objectives.
2. Change in criteria for evaluating oral presentations from Slide Quality, Presentation, Unity to Image Quality, Oral Presentation, Unity in keeping with changes in discipline and a realignment of assessment with student-learning objectives.
3. Change in criteria for writing portfolio evaluations in keeping with changes in discipline and a realignment of assessment with student-learning objectives.
4. Advanced Topics course — VA 386: This course for juniors enrolled in Contemporary Art and Theory (AH 386) was instituted in 2001 as a required course. This change addresses past deficiencies in the students connecting their practice with contemporary theory and current movements.
5. Student self-evaluations were initiated in Fall 2003 to enhance students' awareness of their own progress and to nurture a sense of self-criticism.

Appendix

AREA FOR FUTURE PROGRAM IMPROVEMENTS

1. Seek support for student exhibition spaces in the University Center for small individual shows (including artist's statement regarding their work), this in response to public feedback collected in the exhibition guest book.
2. AH 100: Languages of Art, has been substantially redesigned and normed across 4 sections to insure that the degree of verbal and written communication and use of specialized vocabulary is equivalent across all classes.

Geography and Environmental Studies B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. Exit exam results have been used to help coordinate the class material for the 100-level classes.
2. Alumni surveys have been used to recognize areas where GES can improve the preparation of students for employment.

Health Care Services B.S.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. Syllabi and course content for core major courses have been revised, eliminating overlap and allowing greater depth of content area.
2. Syllabi review for Sports and Wellness Option were done in 2002-2003 with hire of two new full time faculty to teach in this area.
3. Syllabi have been developed for the new Nutrition option in response to a need for this option.

AREA FOR FUTURE PROGRAM IMPROVEMENTS

1. Syllabi for all core courses will be reviewed and revised each year.
2. Syllabi for each option will be critically analyzed and appropriate revisions instituted.
3. We continue to refine the Nutrition option syllabi.
4. We will critically review the outcomes of the Forensic Science syllabi changes.
5. Portfolio guidelines will be introduced in 200 level core courses in order that students can save work throughout the program. Faculty will remind students throughout program to save work examples.

Master of Public Administration M.P.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. The data obtained from exit surveys and the advanced seminar has been used to make concrete improvements in the advanced seminar experience. Specifically, the Colorado Springs faculty has worked toward total consistency with the Denver campus in the delivery of this course. Consistency has been achieved in areas such as the use of second readers, the involvement of client feedback regarding the final project and product, and the use of the exit survey itself.
2. The data from student surveys has been used in the creation of course schedules, the use of honoraria (lecturer) faculty, student advising, and the delivery of the advanced seminar (capstone project).

Mathematics B.S., B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. The Senior Seminar (Math 495) course was redesigned in AY 02-03. Each student had a project advisor from the mathematics faculty members. This gave students a wider range of mathematical topics to choose from as well as more guidance and opportunity for one-on-one interaction with his/her advisor. Students were also encouraged to utilize the resources at the Writing Lab and Oral Communication Center to improve on their project reports and oral presentation. Considering the facts that Spring 03 was the first time when a significant number (18) of students enrolled in the Senior Seminar course, and 14 of them demonstrated excellent

performance, it would seem that the course redesign was successful in its first year of implementation. However, more data over the coming years will be necessary to make a firm conclusion.

Nursing B.S.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

The clinical evaluation tool pilot project identified the need to standardize student evaluations of clinical facilities. Student clinical evaluations have also been revised to be more detailed and succinct. Behaviorally anchored criteria, using a Likert scale, have facilitated communications between the student and clinical faculty. Changes to policy and procedures have been implemented as appropriate.

Nursing M.S.N.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. Core course curriculum revisions: In response to student learning outcomes assessment findings, in 2002-03 the graduate faculty reviewed all the syllabi and course content for the core course curriculum. One course (NURS 614) was deleted, and the majority of the course content was moved to another course that increased credit count (NURS 702 was changed from 2 credit hours to 3 credit hours). The two remaining NURS 614 course objectives were covered in two other courses.
2. Specialty course curriculum revisions: In response to student learning outcomes assessment findings, specialty course curriculum for the nurse practitioner and clinical specialist courses were reviewed, and several revisions were made. In the NP programs, the practicum courses (NURS 784 and NURS 789) were revised to allow seminars to be taught together and to allow clinical contact hours to be at the same clinical setting. Seminar content was revised to include patient coding data, legal issues, independent practice concepts, and contracting. In the CNS options, a new specialty course was added based on a limitation of existing courses to cover health promotion and disease management from the CNS perspective.

