

Standard Four: The Academic Program

I. Academic Quality and Oversight

Standards, Responsibility and Authority

The University of Massachusetts Amherst maintains clear and ongoing authority and oversight for all its academic offerings. All standards and criteria are established by the institution, and are applied and monitored by the institution itself. The institution retains sole authority for course content and delivery, selection and evaluation of instructors, admission and registration of students, evaluation of student progress and the award of academic credit. When it enters into collaborative relationships with other institutions in offering programs, UMass Amherst reserves sole authority over its own offerings and credentials. For example, UMass Amherst cooperates with Mount Holyoke College in an arrangement that allows certain Mount Holyoke students to enroll in UMass courses in a manner that would ultimately allow them to earn a B.S. at Mount Holyoke and a B.S. in Engineering at UMass. The UMass degree is offered under standard provisions for award of a second bachelor's degree, and conforms to all institutional standards and practices.

Standards and criteria for academic programs are established jointly by the campus administration and the faculty, in accordance with the shared governance framework detailed in the [Trustee Statement on University Governance](#). Standards and criteria for the approval and revision of all courses, degree programs, concentrations, minors, certificates, centers and institutes are detailed in the [Approval Procedure Guide](#) jointly issued by the administration and the Faculty Senate.

Academic oversight is the joint responsibility of the faculty and the administration. Approval and revision of all courses and academic offerings begin in the academic departments and programs, with formal review by the designated curriculum committees. Proposals are also reviewed by the curriculum committees at the school/college level. At each level, approval of the appropriate head/chair and dean is required.

Formal governance review occurs within the framework of the Faculty Senate and its councils and committees. New programs and significant revisions to existing programs are reviewed by the Academic Matters Council (for undergraduate programs) or the Graduate Council (for graduate programs). All proposals for new programs, certificates, minors, and centers and institutes are also reviewed by the Program and Budget Council (to evaluate the availability of necessary resources) and the Academic Priorities Council (to review the proposal in the context of overall institutional priorities). Proposals for new courses are reviewed by the Graduate Council or the Academic Matters Council, as appropriate. Recommendations from these councils then go to the full Faculty Senate, which takes final action on behalf of the faculty. Minor changes to existing courses (e.g., change in name, change in credit value), and proposals to offer new courses for a limited time on an experimental basis, may be approved by the Secretary of the Faculty Senate and the Provost.

The results of the Faculty Senate process serve as advice to the administration, which takes final action on proposals. Certain program approval and revision decisions also require review and approval beyond the campus. Proposals for new academic degree programs must be approved by the University's Board of Trustees and by the state Department of Higher Education. Changes in the names of existing degree programs must be approved by the state Department of Higher Education. Proposals for centers and institutes must be approved by the President of the University of Massachusetts system.

All academic offerings are required to be coherent, with appropriate breadth, depth, continuity, progression and synthesis. UMass Amherst offers degrees at all program levels (associate, baccalaureate, master's, doctoral), with the exception of first professional degrees. Appropriate standards are applied at all degree levels, and care is taken to observe appropriate balance and continuity across degree levels. Where appropriate, explicit relationships across degree program levels are considered in program proposals and revisions (for example, the applicability of coursework at the associate's level to a related baccalaureate

degree program, or the sequence and progression of work at the baccalaureate level that meshes with a related master's program). In all cases, care is taken to respect the integrity of work at its appropriate level, and to ensure that work completed to satisfy degree requirements for one credential is not inappropriately applied to another.

The standards, criteria and procedures used for the development and revision of all academic offerings are detailed in the [Approval Procedure Guide](#), jointly administered by the Faculty Senate and the Office of the Provost. These procedures are subject to, and are consistent with, requirements established by the Board of Trustees of the University of Massachusetts system and the Department of Higher Education of the Commonwealth of Massachusetts under their respective statutory authority. Standards and criteria applied by the campus are consistent with those typically in use at flagship public universities nationally and at institutions that have earned designations for "very high research activity" from the Carnegie Foundation for the Advancement of Teaching.

All academic programs are reviewed on a seven-year cycle according to the provisions of the Academic Quality, Assessment and Development (AQAD) program established by the University's Board of Trustees [Campus Procedures for AQAD](#). The AQAD review begins with a self-study developed by program faculty, and culminates in a campus visit by an external review team of national experts in the discipline. Faculty are integrally involved in the AQAD process, and have full access to the self-study, external team report and other documents. AQAD reviews inform institutional planning and resource allocation, as appropriate. The results of AQAD reviews are reported to and considered by the Board of Trustees annually.

Naming conventions for all academic offerings are consistent with those typically utilized by American institutions of higher education. Program inventories for all public institutions in the Commonwealth of Massachusetts, including UMass Amherst, are maintained and overseen by the Massachusetts Department of Higher Education, which employs the federal Classification of Instructional Programs (CIP) as the basis for program organization. UMass Amherst, in the [Approval Procedure Guide](#), clearly defines and differentiates among its academic offerings. Offerings consist of degree programs, concentrations (alternative paths to completion of requirements for a degree), minors (a defined subset of requirements for a degree) and certificates.

Certificates are clearly defined and carefully calibrated with other academic offerings in terms of coherence and quality. In 2008, in response to numerous requests for expansion of certificate offerings, a joint faculty-administration Ad Hoc Committee on Certificates (ACERT) undertook a comprehensive examination of existing policies and procedures regarding certificates and evolving expectations and opportunities for them. ACERT examined national best practices for certificates, especially at public research universities, and recommended that 1) certificate options be broadened; and 2) that unified, comprehensive standards for certificates be adopted to ensure consistent oversight and quality control ([Final Report of the Ad Hoc Committee on Certificates](#)). ACERT proposed new guidelines for certificates based on these principles, and the new policy was adopted by the Faculty Senate in December 2008.

Addition, revision and deletion of programs take into account both the underlying standards described above and the institution's evolving needs and capacities. Proposals for new programs and for significant revisions to existing programs must demonstrate student demand and prospects for student success, coherence and sound design, appropriate learning outcomes and oversight of students, and sufficiency of resources, including instructional capacity sufficient to allow timely completion on the part of the student. Programs are reviewed for currency and relevance on an ongoing basis, both through the cyclical Academic Quality, Assessment and Development (AQAD) external review process, and through periodic comprehensive planning and program review activities. In the past decade, this process of academic program review has resulted in discontinuation of two bachelor's degree programs; the addition of five new degree programs, including B.S., M.S. and Ph.D. programs; eight new undergraduate minors; and 16 new certificate programs at the undergraduate and graduate levels ([Changes in Academic Program Offerings, 1999-2008](#)). When programs are eliminated, care is taken to permit degree completion on the part of all currently enrolled

students. When program requirements are changed, currently enrolled students are assured the opportunity to complete their programs according to the requirements in place at the time of their initial enrollment.

Online and Off-Campus Programs

UMass Amherst was a pioneer in asynchronous distance learning through its Video Instructional Program (VIP) offered by the College of Engineering to working professionals in several fields of engineering. That program has been discontinued, but the campus remains very active in distance learning – with both online and off-campus offerings – and its programs and methods in this area were reviewed at the time of the last comprehensive review in 1998.

The campus’s principal vehicle for delivering online and off-campus instruction is its Division of Continuing and Professional Education (CPE). CPE hosts all UMass Amherst degree programs and certificates offered via distance learning, as well as a number of individual courses and non-credit offerings. CPE also offers face-to-face instruction throughout the year to both matriculating and non-matriculating students. Table 4.1 shows the online certificate and degree programs offered by CPE. The full range of CPE courses and offerings may be found in the [CPE Catalog](#).

Table 4.1

Continuing and Professional Education Online Degree Programs

Degree Program	Degree Awarded
Baccalaureate	
Hospitality and Tourism Management	B.S.
Management	B.B.A.
Marketing	B.B.A.
Nursing	B.S.
Master's	
Management	M.B.A.
Nursing (Clinical Nurse Leader concentration)	M.S.
Public Health	M.P.H.
Public Health (Nutrition concentration)	M.P.H.
Public Health (Professional Health Practice Concentration)	M.P.H.
Doctoral	
Nursing Practice	D.N.P.
Certificate Programs	
Casino Management	
Criminal Justice Studies	
Journalism	
Meeting and Event Management	

UMass Amherst participates, together with the University’s other campuses at Boston, Dartmouth, Lowell and Worcester, in UMassOnline, an administrative service unit of the University of Massachusetts system that offers marketing, distribution and other support for campus-based online programs for a fee. UMassOnline offers no academic programs of its own, and all programs it distributes are offered by and under the auspices of the individual campuses.

Over the past several years, with the growth of distance education capacities and offerings, UMass Amherst has engaged in a systematic review of issues related to approval and review, quality control and academic oversight of online and other technologically mediated academic offerings. To help guide the campus

conversation on these issues, in September 2004 the Faculty Senate established an Ad Hoc Committee on On-line Learning (ACOL), which initiated an in-depth examination of a broad range of issues related to online instruction. Based in part on ACOL's identification of issues requiring additional examination, in December 2006 the campus administration and the Faculty Senate convened a Joint Task Force on On-line Learning (JTFOL). The JTFOL brought together faculty and relevant administrators to propose policies and approaches to ensure the integrity of online education in the areas of standards and best practices, administration of online instruction, resources and support.

Following a wide-ranging discussion, JTFOL recommended that "all UMass Amherst courses and programs (including those offered through CPE) ... should continue to be subject to the same policies and procedures to include: administration, assessment, evaluation, faculty selection, course development, and overall quality." In addition, JTFOL recommended that:

- "The development of online programs and courses must be consistent with the overall mission of the department and/or program.
- "All instructors of UMass Amherst courses, regardless of their classification in SPIRE (with respect to mode of delivery) and including those offered through CPE, must be vetted by the appropriate Departmental Personnel Committees and Department Chair.
- "Faculty must participate in the decision-making process regarding the development, use and administration of online teaching material, class size, platforms, staffing and other critical administrative issues."

These recommendations were adopted by the Faculty Senate on Sept. 20, 2007. As a result, it has been clearly established that all online and off-campus programs – indeed, all programs offered by UMass Amherst regardless of location or delivery mechanism – are subject to the same standards and oversight, and program approvals and revisions are considered through the same unitary process.

Students are supported in their courses regardless of location or mode of instruction. UMass Amherst Libraries are available to all residential and continuing education students, and fully support students enrolled in distance learning courses (<http://www.library.umass.edu>). The Library catalog is fully online, and UMass Amherst has developed extensive online databases and electronic resources in the full range of disciplines. Online availability of full-text materials is extensive and growing. Books and other materials are readily available through interlibrary loan and library express document delivery. Online tutorials are available for all major library resources, and live email and telephone help is available 24 hours a day, five days a week (<http://www.library.umass.edu/serv.html>).

