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TOPIC B: Introduction

A. Context

The second topic of the University of Maryland’s self-study covers Standards 10-14. These five standards focus on the heart of the University’s academic enterprise—the quality, breadth, accessibility, oversight, and assessment of the institution’s educational offerings, and the ability of its faculty to meet those standards. As discussed in Topic A, the developments and challenges of the past ten years have had a substantial impact on the University’s complex educational enterprise. Therefore, the study of Standards 10-14 is done in the context of significant changes to our undergraduate, graduate, and professional curricula and to our faculty as a result of these constraints. At the same time, many changes in our programs and faculty over the past ten years were enacted through deliberate strategic processes based on our institutional mission and goals.

The studies of our Middle States review working groups detail many of these important changes and provide significant data on how we conduct our educational enterprise. Portions of their findings are included as appendices. Their reports recognize that the University is a complex academic institution. As the flagship institution of the University System of Maryland, UM has a distinct role as a public research-extensive institution within the state and the region. As producers of knowledge, we share our research, teaching, artistic endeavors, technology, and facilities with various communities, whether in terms of our traditional land-grant status or in emerging areas of entrepreneurial research and teaching. In short, the University serves and collaborates with many constituencies in a range of different roles.

B. Strategic Areas and Issues

This second topic of the self-study highlights the principle strategic developments that have influenced the effectiveness of our faculty and our educational offerings over the past decade. The body of this report responds to the following dynamic tensions that mark change in institutional foci in two related areas—Faculty and Educational Effectiveness, and Educational Offerings and Effectiveness.

1. Faculty and the Modern Research University

- The University’s Mission and Goals Statement emphasizes continued excellence and national/international recognition of faculty scholarship, research, and creative endeavors. In broadly studying faculty excellence and recognition, the self-study considers the changing composition of the faculty over the past ten years, particularly the slight decrease in the number of tenured/tenure track (T/TT) faculty. What impact, if any, has this change had on the enhancement of faculty research, scholarly and creative output?
• What significant changes have transpired in how the University measures and assesses faculty productivity and excellence across the wide range of academic disciplines and interdisciplinary fields? How does the University tie the measurement of quality and excellence to the allocation of resources?

• Concomitant to the analysis of faculty excellence, and particularly to the success of junior faculty, is how the University attends to quality of life issues. What significant steps has the University taken to address the balance of scholarship, creative activities, teaching, and service? How does the University foster a balance with other parts of a faculty member’s life?

• Faculty have the primary responsibility and oversight for the University’s academic programs and educational enterprise. How does our changing faculty meet the challenges of producing first-rate scholarship, while maintaining and developing outstanding academic programs? Is the whole of our faculty sufficiently prepared to achieve excellence in teaching? How does the University assess teaching excellence and ensure that evaluation leads to continual improvement?

• The University values diversity in faculty, staff, students, and academic programs as a cornerstone of its institutional mission. Consequently, the University is strongly committed to increasing the racial, ethnic, and gender diversity of its faculty. How has the University developed and implemented comprehensive strategies that match this commitment? Have the results been quantifiable in terms of appointment, retention and promotion of women and people of color?

2. Educational Offerings and Effectiveness

• The University has made progress towards achieving its goal of becoming the undergraduate educational institution of choice for the best Maryland students. Similarly, the University has strived to increase the excellence of its graduate programs and to recruit and develop outstanding graduate students. What challenges does the University face in continuing to meet these goals for first year, transfer, and graduate students?

• Parallel to the focus on quality has been that of quantity, expressed in the most general terms as how to increase our degree completion numbers and decrease time to degree. Retention and time to degree for both undergraduate and graduate students are important focal points in enhancing our educational offerings. What have been the significant institutional developments and challenges in this regard?

• The growth of interdisciplinary programs has been encouraged in teaching and research. In many ways, this growth represents the institutional response to significant shifts in the non-academic world. Nevertheless, interdisciplinary programs remain at odds with the notion of “traditional” academic disciplines. How has the University responded to these changes both in undergraduate and graduate programs?
Similarly, the integration of new technologies into the curriculum has been an important strategic focus. How successful has the University been at keeping pace with rapidly changing technology, learning resources, and instructional equipment? How much progress have we made towards systematically integrating the use of information technology into our instructional programs and allowing faculty and students to utilize fully new technologies to enhance teaching and learning?

Over the past ten years, a growing portion of our academic enterprise has turned to the development and implementation of programs for non-traditional audiences, to meet particular needs for advanced workforce training, or to offer programs in other locations. These developments include new types of study abroad programs, undergraduate and graduate degrees at the Shady Grove regional center, and graduate and professional degree programs in the state, regional, and global arenas. How does the University provide quality oversight associated with campus programs with those needed for the growing off-site offerings?