Philosophy B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. Senior Seminar Final Exam — The data from the Senior Thesis Final Exam helped the Department shape its new major “options” in 2000-01. It supports our decision to create specialized “options” in three areas where student interest seems greatest: Philosophy and Religion, Philosophy, Law and Social Justice, and Analytic Philosophy. The Department also offers the standard major and an “option” in Continental Philosophy.
2. Senior Thesis Assessment — The data from this instrument supports our belief that many of our graduates are well qualified for advanced work at the graduate/professional level. Of the eight senior theses in 2002-03, four were judged “superior” on both questions. This has again led the Department to resist the temptation of watering down the standards we use for senior thesis.

Principal Licensure, Administrator Licensure

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. The student portfolio has been modified from a document/notebook format to an electronic format. All students are now required to submit the electronic portfolio for their final comprehensive program assessment.
2. The Technology Competency Checklist has been introduced as an indicator of student competencies in technology.

Psychology B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. The unit has added a writing pre-requisite to our research methods course, in order to address a relative weakness in student writing skills.
2. Using the findings, the department decided that low scores on the ETS exam may be due to students not taking courses in the prescribed order. The unit has implemented procedures to ensure that pre-requisites are being met.

Appendix

Sociology B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. Data have been used to compare students' learning across offerings of the same course and to then standardize instruction for core areas within the major to ensure uniform educational experiences.
2. A faculty replacement position within sociology is being targeted to build up strength in core teaching areas such as Sociology of Education and Sociology of Religion.

AREA FOR FUTURE PROGRAM IMPROVEMENTS

Department is engaging in core curriculum planning process.

Spanish B.A.

HOW DATA HAVE BEEN USED TO IMPROVE PROGRAM

1. Introductory Spanish has traditionally taken four full semesters (101, 102, 211, 212) to cover the material in our textbook, *Dos Mundos*. With the help of a new, more concise 5th edition, we have compressed this coverage to three semesters (101, 102 and 211) in order to allow for literary readings to be introduced in 212. This will facilitate greater language ability in the intermediate level where grammar and conversation and composition can truly approach an advanced level. The change, which was instituted in Fall 2002, is particularly important for upper level courses, where we are discovering that students are not on the comprehension level needed to deal with sophisticated literature critically in the target language.
2. Following the logic of the above improvement, we have converted Spanish 310 Literary Analysis into a required *theory*-based course for all students proceeding to literature coursework. The goal is to introduce theoretical methodology here instead of during the higher literature survey courses (319, 320, etc), freeing up those courses for more extensive and in-depth literary examination. This has allowed for more advanced upper level coursework, and suggests that students will be better prepared for graduate programs.
3. In an effort to boost major enrollment and serve the student who does not plan on graduate study in Spanish, we are currently experimenting with the introduction of a dual-track major. The student will have a choice of either the traditional literature/culture track (pre-grad school track) as well as a new, applied language track, which will focus on language acquisition/application and internships in practical use of Spanish. In Fall 2002, we offered the first "Spanish for Medical Professionals" course in this new rubric. We plan on offering this again in 2004, expanding the program with introductory courses administered by Beth El Nursing college, and advanced courses taught in our department.
4. The Languages and Cultures Department increased the credit hours of all introductory language courses in Spanish (101 and 102 level) from the current 4 credits to 5 to add additional contact hours needed for better language acquisition and to match the standard in the CU and other systems. Additionally, the inflated (4) credit hours for 211 was reduced to 3 credits.

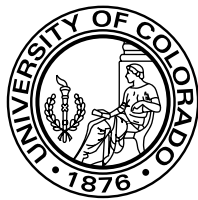
AREA FOR FUTURE PROGRAM IMPROVEMENTS

The change in credits (#4) has required additional class time, and at this very early stage, our observations suggest that incoming Spanish students who take the five credit 101/102 courses are better prepared to deal with intermediate levels than those previous.

Special Education M.A.

AREA FOR FUTURE PROGRAM IMPROVEMENTS

1. Data from the PLACE Exams last year were synthesized and shared with the faculty. We have used these data to cautiously identify two areas for improvement: (a) human development, and (b) understanding students. We plan to incorporate the skill areas represented by these two subtest domains more fully into each of our courses.
2. Although the alumni data provides information from a limited number of students, we have discussed preliminary patterns of possible weaknesses. In particular, we are aware of our need to provide a more comprehensive program for our students who plan to teach students with severe cognitive needs. (Two of our three areas that were rated the lowest included assistive technology and attending to students' medical needs.)
3. Our student teaching data is strong but we will more than likely overhaul the system next year as the state department of education plans to eliminate current endorsement areas and instead certify students as "generalists" or "specialists."



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