Online courses make provision for appropriate faculty contact through email, telephone and through tools embedded in the electronic course management system. Academic advisors are available via telephone and email (<http://www.umassonline.net/AcademicAdvising.html>). The admissions process is fully online (<http://www.umassulearn.net/Admissions>), and financial aid advisers are available via email and telephone (<http://www.umass.edu/umfa>). In addition, students are provided technical support for all online courses via a toll-free telephone number and live chat (<http://www.umassonline.net/AmherstTech.html>).

CPE also offers several certificate and degree programs with instruction delivered at off-campus sites. Table 4.2 shows off-campus instructional sites in Massachusetts during the academic year 2008-09. Like UMass Amherst online programs, off-campus programs are subject to uniform policies and procedures regarding administration, assessment, evaluation, faculty selection, course development and overall quality.

Table 4.2

In-State Off-Campus Locations and Programs, 2008-09

Degree Program	Program	Location (s)
School of Education		
M.Ed.	Project Lead Educational Administration	Kasparian Professional Development Center, Springfield
M.Ed.	Bridges to Future Pathway	Greenfield High School, Greenfield and Turners Falls High School, Turners Falls
M.Ed.	180 Days in Springfield	Chestnut Accelerated Middle School, Springfield Central High School, John J. Duggan Middle School, Renaissance School for Exceptional Learning, Springfield
M.Ed.	Access to Critical Content and English Language Acquisition (ACCELA)	Springfield and Holyoke Public Schools
M.Ed.	Science Programs	Robert M. Hughes Academy, HS of Science & Technology, Springfield
Isenberg School of Management		
M.B.A.	M.B.A.	Holyoke Community College, Holyoke; Berkshire Medical Center, Pittsfield; UMass Collaborative Services Facility, Shrewsbury
School of Public Health		
M.P.H.	Public Health	UMass Medical Center, Worcester
College of Natural Sciences		
Plant & Soil Sciences		
M.S.	Plant & Soil Sciences	Cape Cod Community College, West Barnstable
College of Humanities & Fine Arts		
Art, Architecture & Art History		
M.S. (pending approval)	Design, concentration in Historical Preservation	Hancock Shaker Village, Pittsfield

Note: 50 percent or more of the program may be completed off-campus.

Until recently, the University Without Walls (UWW) program offered classes at off-campus sites at Springfield Technical Community College and at the MassMutual Insurance Co. educational center, in Springfield, MA, and at Quinsigamond Community College in Worcester, MA. A relationship is still maintained with Springfield Technical Community College in the event of possible future collaborative efforts. In all cases, clear understandings were developed regarding the terms and conditions of use of these facilities.

UMass Amherst offers shortened semesters during the summer and winter terms, five weeks in the summer and three weeks in the winter. Courses offered are subject to the same approval and oversight as all other courses, and no distinctions are made between courses offered at different times of the year and during the regular semester or shortened sessions. Course management practices for the shortened sessions maintain course objectives but may adjust assignments and projects so as to allow for appropriate reflection and analysis within the abbreviated time frame.

Integrity and Evaluation

The [*Guide to Undergraduate Programs*](#) is published annually to provide extensive information on the University's academic offerings. Intended primarily for entering first-year students, it is given to them without charge; enrolled students may purchase copies at the University store or refer to it at the library or advising offices throughout campus. In addition to helping entering students become familiar with current academic offerings in all areas, the Guide serves as the informational link between the various instructional parts of the University. The Guide provides the most specific and timely information possible. It is available online (http://www.umass.edu/ug_programguide/) and in print. The Guide lists courses available in each college, school, division and department. The Schedule of Classes, detailing specific instructors, times and locations of class meetings, is issued each semester by the Scheduling Office. The Schedule is available through the SPIRE, the online Student Information System, and is on the Registrar's website, <http://www.umass.edu/registrar/>.

The catalog of courses available at the university and the course schedule for a particular semester are readily available on the campus computer system SPIRE and are accessible to the public. Courses included in the catalog and on SPIRE are current; they have all been offered within the past year or two, or will be offered in the coming year.

The institution monitors course availability as part of its commitment to ensure that enrolled students have adequate course selection to complete their degrees within four years. Departments are not allowed to reduce the number of student credit hours offered without review by the Provost's office. Monitored by the office of the Registrar, the Dean of Undergraduate Education is alerted to courses that are in high demand. This effort is specifically designed to assure that the total number of General Education and required courses are not compromised. The title and responsibilities of Dean of Undergraduate Education were added to the Deputy Provost as a direct result of a campus desire to assure the adequate capacity of classes relative to the undergraduate student body. The Dean has the responsibility to monitor class enrollment and has the authority to add sections as needed. For example, enrollment monitoring led to the addition of a third section of general biology to accommodate the number of students required to take this course. About three-fourths of undergraduate students complete their baccalaureate degrees within four years of entering the university; this is a reflection of improvements accomplished in recent years ([*Time to Degree of Entering First-Time Students*](#)).

Academic credit is awarded only through courses and processes overseen by the faculty and administration, as described in the [*Approval Procedure Guide*](#) and the [*Academic Regulations*](#) published by the Registrar. UMass Amherst operates on a semester system, with the three-credit course as the dominant model. A student taking five courses per semester for eight semesters would attain the 120 credits necessary for graduation. No credit is awarded for remedial or pre-collegiate work.

The award of credit for standard lecture and laboratory courses follows conventions typically employed at American institutions of higher education, modeled on the "Carnegie unit." Special course numbers are reserved for internship, practica and independent study courses, and award of credit for these purposes is supervised directly by faculty. Dissertation and other non-course-based credit at the graduate level are determined by institutional policy and as detailed in individual programmatic requirements.

There are exceptions to the three-credit course model. Some courses carry variable credit, with the number of credits awarded determined by faculty evaluation of individual student work. Some courses offered on a

modular basis, or as seminars with limited expectations for time commitment in and out of class, carry fewer than three credits. Seminar courses, for instance, typically carry one credit. Some courses carry four (or occasionally more) credits, with the additional credit associated with specific expectations beyond those for the standard three-credit course. All assignments of credit are approved through the course approval and revision process.

In recent years, UMass Amherst faculty have engaged in an ongoing discussion of the relative merits of the four-credit system vs. the three-credit system. Although the three-credit system remains the norm, there has been some increase in requests for conversion of three-credit courses to four credits. At the time of this writing, the joint faculty-administration General Education Task Force (See “General Education,” this standard) has recommended recalibrating some General Education courses to a four-credit norm. Faculty Senate action is pending. To maintain clarity concerning the award of credit, in 2004 the Faculty Senate adopted standards and guidelines for increasing the number of credits carried by a course ([Increasing the Number of Credits for a Course](#)). This policy establishes a framework for considering course workload, time commitment, evaluation and proportionality when credit increases are proposed.

UMass Amherst awards credit for experiential learning only through its University Without Walls (UWW) program. UWW students prepare special transcripts and a Prior Learning Portfolio (PLP). UWW adheres to the standard developed by the Council for Adult and Experiential Learning (CAEL) for awarding credit for prior learning. Each faculty member is in the process of receiving certification for prior learning assessment (http://www.cael.org/online_pla_certificate_program.htm). In addition, at least two times during the academic year randomly selected PLP are selected from each UWW 370 course to be reviewed by an academic team to assure consistent academic standards.

The PLP is a rigorous process that allows students to complete the portfolio in stages. Most students seek to complete a portfolio that will award between one and 15 credit hours. The portfolio is completed during the semester length UWW 370 (Junior Year Writing) course. At the end of the course it is evaluated for credit using a rubric approved and used by all UWW faculty members. Students who wish to seek additional credit complete the PLP the following semester. The expectations are higher and a more complete PLP is developed according to clearly published guidelines. These portfolios are reviewed by two additional UWW faculty members. If the student is seeking 24 credits or more, an outside evaluator also reviews the PLP.

Prospective and current students can learn about the opportunity and process for earning credit for prior learning at information and advising sessions and through the UWW website http://www.umass.edu/uww/programs_courses/pl_portfolio.html.

The Undergraduate Admissions Office at UMass is professionally staffed and serves to establish and maintain transfer policies and procedures by working collaboratively with academic departments and with appropriate committees, such as the General Education Council and the Academic Matters Committee of the Faculty Senate. The Senior Associate Director of the Transfer Office also provides functional supervision to the coordinator of Continuing and Professional Education Admissions to assure consistency with the university’s degree audit program for all undergraduate students.

The University’s transfer credit policy is published online on both the Undergraduate Admissions Office (http://www.umass.edu/admissions/application_process/Transfer_Students/) and the Registrar’s Office websites (http://www.umass.edu/registrar/gen_info/records/transfer_credit.htm). Acceptance letters to transfer students include a Preliminary Transfer Credit Award form. Final official transfer credit evaluations, including course equivalencies, are completed when students indicate their intention to enroll. Once students enroll they have access to their own degree audits after transfer credits are posted to their records through the online registration system (SPIRE). Students may also request transfer credit information from the Undergraduate Admissions Office at any time during the application process.

UMass has a long history of initiating articulation agreements and maintaining positive relationships with Massachusetts community colleges and is one of only four state colleges and universities to fully honor the Commonwealth Transfer Compact, the Joint Admissions Program and the Tuition Advantage Program. The Commonwealth Transfer Compact provides students an opportunity to transfer 60 credits and assumes completion of General Education courses from any of the state institutions of higher education. The Joint Admissions Program links particular community college programs with specific majors at UMass Amherst, guaranteeing students who complete their associate degrees with a minimum of a 2.5 grade point average admission not only into the University but specifically into the linked major. The Tuition Advantage Program offers tuition waivers to students who transfer to UMass Amherst through the Transfer Compact or through the Joint Admissions Program with at least a 3.0 grade point average. About 15 percent of transfer students annually benefit from the Tuition Advantage Program. In fall 2008, more than half the entering transfer students (659 of 1,183) came from Massachusetts public institutions. Of those, 471 students transferred from community colleges; 331 of those students entered through the Joint Admissions Program. All students receiving their baccalaureate degrees are required to complete a minimum of 45 credits, or 37.5 percent of required credits, at UMass Amherst.

Information regarding these programs is available on the Transfer Admissions website (http://www.umass.edu/admissions/application_process/Transfer_Students). A database is maintained of community college courses shared with those institutions. A transfer counselor is responsible for maintaining relationships with those institutions and visits them at least twice each semester to assure these opportunities for students. This information is also included in mailings to freshman applicants who are Massachusetts residents but were not accepted to the University when they first applied.