The University has a strong institutional structure for programmatic and curricular oversight. Over the past several years, increasing administrative emphasis on the assessment of student learning has required faculty to re-examine programmatic goals in a new context of outcomes assessment. However, a change in assessment methods can be meaningful only if it is accompanied by a change in culture, which requires strong faculty support. How have the changes in our formal assessment methods influenced how we think about assessment in general? How has it changed the ways we use the resulting data?

Having just commemorated its 150th anniversary, the University is now beginning a new strategic planning process as discussed in the first part of this self-study. This planning process undoubtedly will reaffirm portions of the traditional academic enterprise, but also may require the University to rethink other portions of the educational model for a modern research university. The University regards the Middle States review process as a great asset to the strategic planning initiative. The self-study exercise, in particular, provides an opportunity to assess the broad spectrum of our research, scholarly, and educational enterprises, gauge their effectiveness in fulfilling our mission and goals, and present recommendations for the future.

V. The Faculty

This discussion of the faculty will be framed within the context of two aspects of our strategic plan: (a) to become a preeminent public research university providing excellence in scholarship, research, and teaching; and (b) to foster diversity by incorporating it into the curriculum, research agenda, and composition of our faculty and students. The University has accomplished these goals through a series of independent enterprises. As will be discussed in the following sections, at this critical juncture, we are beginning to systematize the policy and data infrastructure, in order to understand the impact of the changing composition and roles of the faculty.
A. The University of Maryland as a Modern Research University: Faculty Research and Scholarship

A fundamental component of the University’s mission and strategic plan has been to assure that faculty throughout the institution are of the stature to achieve national and international recognition in their disciplines. The University has also sought to develop preeminent disciplinary programs and provide for new scholarly opportunities for faculty and students that go beyond the “classic” disciplines of a university. These efforts have led to increased recognition of the quality of our research and graduate programs, including significant increases in the number of programs ranked highly in the annual reputational surveys of U.S. News and World Report. In 2005, thirty-one graduate programs or program specializations were ranked in the top ten and ninety-two in the top twenty-five (Appendix B-1). These rankings are only one indicator of change and may reflect increases in research funding, major awards and fellowships, and in the development of new centers and institutes devoted to scholarly activity and education. These changes have also prompted the development of a new online Faculty Activity Reporting (FAR) system (described in Topic A, Section IV.C and Appendices A-19a, b, and c) that will facilitate compilation of our data and increase the University’s ability to understand and assess the impact of our investment in faculty and programs.

1. Research Funding and Productivity

In his 2006 Testimony to the Maryland General Assembly, President Mote stated, “The investment we make in our faculty and programs of high impact is leveraged into significant external funding and national/international recognition.” The President cited examples such as a grant for the development of an interactive supply chain system for the U.S. military by an interdisciplinary team under the auspices of the Center for Public Policy and Private Enterprise. Faculty expertise in second language acquisition played a significant role in the selection of UM to host National Foreign Language Initiative Programs in Arabic, Persian, and Russian. The National Science Foundation (NSF) renewed the University’s Center for Mathematics Teaching and Learning, and the new Joint Institute for Knowledge Discovery was established in UMIACS for the development of innovative approaches to finding knowledge in large-scale data stores as well as data and text repositories. Other recent examples are described in Topic A, Section II.B under initiatives 2 and 4, and in Appendix A-5.

The University has a strong record of funded research activity that continues to show healthy growth over time and across academic fields. Table 2.1, taken from the most recent National Science Foundation (NSF) Academic Research and Development Expenditures report, shows that our institution-wide science and engineering research expenditures increased from close to $216 million in FY97 to over $325 million in FY04.1 Longitudinal data from OIRP on college-based research expenditures show that ENGR increased from approximately $45 million

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in FY98 to over $73 million in FY06. In that same period, CMPS moved from close to $49 million to more than $81 million. CLFS R&D expenditures climbed as well, from $10.5 million to more than $17 million.

The University has made a commitment to enhance its work in the life sciences, and expects to strengthen its research funding accordingly, although NIH funding is becoming much more competitive. Steps in enhancement include the establishment of such research centers as the Maryland NanoCenter (Appendix A-5.4), the Center for Bioinformatics and Computational Biology, and the Center for Biomolecular Structure and Organization. Other steps include the imminent completion of the new Bioscience Research Building, the establishment of the Bioengineering Department and associated programs, and the current development of a School of Public Health.

Table 2.1: NSF Science and Engineering R&D Expenditures at UM in thousands of dollars for Fiscal Years 1997-2004

<table>
<thead>
<tr>
<th>FY</th>
<th>1997</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>SciEng</td>
<td>215,927</td>
<td>223,190</td>
<td>257,628</td>
<td>252,429</td>
<td>267,383</td>
<td>324,980</td>
<td>321,899</td>
</tr>
</tbody>
</table>

These activities are not confined to the sciences. Within the last decade, research funding has also grown significantly in other areas. For example, the most recent (FY2004) NSF R&D data (Table 2.2) show UM ranked second nationally in research expenditures in the social sciences. Over three years, our R&D expenditures in the social sciences increased by over $18 million. In FY 2004, the Department of Economics accounted for over $19 million in expenditures, ranking number one in the nation.

Table 2.2 NSF Social Sciences R&D Expenditures at UM in thousands of dollars for Fiscal Years 2001-2004 with Subfields for 2004

<table>
<thead>
<tr>
<th>All social sciences</th>
<th>Economics</th>
<th>Political sciences</th>
<th>Sociology</th>
<th>Social sciences, nec</th>
</tr>
</thead>
<tbody>
<tr>
<td>U. MD College Park</td>
<td>61,208</td>
<td>62,573</td>
<td>70,485</td>
<td>79,872</td>
</tr>
</tbody>
</table>

Table 2.3 shows research expenditures in non-science fields in FY2004. The $25 million reported for the University of Maryland is the twelfth largest amount nationally, and is in addition to the $325 million reported in S&E fields. The $10 million reported for the humanities is second nationally. The $9.6 million reported for education is eighteenth. The OIRP longitudinal data shows that R&D expenditures in the College of Arts and Humanities (ARHU) increased from a little over $1 million in FY98 to close to $11 million in FY05. Much of this comes from the research expenditures in the foreign languages, and in particular in the National Foreign Language Center. (Very significant additional foreign language funding associated with the Center for the Advanced Study of Languages (CASL) is not included in the ARHU figure, for technical accounting reasons.) In the same period, OIRP reported expenditures in EDUC increased from under $6 million to over $14 million. (Note: OIRP and NSF figures are not directly comparable because of different definitions used.)
Table 2.3 NSF Academic R&D Expenditures in Non-S&E Fields in thousands of dollars for Fiscal Year 2004

<table>
<thead>
<tr>
<th>Rank</th>
<th>Institution</th>
<th>All S&amp;E R&amp;D expenditures</th>
<th>Total</th>
<th>Business and management</th>
<th>Communications, journalism, and library science</th>
<th>Education</th>
<th>Humanities</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>U. MD College Park</td>
<td>325,648</td>
<td>25,125</td>
<td>3,536</td>
<td>1,729</td>
<td>9,668</td>
<td>10,192</td>
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</table>

Also in the College of Arts and Humanities, the Clarice Smith Performing Arts Center (CSPAC), which houses the School of Music and the Departments of Dance and Theatre, received a $1.125 million grant from the Doris Duke Charitable Foundation in 2006. CSPAC was one of only three institutions to be awarded a grant as part of the Foundation’s new Leading College and University Presenters Program.

2. Major Awards and Fellowships

Across disciplines, faculty members are being recognized nationally and internationally. A particularly exciting event in 2005 was the award of the Nobel Prize for Economics to Thomas Schelling of the Department of Economics and the School of Public Policy, the third Nobel Prize to be awarded to a faculty member of the University of Maryland. This was followed recently in 2006 with the award of the Nobel Prize for Physics to John Mather of NASA-Goddard, who is an adjunct faculty member. Other major awards received by University faculty members in the last few years include the Japan Prize, awarded to James Yorke in 2003, and the Wolf Prize to Sergei Novikov. Queen Elizabeth II recently bestowed the Royal Medal on Michael Fisher. In addition, two faculty members (Benjamin Barber, Government & Politics and the School of Public Policy; David Poeppel, Linguistics and Biology) won the Berlin Prize (2001, 2004). In 2001, two faculty were awarded the prestigious Packard Fellowship (Victor Muñoz, Chemistry and Biochemistry and Sarah Tishkoff, Biology). Dr. Earlene Armstrong was recognized by the National Science Foundation with the U.S. Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring.