In fall 2009, the Commonwealth Transfer Compact, the Joint Admissions Program and Tuition Advantage Program all will be combined into Mass Transfer. Mass Transfer has been designed in collaboration with the other Massachusetts public higher education institutions in an attempt to simplify the various components available for students desiring a transfer within the state.

Academic regulations and requirements are published annually through the Office of the Provost. The awarding of a baccalaureate degree requires that credit, grade point average, program of study and course requirements all have been met. Some of these requirements are maintained by the University consistent with nationally recognized expectations of academic performance and achievement. Additionally, there are requirements, such as the General Education program, geared toward providing students with a consistency and a logic relative to an undergraduate education at the University of Massachusetts Amherst. The goal is to provide a student with a lifelong appreciation for learning through the combination of the General Education program, a student's major area of study and elective courses.

Undergraduate graduation requirements are reviewed and published annually in *Academic Regulations*, which is easily found on the Registrar's website, <http://www.umass.edu/registrar/>. These requirements also are detailed in the commonly used *Guide to Undergraduate Programs*.

The Office of the Registrar is responsible for assuring that a student has met all University degree requirements and administrative obligations. Senior staff review the records of all potential degree candidates. The list of candidates is then submitted to the appropriate academic departments for final clearance of all departmental requirements. If any requirements or obligations have not been met Registrar staff send the student a notification letter detailing outstanding obligations and directions for developing a resolution plan.

The University makes every attempt to assure that academic dishonesty is prevented and addressed. The Academic Honesty Office, within the Office of the Ombudsperson, is responsible for maintaining all records and processing all issues pertaining to academic honesty. All questions regarding academic honesty are processed through this office. All members of the campus community are able to obtain any necessary information about the appropriate procedures to address academic dishonesty through this office.

Entering students receive a copy of the [Code of Student Conduct](#), which includes a detailed explanation of academic honesty and the consequences of misconduct. A copy of the Code, as well as the policy on academic honesty, is easily retrievable from the office of the Dean of Students and from that office's website (http://www.umass.edu/dean_students/codeofconduct).

Since 2006, the Library has supported Turnitin.com, a software program that “detects textual matches between student papers and other documents available in electronic form on the Internet, in subscription databases, and in databases of student papers.” In 2007, the service became fully integrated into SPARK, a UMass course management system that stores student papers in a database visible only to UMass instructors.

English language skills must be demonstrated by students entering the University, and writing skills must be demonstrated to complete degree requirements.

Students entering the university are presumed to be proficient in English; non-native speakers are required to verify English language proficiency. Proficiency may be demonstrated in a variety of ways. Entering students may either submit an SAT-I verbal score or test results from either the Test of English as a Foreign Language (TOEFL) or the English Language Placement Test (ELPT). Transfer students who are already studying in the United States and have successfully completed two English composition courses might not be required to take either test based upon review of their academic records.

Students are required to complete two writing courses – College Writing, a first-year course, and Junior Year Writing, completed within a student's major. Entering students are given a placement examination to determine whether they are placed in Basic Writing, College Writing, or whether they qualify for exemption from the course requirement. College Writing is the only University course that satisfies the first-year writing requirement. Students are expected to fulfill the writing requirement during their first year at the University. Transfer students are expected to fulfill this requirement during their first semester.

International graduate students are also required to demonstrate their English proficiency through these tests. All applicants to the Graduate School who are not citizens of the United States and whose native language is not English are required to take the TOEFL examination. International graduate students whose native language is not English and are interested in teaching assistantships also must demonstrate oral English proficiency. Students may fulfill this requirement by taking the Test of Spoken English, administered by the Educational Testing Service, before they arrive on campus, or the SPEAK test upon arrival. Students must achieve at least a 50 on either of these tests. Students who do not pass at this level will be offered assistantships commensurate with their level of proficiency in spoken English and are asked to enroll in the spoken English Communication Instruction classes offered by the Graduate School. The University's English as a Second Language program (ESL) offers courses in academic writing, speaking, grammar and vocabulary to help non-native speakers of English master the formal conventions of academic English for both General Education courses and courses in the academic disciplines.

II. Undergraduate Programs

Description

In fall 2008, a total of 20,539 undergraduate students were enrolled at UMass Amherst. By comparison, 18,835 undergraduate students were enrolled in fall 1998, meaning undergraduate enrollment grew by nearly 10 percent over the decade ([Undergraduate and Graduate Enrollment Campus Summary 1998-2008](#)). The campus offers 94 degree programs to undergraduates ([Degree Programs Offered](#)). Undergraduate degree programs are fully described in the [Guide to Undergraduate Programs](#).

The general model for programs at the University of Massachusetts Amherst consists of three components: a set of introductory or foundation courses within the broad disciplinary area; a set of prescribed courses carrying the student through a coherent progression of content and methodologies; and a set of electives,

within the major or in related fields, to provide the student with a sense of context for and application of work in the field. A student's major area of study provides depth to the undergraduate education, while courses taken as part of the required General Education program provide breadth to the undergraduate experience; together these complementary components of undergraduate education prepare students with essential knowledge and skills for particular fields – as well as for lifelong learning and contributions to a complex, global society.

The Major

A major at UMass Amherst constitutes intensive or specialized work in a particular department or program and provides notable depth to undergraduate education. The number of credits required for a major varies widely, depending on the field of study. Every major requires the successful completion of at least 30 credits in a coherent and extensive set of courses with a particular discipline or focus; many require more. The university offers 90 majors, including the Bachelor's Degree with Individual Concentration (BDIC), a major which the student creates in conjunction with a faculty sponsor. Departmental major requirements may change yearly. Considerable information about majors is available in the [Guide to Undergraduate Programs](#) under major field headings, and details may be requested directly from specific departments on campus.

Many programs offer multiple concentrations. These are alternate paths to degree completion that allow the student to pursue a particular specialty or sub-field within the general framework of degree requirements. Concentrations may be oriented toward preparation for graduate work in a field, toward professional or career interests, or toward greater understanding of a sub-field. Many undergraduate degree programs are organized around traditional or emerging disciplinary fields, although even "disciplinary" degrees increasingly incorporate perspectives and methods from a variety of disciplines, especially in upper-division elective courses.

Overall learning objectives for each degree program are defined at the time of approval, and are refined and updated as new concentrations and other program revisions occur over time. Many programs have developed learning outcomes in the context of their student outcomes assessment programs (See "Assessment," this standard). Increasingly, programs are including capstone or other culminating or integrating experiences to bring together the body of work constituting the major. Programs in areas of professional training and application design their curricular to reflect traditional and evolving standards and practices in the profession, and include course-based and/or field-based opportunities for practice and application of professional skills and knowledge.

General Education

Students seeking baccalaureate degrees at the UMass Amherst must successfully complete General Education requirements, as well as the requirements of their majors. This combination of general and discipline-

A Focus On: Gen Ed

A focus on improving General Education at UMass Amherst is meant to invigorate the undergraduate curriculum, with new revisions taking full effect in fall 2009. Undergrads had complained that Gen Ed courses were more obligation than inspiration – something to "get out of the way." So a Task Force, drawing from all corners of campus, worked during 2007 and 2008 to infuse Gen Ed with clear purpose and relevance. The result: updated learning objectives, communication strategies aimed at students and faculty, better instructor development, and a systematic approach to course assessment and improvement. Asks a poster that's part of the initiative: Why Gen Ed? Answer: The suite of required liberal arts courses prepares students as critical thinkers dedicated to lifelong learning; the courses provide breadth to complement a major's depth. But the initiative did more than reconfirm the relevance of Gen Ed: It provided a model for academic problem-solving and improvement, involving representatives from across campus and infusing the resulting program with clear standards and continual assessment.

specific requirements is designed to provide students with the breadth and depth of knowledge and understanding to support lifelong learning (*Guide to Undergraduate Programs*, p. 18). The General Education requirement is university-wide, and focuses on the fundamental questions and the principles, ideas, and methods of analysis in the humanities and fine arts, social sciences, mathematics, and natural and physical sciences. The General Education requirement complements the major area of study and provides opportunities for students to hone critical thinking, reasoning and communication skills.

Specifically, the General Education requirements are: Writing, including a first-year writing course and a junior-year writing course within the major (six credits total); confirmation of Basic Mathematics skills (three credits); Analytic Reasoning (three credits); three Biological and Physical World science courses (nine credits total); six Social World courses in Literature, Arts, Historical Studies, Social and Behavioral Sciences, two of which must include a “social and cultural diversity” component (18 credits total). Together, the General Education requirements total 39 credits, or one-third of a student’s undergraduate program. Generally, only one course in a student’s major department may be counted toward the satisfaction of General Education requirements. These requirements are noted in the [Guide to Undergraduate Programs](#) as well as on the Registrar’s website (http://www.umass.edu/registrar/registration/gened_requirements.htm).

The General Education program has an impressive history. It was one of the first programs in the nation to include a diversity requirement. The program was also one of the first to incorporate a two-part writing requirement for all undergraduates, including a common first-year writing course and a junior-year writing course in the student’s major field of study ([UMass Amherst Writing Program](#)). This advanced, discipline-specific writing course focuses on writing particular to the disciplines.

Despite its impressive roots, the General Education program was in need of thorough review by fall 2007. The Provost and the Faculty Senate Rules Committee appointed a joint Administrative/Faculty Senate General Education Task Force (GETF) to re-energize and improve this core component of undergraduate education. Work of the GETF built upon that of the longstanding Faculty Senate General Education Council and focused on clarifying the purpose and intended learning objectives for General Education at UMass Amherst; evaluated how General Education is currently delivered; identified the supports and barriers to effective delivery of the program; and identified the essential assessment questions related to General Education ([General Education Task Force Focus](#)).

Among Task Force accomplishments was development of a new [General Education Purpose Statement](#) that clarifies the learning objectives for General Education. The new *Purpose Statement* emphasizes that General Education courses “stretch students’ minds” and “broaden their experiences” – adding to undergraduate learning by fostering the flexible thinking essential to success in an increasingly complex and global society. The Faculty Senate Rules Committee approved the statement in May 2009. The Task Force also focused on building better communication with students, instructors, advisors and the public about the purpose and value of General Education. For instance, a new General Education website serves as a central information resource (<http://www.umass.edu/gened>).

Of course, clearer learning objectives and effective communication strategies are not enough to assure program quality. So the GETF identified new ways to promote quality and effectiveness among General Education courses. The Task Force focused on enhancing instructor support and development, providing, for instance, a new General Education Fellows Program through the UMass Amherst Center for Teaching (http://www.umass.edu/cft/fellowships/general_education.html). The GETF also reinvigorated course monitoring and assessment strategies. The Task Force supported development of new assessment tools, including an instructor survey. The survey results – reflecting data from 70 percent of General Education courses in the sample – provided important information about how these courses align with learning objectives in the newly approved purpose statement ([Instructor Survey Results](#)).

This assessment work dovetails with that of the Faculty Senate General Education Council, which approves all General Education courses and on a five-year cycle reviews courses for continued inclusion in the General

Education Program. The Council reviews course syllabi, course assignments related to General Education learning objectives, and departmental statements that describe the specific ways a course meets expectations for its General Education designation(s). The GETF affirmed the importance of this monitoring system; the Task Force requested and received additional resources to support the Council's continuing work.

Commonwealth College

Commonwealth College, the honors college at the UMass Amherst, was established in 1999 to offer academically talented students a community that promotes engagement with peers, leading scholars and society. Commonwealth College works to provide its students a foundation for successful lifelong learning. The curriculum emphasizes inquiry and critical analysis, independent research, collaborative work, engagement with society, and effective communication skills. To graduate with Commonwealth College honors designations, students must maintain specified grade-point averages and complete honors courses, including a capstone experience. Entering students may be invited to join Commonwealth College; currently enrolled UMass Amherst students may apply for admission if they meet established entry criteria.

Appraisal

While the General Education program has a strong foundation dating to its development in the late 1980s, the program needed attention and improvement by the fall of 2007. The General Education Task Force (GETF) review has re-energized General Education on campus. It affirmed the continued relevance of General Education's intended purposes and learning objectives, assessed the alignment of those objectives with current courses, and identified a number of recommended next steps for enhancing the effectiveness of General Education.

The expansiveness of General Education offerings and the variety of instructors teaching these courses continue to represent a challenge to ensuring that courses are aligned with General Education intentions. The GETF's alignment analysis indicated that while many of the objectives are addressed by most General Education courses within the relevant designation, there are some objectives that are not currently adequately addressed.

Commonwealth College has experienced great success in its first decade. Enrollment of first-year students grew to more than 600, and by fall 2008 total enrollment in Commonwealth College had grown to 3,637. This far exceeded the projections that had

A Focus On: Writing

A focus on writing has solidified written communication as a hallmark of undergraduate education at UMass Amherst – an appropriate centerpiece at a public research university, where knowledge is the stock-in-trade. For nearly three decades, the campus Writing Program has overseen a two-part writing requirement for all undergraduates: a first-year course in academic writing and a junior-year course in a student's major field of study. The first-year requirement, College Writing, instills basic skills in small, activity-based classes. Junior-year courses, such as Writing in Chemistry, and Marketing Communication, are specific to the disciplines; these courses impart the fluency students need for further study and success in the workplace. UMass Amherst was among the first universities in the nation to combine general and discipline-specific writing requirements. With this approach, the campus has pioneered the inclusion of writing throughout a student's college career, and across his or her studies. In 2003, U.S. News & World Report named UMass Amherst Junior Year Writing one of 25 "Programs that Really Work" in writing in the disciplines. The campus Writing Program also runs the popular Writing Center, which provides free tutoring at the W.E.B. Du Bois Library. With its three main elements, the Writing Program serves more than 10,000 students annually and is central to undergraduate General Education on campus. The Program was honored in 2009 with the Program of Excellence award from the Conference on College Composition and Communication, the top national honor for writing programs. It's another sign that writing is valued as a core component of UMass Amherst academics.

driven planning and budgeting for the unit, and during academic year 2008-09 the campus took steps to increase admissions selectivity so as to reduce enrollment overtime. The campus also ended the requirement that students be enrolled in Commonwealth College in order to earn Latin honors (*magna cum laude*, *summa cum laude*).

A Focus On: Academic Innovation

A focus on academic innovation is sparking new UMass Amherst programs that draw on campus strengths to meet students' evolving needs and interests. Many new academic offerings combine disciplines, degree levels, and even studies at partner institutions. These unique programs cross traditional academic boundaries. They immerse students in new areas of knowledge – and prepare them to tackle emerging challenges in an interconnected world. Interested in an interdisciplinary program? Try Environmental Science, Public Health Sciences, or a program that combines Linguistics and Psychology. Want to design your own program? Do it through University Without Walls or the Bachelor's Degree with Individual Concentration program. Got five years? Then consider a program that delivers classes at both UMass Amherst and Mount Holyoke College, yielding degrees in both physics and engineering. Want an undergraduate degree and a graduate degree? Get them both with a "3+2" program, such the one that combines a bachelor of fine arts in Design and a master's degree in Architecture. When students need fresh and responsive programs that are grounded in academic quality, UMass Amherst can put it together.

Projection

Work of the GETF concluded in spring 2009, yet the campus continues to act upon recommendations to enhance the instructor experience and student learning in General Education. These actions include continuing to bolster instructional support, revising the course-review mechanisms to better align them with Gen Ed learning objectives, and exploring a Student Learning Assessment pilot focused on General Education learning objectives.

The campus is also taking quick action on the GETF's recommendation to reshape the program to offer students more opportunity to engage in General Education topics in some depth and to integrate Gen Ed experiences with their majors ([*Special Report of the Dean of Undergraduate Education on Modifications to General Education Requirements*](#)). In summer 2009, the Faculty Senate Rules Committee recommended that General Education courses in the "Social World" and in the "Biological and Physical World" move from three-credit to four-credit courses, offering students the chance to engage with these areas in more depth. They also recommended that the requirement include an upper-division integrative experience that would connect Gen Ed learning with students' majors. Faculty Senate action is pending.

The fiscal year 2010 state budget eliminated the separate appropriation Commonwealth College had enjoyed since its creation. As noted in the *Framework for Excellence*, "one essential task for the campus in the next few years is therefore to establish a viable financial and enrollment model for Commonwealth College."

III. Graduate Degree Programs

Description

The University of Massachusetts Amherst is the largest provider of graduate education within the University of Massachusetts system and among all New England public institutions. Graduate education is central to the UMass Amherst mission as a flagship land-grant campus and as an institution with a designation from the Carnegie Foundation for the Advancement of Teaching as a research university with "very high research activity." Graduate degree programs foster rigorous study and mastery of complex fields, positioning students for scholarly careers, research and professional practice; graduate programs ultimately prepare students for critical contributions to enhance quality of life and solve pressing and emergent problems in the commonwealth, nation and world. Graduate students, in their vital roles as teaching and research assistants,

are likewise essential to the university's work today, as UMass Amherst creates and disseminates knowledge to foster key innovations and economic strength in an increasingly complex and globally connected society.

In fall 2008, a total of 5,820 graduate students were enrolled at UMass Amherst, and the campus offered 73 master's and 52 doctoral degree programs (*Degree Programs Offered* http://www.umass.edu/oapa/publications/factbooks/degrees/FB_de_01.pdf). Admission to graduate programs is competitive and based on applicants' academic qualifications and potential for advanced academic study. Admissions criteria include undergraduate grade-point averages, scores on the Graduate Record Examination or the Graduate Management Admissions Test, recommendation letters that address academic ability, scores on the Test of English as a Foreign Language for international students, prior experience in conducting research, and samples of work for some disciplines.

UMass Amherst tenure-system faculty form the backbone of the graduate program. In addition, retired faculty, faculty from other campuses in the University of Massachusetts system, faculty from the Five Colleges community and others may be approved to teach courses and serve on graduate theses and dissertation committees. Programs are offered, and in some cases have been redeveloped, based on availability of full-time faculty members. UMass Amherst faculty are widely known and acclaimed for research, scholarship and publications, and for creative work in literary and fine arts. More than 92 percent of faculty members at the Amherst campus are members of the graduate faculty, and their qualifications are consistent with those at other institutions with Carnegie Foundation designations for "very high research activity." The UMass Amherst graduate faculty is notably augmented by graduate faculty members from the university system's campuses in Boston, Dartmouth, Lowell and Worcester, and from the Five Colleges partnership, which includes UMass Amherst, Amherst College, Hampshire College, Mount Holyoke College and Smith College. Contributions from colleagues at these affiliated and partner institutions boost graduate degree programs and provide UMass Amherst with a strategic advantage in graduate education.

The UMass Amherst Graduate School is the principal administrative unit for graduate education. The Graduate School is charged with stimulating intellectual and creative growth in graduate education, enforcing rigorous academic standards, and developing the most professional processing of admission applications and the maintenance of student records. The Graduate School also strategically develops programs to guide and support a diverse student population in the quest for successful degree completion. The Graduate Dean fosters graduate education and the research, scholarship, teaching, academic outreach and economic development associated with graduate-level work. The Graduate Dean is expected to promote advanced education, assert quality control and continuously monitor the minimal requirements across disciplines for the admission, retention and matriculation of graduate students. As an ex-officio member of the Graduate Council, the Graduate Dean, in collaboration with the Graduate Council, exercises overall review and supervision of graduate programs within the colleges and schools, provides guidance in the development of new programs, and maintains standards for existing programs. The Graduate Dean ensures that each graduate program has been developed in accordance with the highest national professional standards for its field. External reviews – provided through the Academic Quality, Assessment and Development (AQAD) process – contribute information to assist in identifying strengths and targeting areas for growth and development.

Graduate degree programs emphasize advanced study in each discipline. Students gain mastery of complex fields of study through core graduate courses focused on the fundamentals of each discipline; elective courses tailored to an individual's area of interest; oral and written parts of the preliminary comprehensive examination, based on fundamentals and planned research; preparing and defending a dissertation or thesis proposal before a faculty committee; and completion of substantial research that culminates in a dissertation or thesis and final oral examination, or defense. Dissertations prepared by Ph.D. students reflect original work of publishable quality. The learning objectives, in both depth and breadth, thus reflect a level of rigor and complexity that far surpasses that in the baccalaureate program. The departments regularly assess and update curricula to ensure continuity between undergraduate and graduate programs, while maintaining the significantly advanced expectations that mark graduate degree programs. Graduate courses more rapidly

adopt results from recent technical and advanced literature, yet material once taught at the graduate level often migrates to the undergraduate curriculum as it matures and integrates with foundational material. Academic advisers also work with graduate students to help ensure that coherent and advanced competencies are gained.

The curricula prepare students for academic careers, professional practice or a combination, and degree requirements reflect these purposes. Programs designed to prepare students for academic careers typically are research-oriented and emphasize, through literature review and analysis, recent technical and scholarly developments in fields of interest. In doctoral programs, this analysis extends to defining research opportunities, preparing research proposals, and engaging in scientific and technical debate. Master's theses and doctoral dissertations, while differing in required intensity, are meant to be expressions of original scholarly work; results from doctoral dissertations are usually published in peer-reviewed journals or conference proceedings. Professional or practice-oriented programs emphasize application of knowledge – including development of new applications – by focusing on concept analysis and mastery, research methodology, professional skills acquisition and the ability to communicate knowledge. In fulfilling program requirements, students gain skills in producing and organizing results of research and scholarship, interpreting those results, and convincing others of their validity, correctness and relevance.

Expectations are appropriately differentiated according to the master's and doctoral degrees. Several professional master's programs in schools and colleges, such as the Isenberg School of Management, Engineering, Public Health and Nursing, offer separate degree plans that emphasize research as well as professional practice, with either a required thesis or a coursework-only option. The research emphasis requires a thesis and close coordination with a thesis advisor. The coursework-only option typically requires six additional credits of courses. All degree programs within each college and school have a core curriculum to ensure that the students have acquired essential knowledge and skills. This is demonstrated by the evaluation and examination of a student's thesis, the coursework performed and the interactions with faculty. Graduates are sought by industry and academia, and many become very successful professionals, providing further evidence of program strength.

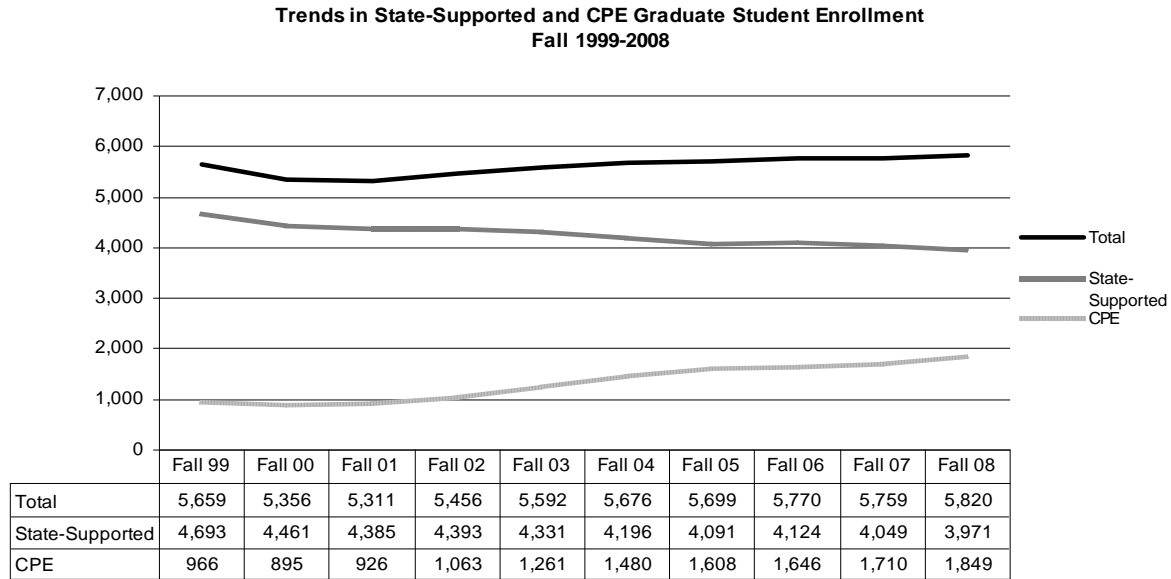
Graduate degree programs provide commensurate information resources, information technology and physical resources, including an academic research library boasting a broad spectrum of virtual information resources. Most departments provide state-of-the-art computer classrooms with relevant software and clusters of computational workstations for research. Facilities such as the Conte National Center for Polymer Research, the Engineering Laboratory II building and the new Studio Arts Building are of major importance to graduate teaching and research seminars.

Appraisal

Enrollment and Degree Conferral

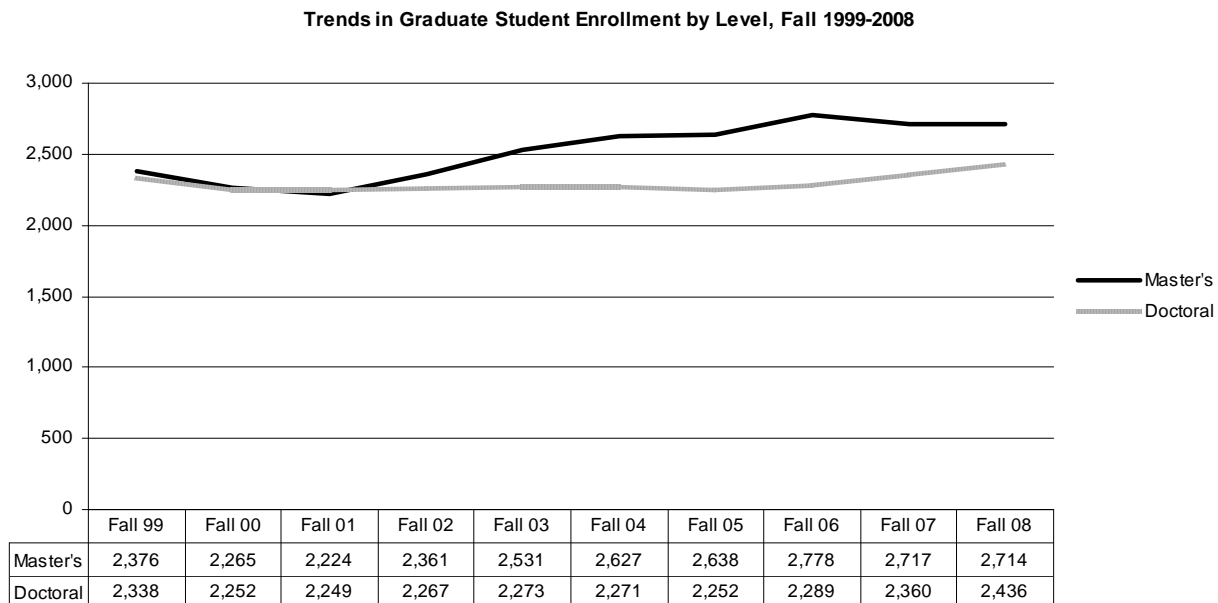
In fall 2008, a total of 5,820 degree and non-degree graduate students were enrolled at UMass Amherst, and the campus offered 73 master's degree and 52 doctoral programs. The total number of enrolled graduate students declined slightly from 1998 until 2001, and since then has steadily but fractionally increased; the total number of enrolled students is 3 percent greater when comparing 2008 enrollment to that a decade earlier (Figure 4.1). State-supported enrollment shown in Figure 4.1 is composed primarily of on-campus students, while students enrolled in Continuing and Professional Education (CPE) programs access resources off campus and online. Growth in the popularity of off-campus and online graduate programs is largely driving an increase in the number of master's degrees awarded.

Figure 4.1



Of the 5,150 matriculated graduate students enrolled at UMass Amherst in fall 2008, 46 percent were doctoral students and 54 percent were master’s students (Figure 4.2). In the five years from fall 2003 to fall 2008, doctoral enrollment grew by 3 percent, while master’s enrollment grew by 11 percent.

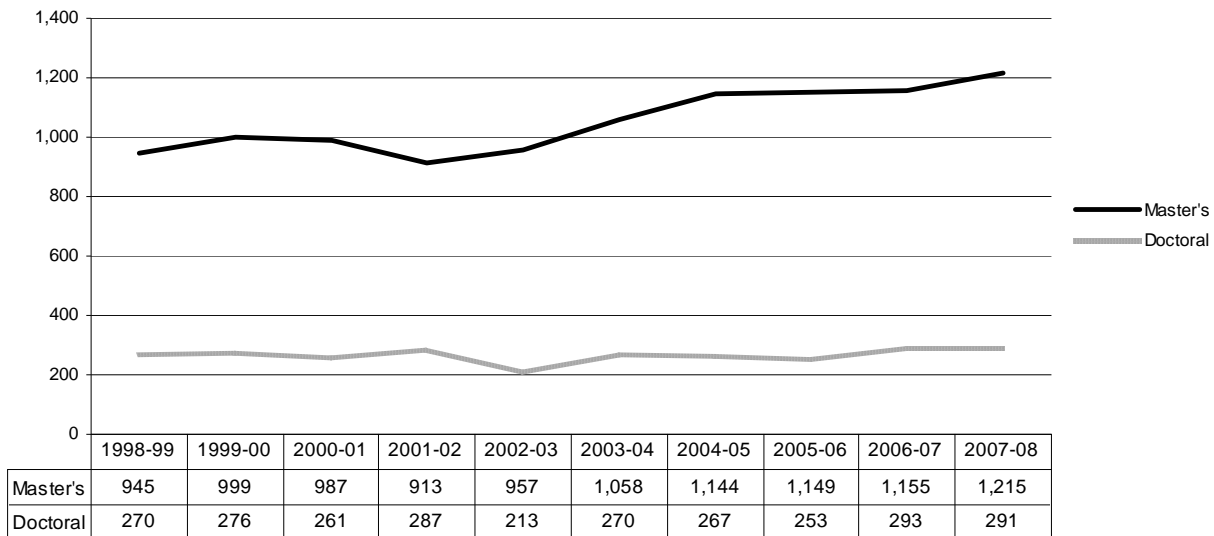
Figure 4.2



The number of master’s degrees annually awarded at UMass Amherst has climbed by nearly 30 percent in the last decade, to 1,215 in 2007-08 (Figure 4.3). But the number of doctorates awarded annually has remained fairly flat. The campus has plans to increase doctoral production to a level that will place it among the top 35 public institutions in this category.

Figure 4.3

**Graduate Degrees Awarded by Level
Academic Years 1998-99 through 2007-08**



International students are an important component of graduate student enrollment as the campus seeks to infuse programs with a global perspective, and to attract and retain the best and brightest students from around the world. In fall 2008, international students composed 22 percent of the total population of 5,820 degree and non-degree students, with international doctoral students outnumbering international master's students by a ratio of more than 2-to-1. The UMass Amherst Graduate School, like others across the nation, saw a decline in international applications after the terrorist attacks of Sept. 11, 2001, and subsequent changes in U.S. visa requirements; since 2005, international applications have rebounded slightly and in 2008, 45 percent of all applicants to the Graduate School were international.

Graduate Record Examinations data reflect strong academic qualifications for graduate study; these indicators have generally climbed during the past decade. The highly qualified graduate student population at UMass Amherst not only indicates potential for success in degree acquisition, but also indicates the potential for graduate students to help advance robust teaching and discovery activities, which are integral to a thriving research university. Verbal scores on GREs have not changed significantly since 1998, with the 10-year average around 540. Yet quantitative scores have risen from 614 in 1998 to a peak of 700 in 2003, before settling near 680 after 2005. The trend line for GRE quantitative scores follows patterns in applications from international students.

Recruitment and Retention Issues

Fifty-six percent of doctoral students who entered UMass Amherst between 1992-93 and 1997-98 have earned their degrees, with wide variations by program ([Doctoral Student Outcomes](#)); this is slightly better than the national average of about half. Yet non-completion impedes fulfillment of the goal to increase doctoral production by about 30 percent and to grow overall graduate enrollment by some 10 percent – goals set to help elevate the stature of UMass as a thriving public research institution that excels in teaching and knowledge creation.

Data suggest that inadequate funding and a decline in the number of teaching and research appointments for grant-funded research hinder doctoral student retention. Indeed, a web-based survey of some 2,000 graduate students, conducted in 2007, found that financial constraints represented the most oft-cited obstacle to academic progress; an overly heavy workload for pay was the second-most frequently cited obstacle to

progress ([UMass Amherst Graduate Student Experience Survey 2007](#)). Retention and graduation data vary among programs, yet more doctoral students typically graduate from engineering and sciences because of the relative financial stability and internship opportunities offered by these programs. UMass Amherst must be competitive in its offers to both attract and retain top graduate students, and this is particularly difficult in the current funding climate. While some gains have been made in offering assistantships, fellowships, merit-based support and travel grants, UMass Amherst continues to rank low among peer institutions for total financial packages offered to graduate students, based on campus analysis ([Peer Comparison of Graduate Teaching Assistantship Stipends, 2007-08](#); [Graduate Appointment Trends – 10-Year History](#)).

Financial support is central to thriving graduate degree programs. Efforts are under way to support students in other important ways: The graduate programs in colleges and schools maintain a systematic, four-pronged approach to graduate-student mentoring and advising, providing academic advising, general advising, professional networking and social networking. Among other services, the Graduate School tailors communications training for international teaching assistants and runs a Graduate Student Grants Service to assist with research proposals. The Graduate School also advises the UMass Amherst Graduate Student Senate, a formally recognized governance body that represents and advocates for graduate students in the administrative and policy arenas; the Graduate School and Graduate Student Senate work jointly to address housing and other key issues. The UMass Amherst Center for Teaching has developed a full complement of resources to assist graduate students with teaching assistantships. These training resources include required orientation workshops. Elsewhere on campus, graduate students may avail themselves of career services and services for those who speak English as a second language.

Mentoring, training for teaching appointments, and affordable housing emerged as issues of concern among the 2,000 graduate students surveyed in the [UMass Amherst Graduate Student Experience Survey of 2007](#).

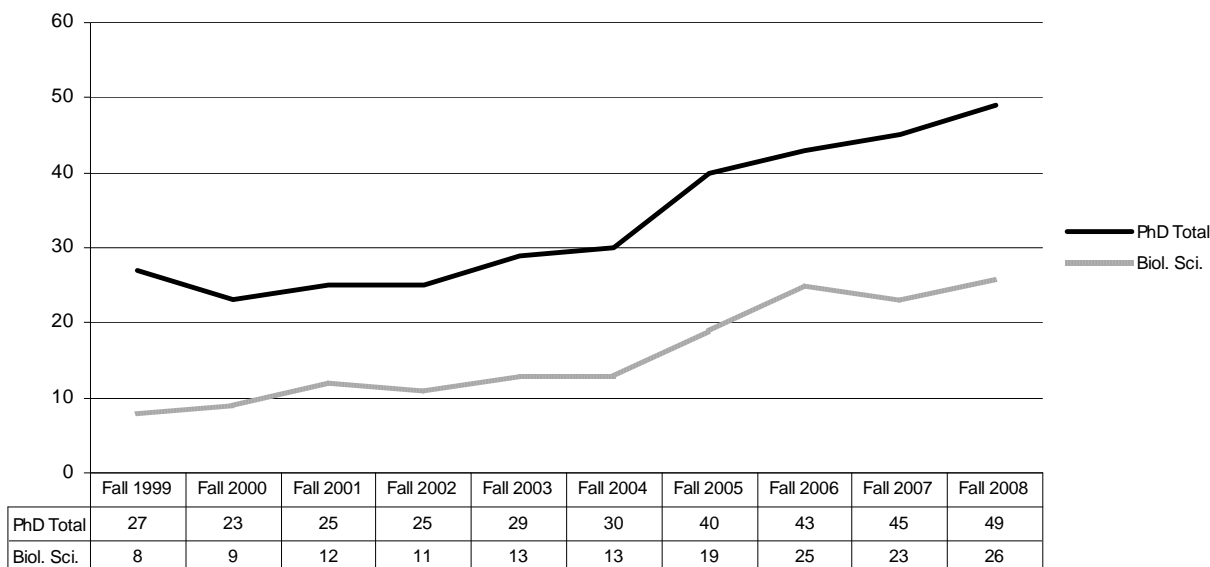
Notable Gains and Strengths

While working to address retention issues, especially as they relate to Ph.D. students, UMass has made notable strides in graduate studies in the past decade.

UMass Amherst has been successful recruiting graduate students from diverse backgrounds. In the decade from fall 1998 to fall 2008, the total number of enrolled African-American, Latino, Asian-American and Native American (ALANA) graduate students climbed by 26 percent, from 549 to 692 students ([Race/Ethnicity of Graduate Students Fact Sheet](#)). Moreover, UMass Amherst is effectively responding to the nationwide demand for a more diverse and highly trained workforce in the sciences. The campus has become a leader in its ability to appeal to underrepresented minority (URM) students; their perspectives and experiences are vital at a public research institution that is addressing complex issues in an increasingly multicultural society. Campus gains, based on data from reporting U.S. citizens, are largely with underrepresented minorities in the sciences, technology, engineering and mathematics, the STEM disciplines. These gains result in part from a National Science Foundation grant and from the leadership role UMass Amherst plays with the Northeast Alliance for Graduate Education and the Professoriate (NEAGEP), which likewise focuses attention on recruiting and retaining underrepresented minorities in STEM fields. With more effective recruiting, mentoring and the NEAGEP internship program, the campus has nearly doubled the number of URM STEM doctoral students (Figure 4.4). Particular success is reported in Biological Science (Biol. Sci) graduate programs.

Figure 4.4

Underrepresented Minorities (URM) Enrolled in STEM Doctoral Programs
Fall 1999 - 2008



UMass Amherst has developed a number of new interdisciplinary and dual-degree programs, which join areas of strength in graduate studies. These new programs effectively, and often economically, use faculty assets. They also prepare graduates to meet growing demands for essential knowledge and skills in a world where emerging challenges know no disciplinary boundaries. Interdisciplinary programs, in particular, are designed to spark ideas and innovations at critical junctures of knowledge; these programs also prepare students for work in both academe and industry. For instance, the Art, Art History and Architecture Department has developed an acclaimed Master of Architecture program, which draws faculty from a variety of departments, including Art, Architecture & Art History; Landscape Architecture & Regional Planning; Civil & Environmental Engineering; and Computer Science (http://www.umass.edu/grad_catalog/artdesign/masters.html). Grants from the National Science Foundation are propelling interdisciplinary efforts within the Institute for Cellular Engineering and the research institute for nanotechnology, called MassNanoTech. This funding has allowed establishment of Integrative Graduate Education and Research Traineeship (IGERT) programs, which provide novel graduate training focused on interdisciplinary problem-solving and innovation (<http://www.umass.edu/ice/igert/index.html>, <http://www.umass.edu/massnanotech/igert>). Also offered are several new interdisciplinary graduate certificate programs, such as the Cognitive Science Graduate Certificate, a joint offering of Linguistics, Psychology, Computer Science, Communication Disorders and Philosophy (<http://www.umass.edu/cogsci>). The Graduate School has developed new graduate certificate protocol, approved by the Faculty Senate, to propel and guide other graduate certificate offerings; four interdisciplinary graduate certificate programs are ready for fall 2010 enrollment, with five more at different levels of completion.

Graduate programs include new international initiatives that invigorate the teaching and research enterprises and help prepare students to tackle challenges in an interconnected world. UMass Amherst has formal exchange and research agreements with 102 universities and colleges in 36 countries, with more in the works. The Graduate School recently established a Joint Doctoral Supervision Cotutelle Agreement with Macquarie University of Sydney, Australia; the program is modeled on French Cotutelle agreements that offer students joint, or doubled-badged, doctoral degrees from partner institutions in different countries. Other Cotutelle-inspired programs are on the horizon with additional international partners, and the campus is establishing a framework to guide those efforts. Similarly, the new Vietnam Education Fellowship Program brings high-

achieving doctoral students from Vietnam to UMass Amherst science and engineering programs. Such initiatives enhance a well-established focus on internationalism at UMass Amherst, where graduate students come from countries ranging from Afghanistan to Zaire. Each year, 20 to 30 Fulbright students are enrolled at UMass Amherst for graduate studies and research – in fall 2008, for instance, there were 23 continuing Fulbright students, and five new Fulbright students – and about 80 UMass Amherst faculty members have been Fulbright Scholars in 49 countries over the past 30 years. Such programs will gain momentum with a recently established international oversight committee, charged with expanding international graduate education and research.

UMass Amherst has enhanced access to graduate education with off-campus and online graduate degree programs. Enrollment in off-campus degree graduate programs, offered through Continuing and Professional Education, has mushroomed in the past decade, growing from 507 to 1,412 enrolled degree students, a 178 percent gain (Program offerings at <http://www.umassulearn.net>). At the same time, the Isenberg School of Management Part-Time/Online Master of Business Administration program (<http://www.isenberg.umass.edu/MBA>) has drawn many students; enrollment nearly quadrupled from fall 1999 to fall 2008, growing from 218 students to 855 students.

In one instance, students graduating with an M.S. or Ph.D. from the Intercampus Graduate School (IGS) of Marine Science receive a joint degree from UMass Amherst, Boston, Dartmouth and Lowell. Campuses may count among their graduates those students whose dissertations, theses or non-thesis projects were supervised by the major faculty advisor in residence at the campus.

The success of UMass Amherst graduate degree programs is demonstrated in the excellent employment opportunities students have found in research, education, industry, government and the non-profit sector (*Graduate Student Placements*). Graduate student research is routinely published in competitive journals. UMass Amherst graduate programs in Biological Sciences, Chemistry, Clinical Psychology, Computer Science, Education, Engineering, English, Nursing, Physics, Psychology, Public Affairs, Sociology and Speech-Language Pathology, appear in the top one-third nationally in the most recent *U.S. News & World Report* Best Graduate Schools rankings.

While focused on significant issues that advance graduate studies and stimulate the teaching and research enterprise, the Graduate School also has improved key administrative functions: The school is moving toward paperless applications and record-keeping; has discontinued its printed catalog in favor of extensive online information; and has launched a web-based submittal program for dissertations and theses. The Graduate School anticipates paperless operations by 2010.

Projection

UMass Amherst aims to grow graduate student enrollment and to increase the number of doctorates awarded annually by about 30 percent. These goals rise from the knowledge that thriving graduate degree programs are central to the best public research campuses in the United States, and that strong doctoral production is a linchpin in this equation. As the campus grows enrollment and improves degree production, it will advance the robust teaching and research enterprises essential to a contemporary land-grant university, while preparing highly skilled graduates to tackle the world's complex challenges. The campus will progress toward goals by cultivating programs, particularly in areas of strength, and by strategically enhancing services and support.

Even as UMass Amherst sets these goals, the campus recognizes that funding opportunities for graduate students are a key factor affecting the growth and vigor of graduate programs. The percentage of on-campus graduate students receiving funding has climbed during the past decade. At the same time, the total number of funded slots for on-campus graduate students has declined along with the decrease in the total number of graduate students (*Graduate Appointment Trends – 10-Year History*). As the campus seeks to increase the number of graduate students, it will take care to maintain adequate funding for assistantships.

Addressing Recruitment and Retention: Financial Concerns

Funding is central to increasing the number of graduate students and improving degree completion. Program excellence and innovation will continue to attract many students, but recruiting top graduate students also means offering better financial arrangements. Low teaching stipends and the absence of significant fellowship support are two factors that must be addressed to improve graduate education on the Amherst campus. An increase in research funding will also help attract and employ students, especially in the natural sciences and engineering. But there is a difficult conundrum in the current financial crisis because the campus will likely be forced to eliminate many teaching assistant positions. A recent adjustment in the statute of limitations is expected to help doctoral students complete their degrees. Even so, the production of doctorates in many fields takes six or seven years and cannot therefore be increased quickly even if operating funding recovers in the next few years. Despite these factors, the campus will pursue several strategies to help meet goals:

- In the current budget downturn, instructional units will be encouraged to preserve as many graduate student lines as possible.
- UMass Amherst is surveying departments and colleges to review stipends for teaching and research. The information gleaned will inform a long-term plan to enhance competitiveness with peer institutions.
- UMass Amherst will stress graduate fellowships in fund-raising. Such fellowships may support both students and their research efforts, particularly in areas where external funding is relatively sparse.

Addressing Recruitment and Retention: Student Support and Services

Results of the [UMass Amherst Graduate Student Experience Survey of 2007](#) suggest other improvements that might help boost graduate student recruitment and retention. In response, the campus will streamline and enhance key services to help students attain degrees and move into promising careers.

- During the past three years, the Graduate School, in collaboration with the UMass Amherst Office of Institutional Research, has developed a formal tracking system to closely monitor a doctoral student's career and to help ensure steady progress toward degree completion. A set of summary tables has been produced that track the progress of doctoral cohorts at the program level (http://www.umass.edu/oapa/publications/department_profiles/index.php), including retention and graduation rates (http://www.umass.edu/oapa/publications/doctoral_summary_reports/Doctoral%20Student%20Outcomes.pdf), and median time to degree, (http://www.umass.edu/oapa/publications/doctoral_summary_reports/Median%20Time%20to%20Doctoral%20Degrees.pdf). Annual updates are sent to programs, and summary data are made available on the OIR website. The Graduate School is working to systematically use such newly produced information to help identify and address factors that hamper student retention and degree completion.
- Linked to the tracking system, the mentoring program will be reinvigorated to improve the graduate student experience and inspire students to complete their degrees. The Graduate School would like to see 66 percent of all graduate students attain their degrees within 10 years of initial enrollment. The School hopes to ensure that all graduate students receive high-quality advising, and that they obtain the professional and academic skills required for successful career launches. These plans answer what the Alfred P. Sloan Foundation has called a growing national need for mentoring and advising to help highly trained young scientists find rewarding career paths.
- The Graduate School also will launch a study to determine how best to advance teaching skills among graduate teaching assistants, with an eye toward creating a teacher certification program. Teaching assistants already attend required training sessions and may take advantage of additional instructional

resources through their departments and the Center for Teaching. But further development could ultimately improve the classroom experience for all students. Similarly, the Graduate School will examine new approaches to teaching research ethics.

Cultivating Important Programs

Given outstanding faculty resources and current financial realities, it is essential that the campus becomes even more collaborative in academic offerings. This approach will help UMass Amherst remain competitive at the graduate level – and will prepare students with competitive knowledge and skills. With recently approved graduate certificate protocol, there is a structure in place to develop additional certificate programs, the nation’s fastest-growing area of graduate education. The campus foresees potential to grow these highly demanded graduate certificate programs into interdisciplinary degree programs and other initiatives. The campus will pursue additional grants for Integrative Graduate Education and Research Traineeship programs, and will develop integrative centers and institutes. UMass Amherst likewise will explore the possibility of establishing a Professional Science Master’s Degree – a program initiated by the Alfred P. Sloan Foundation, and expanded by the Council of Graduate Schools, that allows students on selected campuses to pursue advanced training in science or mathematics, while simultaneously developing workplace skills highly valued by employers. These and other initiatives not only promote the sharing of common areas of research and instruction, but foster new knowledge to benefit students in a world of complexities.

International efforts will remain a priority among graduate degree programs. The Graduate School anticipates that the Graduate Council of the Faculty Senate might soon adopt a formal plan for creation of double-badged degree programs modeled on French Cotutelle agreements; this would speed development of innovative offerings with partner institutions in foreign countries. The Graduate School also expects to sign memos of understanding with universities in Afghanistan and Azerbaijan that will focus on research opportunities, and on student and faculty exchanges. The campus will step up efforts to recruit promising students into graduate programs from countries around the world.

The Five Colleges collaboration – including UMass Amherst, Amherst College, Hampshire College, Mount Holyoke College and Smith College – will continue to be a uniquely important factor in advancing graduate education on campus. This collaboration increases program quality and vitality, and ensures access to a broad and diverse curriculum. The forms are varied, ranging from Five Colleges graduate level programs to Five Colleges interdisciplinary programs, certificates and centers. Each has been shaped by faculty who regard cooperation as a vehicle for enhancing or sustaining offerings. The Five Colleges Astronomy Department and the Five Colleges Graduate Program in History are two outstanding examples of ongoing cooperation among area scholars. Members of the Five Colleges faculty also serve on dissertation and thesis committees, providing a direct and concrete benefit to graduate students. The partnership also allows graduate students to take courses on other campuses, share libraries, access faculty – and even use free bus service between campuses.

Maintaining High Standards

Data expected from the National Research Council, along with additional assessment and survey findings, will inform plans for graduate degree programs. Yet the Graduate School is moving ahead with important efforts to maintain quality through stringent standards for programs, faculty and students. The Graduate School will analyze the system for maintaining integrity in the award of academic credit; trends toward online degree programs, integrative programs and degree programs that involve partner institutions warrant such analysis. The Graduate School recently developed, and the Graduate Council approved, new standards governing admittance to the graduate faculty; methods for monitoring graduate faculty status also have been established. These quality controls are important, especially as the campus seeks new collaborations with colleagues from the Five-Campus University System and from the Five Colleges partnership.

IV. Assessment of Student Learning

Description

The University of Massachusetts Amherst takes a multifaceted and systematic approach to student learning assessment – addressing assessment questions at the course, program and institutional levels. Understanding student learning, and the factors that influence it, is a complex task. Thus, the campus uses a comprehensive assessment approach, incorporating various forms of evidence to reflect core elements of student learning. This evidence falls into three categories: process (or delivery) indicators, which focus on how curriculum and instructional opportunities are structured and delivered; indirect indicators of student learning, which provide evidence of students’ perspectives on their learning experiences and how much they think they have learned; and direct indicators, which reflect direct evidence of student performance ([Assessing Student Learning: Core Measurement Components](#)). This approach makes it possible to triangulate evidence of student learning and to analyze the effectiveness of the University’s efforts to facilitate student learning from multiple perspectives.

Academic assessment efforts are guided by the Office of Academic Planning and Assessment (OAPA), which was established in 1993. The office staff collaborates with faculty, Student Affairs research, the Office of Institutional Research (OIR), Faculty Senate councils, the Center for Teaching and other members of the University community to support assessment efforts designed to inform teaching and learning practices on campus.

Since the Fifth Year Interim Report, the campus has continued to build upon strengths of the “Student Life Cycle,” expanded to include both undergraduate and graduate students’ experiences, and “Curricular and Program Improvement” assessment components. Also enhanced is a third component: assessment focused on institution-wide issues, such as the Community, Diversity and Social Justice (CDSJ) climate study focused on the experiences of undergraduates, graduates, faculty and staff at the University (See <http://www.umass.edu/oapa/oapa> for more information about these three components).

Evidence and analysis methods are varied. They include, for example, qualitative content analysis of focus group and open-ended survey data, scoring of student work and analysis of course syllabi, and quantitative statistical analyses of survey data and student performance and persistence. UMass Amherst assessment methods have reached a level of maturity allowing for longitudinal and trend analyses of students’ performance and students’ experiences. Assessment efforts include both internal tools specific to UMass Amherst, some of which are discussed below, and tools that provide external benchmarking, including Delaware Study Data, National Survey of Student Engagement (NSSE), Admitted Student Questionnaire (ASQ) and American Council on Education/Cooperative Institutional Research Program (ACE/CIRP) freshman survey.

Progress continues in engaging more individual faculty and departments in assessment, with particular attention focused on addressing the assessment needs of academic departments and the General Education program. To illustrate, descriptions are provided regarding enhancement of two elements of Program-Based Curricular Assessment efforts – Department-Based Assessment and General Education Assessment.

Program-Based Assessment

The 1998 UMass Amherst Self-Study stated the following about department-based assessment:

“While the campus has made progress in creating planning and evaluation systems that are relevant to institutional questions and concerns, it has not made as much progress in building capacity at the departmental level. Activity at that level is expected to grow, but it will take time and a consistent encouragement by campus leaders.”

Since then, the campus has made a substantial commitment to improving and enhancing assessment resources and activity at the academic program level. These efforts fall into two categories: 1) a focus on ensuring that evidence collected and analyzed centrally is useful and informative to individual programs; and 2) emphasis on establishing and assessing learning outcomes.

Campus-Wide Assessment Tools

- **Instructional Benchmarks**

UMass Amherst has a long history of collecting evidence about the quality of the UMass student experience and using this information to inform institutional practices. Feedback from academic departments, however, indicated that the aggregated campus-wide data was not very useful in informing practices. Instead, departments sought information specific to their students, their majors, and other students they teach and advise. Department heads also expressed a need for assistance in interpreting results and understanding what evidence suggested about programs, particularly in comparison to other UMass Amherst departments.

In response, the Office of Academic Planning and Assessment synthesized the results of three separate sources of evidence about the undergraduate student experience and developed an “[Instructional Benchmarks](#)” report that details students’ ratings of their experiences in their major ([Senior Survey](#)), their experiences in courses ([the Student Response to Instruction \[SRTI\] instrument](#)), and students’ educational experiences and perceived learning gains ([Senior Survey](#) and [National Survey of Student Engagement \[NSSE\]](#)) organized by department. This Instructional Benchmarks document makes it possible for departments to understand more about the quality of the experience for their majors ([Senior Survey](#) and [NSSE](#)) and the quality of instruction experienced by students they teach, whether as majors, in General Education courses, or through other electives or “gate keeping” courses. The document also allows departments to explore how their students’ experiences compare to the experiences offered in other departments. OAPA has drawn from this model to report on the graduate student experience as well [Graduate Student Assessment Activity](#).

This information is used for a number of purposes. The Provost’s Office uses this evidence for ongoing quality assessment, to help inform the allocation of instructional resources, and to focus on program improvement in conversations with deans and departments. Departments are also asked to directly address these results in the Academic Quality, Assessment and Development (AQAD) self-study [AQAD Addendum to Guidelines](#).

In addition, individual departments use the Benchmark results to identify areas for improvement. In fact, results from a recent review of departmental responses based on Benchmark results shows that 76 percent of departments have made improvements to the undergraduate experience informed, at least in part, by the results of the Instructional Benchmarks (See [Departmental Responses to Institutional Benchmarks for Program Improvement](#)). Many of these departments – a total of 68 percent – have focused on making changes to their advising system, such as dedicating a specific individual to help with advising, changing the space where advising takes place, and increasing other types of communication with students. Departments have also focused on curricular changes. For example, the Chemistry department noted that their majors reported that coursework offered few opportunities to practice the skill of synthesis. In response, the department rearranged course sequencing in the curriculum to provide more opportunities for students to practice synthesizing in advanced courses. Other responses have occurred at the college level. For example, the College of Social and Behavioral Sciences (SBS), which had a number of departments with low rankings in the Senior Survey, developed a Teaching Quality faculty committee that was dedicated to improving the academic experience for students in that college.

- **Course Evaluation**

The Student Response to Instruction (SRTI) course evaluation instrument, which was described as a pilot project in our 1998 Self-Study, is now used by all departments at the University. It has two purposes: to

provide formative assessment information to individual faculty members to help them develop as instructors; and to provide summative information to department heads and personnel committees to inform promotion, review and tenure decisions. As is the case on many campuses, UMass Amherst instructors, department heads and personnel committees might at times find it challenging to appropriately evaluate quantitative results. For instance, they might make too much of very small differences in means, aggregate data, or make inappropriate comparisons, etc. As the office responsible for the instrument's development, administration and analysis, OAPA continues efforts to address these challenges and to promote the appropriate use of these data.

The most recent improvement effort arose, again, from instructor and department head requests and was developed in collaboration with the SBS Teaching Quality committee described above. A [new reporting mechanism](#) was developed to show instructors how their results compare to those of other instructors teaching courses of similar enrollment in their department, in their school/college and campus-wide. This new reporting system helps individual instructors, department heads and chairs, and personnel committees make appropriate comparisons. The new system also makes it possible for departments to compare results with those of other departments within a school/college and campus-wide.

Student Learning Outcomes Assessment

- **Departmental Assessment**

As a part of the campus-wide program review process, ([AQAD](#)) departments are asked to describe their student learning outcomes, provide evidence of how such outcomes are measured, and describe how this information is used in reviewing or evaluating program curricula and faculty. As the campus enters the second cycle of these reviews, the administration has asked departments to increase focus on the quality of the student experience and on evidence of student learning. This increased focus takes many forms. Departments are now asked to incorporate the results of the Instructional Benchmarks report into the AQAD self-study, and these results are shared with the external review team.

Departments are also asked to review their current Student Learning Assessment practices and identify next steps for enhancing those efforts. To facilitate this effort, OAPA reviewed each department's previous AQAD self-studies and their current websites. This information was used to describe the department's current assessment activity and to generate a preliminary inventory of assessment practices for each department (See [Program Assessment Inventory Example](#)). Each department received a preliminary inventory in fall 2008 and was encouraged to update the inventory with additional information that might not have been available through the two sources used to develop the inventory. To provide guidance to departments in advancing their student learning assessment activity, the Provost's Office in December 2008 sponsored a Program-Based assessment workshop conducted by Dr. Barbara Walvoord, an expert on assessment and effective grading and professor emerita at University of Notre Dame. Eighty percent of invited departments sent representatives to this workshop, at which Dr. Walvoord used the Inventory framework to provide departments with manageable methods for assessing student learning.

Departments were asked to provide updates on their assessment plans by May 2009. These updated assessment plans show that 89 percent of departments have established learning objectives for their majors. Another 4 percent are in the active process of developing those objectives (See [E-Series 1.a](#)). In addition, 74 percent of departments are in the process of implementing their plans and another 19 percent are currently developing their plan. Departments are using a range of direct and indirect assessment methods. These include, for example, the Instructional Benchmarks described earlier, analysis of student writing samples from the Junior Year Writing course, systematic review of Capstone projects and alumni survey results. Descriptions of department assessment plans as well as examples of how they have used teaching benchmark results to inform departmental improvement are available at [Undergraduate Program Assessment](#).

The administration provides other means of assessment support to departments through the resources of OAPA. These include Course-Based and Program-Based Assessment Handbooks that provide straightforward guidance on developing and implementing an assessment plan ([Assessment Tools](#)) assistance with conducting student focus groups about the experience in a department, and individual assessment consultation.

- **A Focus on General Education**

As described earlier, a joint faculty and administration General Education Task Force (GETF) recently completed a major review of the UMass Amherst General Education program. The Task Force reviewed a number of aspects of General Education ([General Education Task Force Focus](#)) and used various forms of evidence to inform its work. This evidence included the student perspective, provided through focus groups and survey; course characteristics, with descriptives including course enrollment, student characteristics, percent enrolled for General Education credit, and pedagogy information through syllabus analysis; the instructor perspective, including a General Education instructor survey asking which General Education learning objectives are addressed in their course(s), the challenges they face in teaching General Education, and their recommendations for improvements in General Education; and the administrative/governance perspective, based on interviews with General Education Council members (to see results of this research go to [General Education Assessment](#)). The Task Force also reviewed the recommendations and findings from the national Liberal Education reform effort led by the Association of American Colleges and Universities (AAC&U), the research on learning and its implications for course and curricular design, and the General Education practices and curricular designs used at other large research universities.

These results were shared broadly through a campus-wide workshop for General Education instructors and in a planning workshop for members of all the councils and committees with responsibility for aspects of the undergraduate academic experience. To further the conversation on assessment, the Provost's Office hosted a workshop with Dr. Barbara Walvoord for the General Education Task Force and the General Education Council to discuss future assessment strategies.

The renewed General Education purpose statement and the General Education Task Force recommendations draw directly from the review of these varied forms of evidence and the opportunities to discuss them with various members of the University community (See [Final Report from General Education Task Force 2007-2009](#))

Appraisal

UMass Amherst has an advanced assessment program – one that is systematic, diverse in methods, and inclusive of a broad range of programs, questions and participants. Two important hallmarks of the program are sophistication of evidence gathering and reporting mechanisms, and the capacity to adapt assessment tools, methods and reporting mechanisms to address faculty and departmental needs. In addition, the academic administration shows its commitment by investing in varied assessment tools – both those developed in-house and those developed nationally to provide external benchmarks – and providing support for OAPA and various assessment-related faculty development activities. The administration is committed to engaging faculty in assessment efforts and, over time, has increased the number of faculty members who attend annual assessment workshops or participate in other types of assessment activity, for instance, General Education Task Force, General Education Fellows, internal assessment projects and externally funded assessment research.

The institution has consciously sought opportunities to use assessment results to drive decision-making and to create feedback loops through which evaluation shapes planning. The campus also continues to increase integration of evidence into decisions regarding program improvements and distribution of resources at the institutional level, for example, the First Year Experience focus, General Education review, Instructional Benchmarking and Program Review. Such use is encouraged at the department/program level through continued efforts to make the results more accessible and useful.

Student learning outcomes are currently assessed primarily through student self-report mechanisms, such as the National Survey of Student Engagement (NSSE), or through a department's major-specific outcomes assessment. UMass Amherst has initiated pilot assessment projects that focus on campus-wide learning outcomes, such as those associated with the General Education program. Specifically, OAPA has piloted three different methods for assessing writing at the Junior level (See [UMass Amherst Writing Assessment Pilot Project](#)) and has worked collaboratively with researchers on the assessment of diversity-related outcomes (See [Multiversity Intergroup Dialogue Research Project](#)). The campus is well-positioned to move forward in direct assessment. Among the factors supporting this evolution are: assessment requirements are embedded into the AQAD program review process; departments have advanced in designing assessment methods for programs; work of the General Education Task Force and its interest in ongoing review/assessment of the effectiveness of the General Education program; and a growing cadre of faculty with an interest and/or expertise in student assessment.

Finally, UMass Amherst has gained a leadership role on assessment issues, serving as an assessment resource for other campuses in New England and nationwide. UMass Amherst faculty and staff have presented on assessment practices at various regional and national conferences. The campus has developed a national presence through dissemination of the University's very popular handbooks on [Course-Based Review and Assessment](#) and [Program-Based Review and Assessment](#); these resources are used by a number of colleges and universities across the country. UMass Amherst also has developed regional visibility through campus collaboration with the only regional assessment organization, the New England Educational Assessment Network (NEEAN). The campus hosts an annual conference for NEEAN, and the UMass Amherst Director of Assessment serves as the organization's President.

Projection

The University will continue to support and encourage department-based student learning assessment activity, and the administration will ensure that this activity is incorporated into the AQAD program review process. The campus also will continue current assessment activity as it remains useful to the various internal and external constituencies, and will adapt these resources as needed.

To further enhance the University's student learning assessment program, the campus will focus on student learning outcomes associated with General Education through participation in the Voluntary System of Accountability (VSA). The campus also will pursue a home-grown assessment strategy that incorporates the participation of instructors and uses authentic course-based evidence to determine students' performance on key General Education learning objectives.

Institutional Effectiveness

Over the past decade UMass Amherst has sharpened its focus on evaluating the effectiveness of its academic programs, and now has in place a broad and well-coordinated strategy for evaluation and quality improvement. Evaluation tools have been developed to provide insight into quality at all levels: courses, programs and the institution as a whole. More important, the results of these evaluations are used to make specific improvements in quality and effectiveness. As the campus has adapted to a rapidly changing financing structure, evaluation tools have increasingly been integrated and used to inform curricular, program, and resource planning. The campus has also turned an important corner in understanding student learning outcomes. Most programs have well-articulated learning goals, and are developing effective strategies for measuring their attainment and using the results to improve the educational process.