Many other honors and recognitions have been bestowed on Maryland faculty. Among the most recent was the Computerworld Horizon Award for cutting-edge technologies, awarded to the Institute for Advanced Computer Studies (UMIACS) in recognition of OASYS, a unique system for online opinion analysis developed under the leadership of Professor V.S. Subrahmanian. Another was to Michael Olmert (English Department) who won his third Primetime Emmy for documentary screenwriting. The University also has numerous Pulitzer Prize awardees in various fields. Table 2.4 enumerates the national academy memberships of University faculty, which have increased over the past decade.

Table 2.4: National academy memberships of UM faculty

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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Am. Acad. Arts &amp; Sciences</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nat'l Acad. Engineering</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>10</td>
<td>12</td>
<td></td>
<td></td>
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<tr>
<td>Nat'l Acad. Sciences</td>
<td>6</td>
<td>8</td>
<td>10</td>
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<td>11</td>
<td>11</td>
<td>11</td>
<td>12</td>
<td>12</td>
<td>14</td>
<td>14</td>
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<tr>
<td>TOTAL</td>
<td>9</td>
<td>15</td>
<td>18</td>
<td>22</td>
<td>24</td>
<td>26</td>
<td>30</td>
<td>36</td>
<td>40</td>
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</table>
The challenge to a modern research university is to achieve the appropriate balance between a research enterprise and the core mission of the university—the education of students. In the past decade, this challenge to the University was exacerbated by an unfavorable fiscal climate that forced us to make some difficult strategic decisions regarding our educational and research enterprises. We concluded, however, that research should not be seen as a competing need, but rather as a source of enrichment of undergraduate and graduate education that could enhance both fiscal resources and programmatic offerings.

B. The University of Maryland as a Modern Research University: Excellence in Instruction

An integral part of the balance between the research and instructional enterprises of the University is to set the instructional expectations in terms of quantity and quality. The instructional workload for University tenured/tenure-track faculty is subject to workload policy guidelines established in 1994 and amended in 1999 and 2004 (Appendix B-2). The University’s instructional workload was initially set at 5 course units per year. This was raised in 2004 to 5.5 course units (Appendix B-3) as the Board of Regents addressed issues of meeting educational capacity in the State. Course load varies by campus (Appendix B-4), in accordance with the mission of each of the USM institutions.

While it may appear that a 5.5 unit workload is onerous at a research-extensive institution, the Board of Regents’ policy recognizes that the differential assignments of instructional, research, and service responsibilities maximize the effectiveness and efficiency of individual departments and affect how each department contributes to the institutional mission. Thus, the focus of external accountability should be “the department or academic unit and not the individual faculty member.” Additionally, the policy stipulates that “course units” include non-classroom instructional activities, important advantages that students have as part of the research mission of our University. These include dissertation and thesis supervision, individual study courses, and exceptional advising.

1. Faculty Performance Assessment and Development in Teaching

Faculty accomplishment in teaching is an integral component of salary merit decisions and promotion reviews. Faculty teaching performance is assessed in several ways. The revised APT process requires that peer-reviewed documents and results of student course evaluations be included in the APT materials, and recommends the submission of a teaching portfolio that includes the faculty member’s course syllabi, student evaluations, and other indications of educational creativity and accomplishment (Appendix B-5, pages 45-46; and Appendix B-6). While most units have been requiring reviews of courses for many years, and have used the resulting data as part of APT decisions, a policy adopted by the University Senate in 2004 now requires the student evaluation of every course (Appendix B-7) taught at UM. In 2006, the policy was modified (Appendix B-8) to accommodate the development of an online course evaluation instrument, still in the pilot phase.
The University is committed to promoting quality teaching and has undertaken several actions to provide feedback and mentoring to junior faculty to enhance their effectiveness and the likelihood of their promotions in the APT process. For example, the revised APT policy now recommends that teaching consultations be included in the mentoring of junior faculty (Appendix B-9). The Office of Faculty Affairs hosts an orientation program for all new faculty, mentors new faculty through the “Terps Teaching Tips” electronic messages, and publishes an Annual Teaching Guide (Appendix B-10) listing relevant teaching policies and information about ordering textbooks, preparing syllabi, etc. All faculty may also take advantage of programs developed by the Center for Teaching Excellence (CTE) (Appendix B-11), the Lilly-CTE Fellows program (Appendix B-12) and the Academy for Excellence in Teaching and Learning (Appendix B-13).

Teaching assistants are integral to the University’s ability to deliver quality instructional programs. Therefore, the University also emphasizes the evaluation and development of TA performance. All programs assess TAs with considerable input from the Center for Teaching Excellence. All TAs are provided with a TA Resource Guide (Appendix B-14). CTE collaborates with the Graduate School and the Office of Undergraduate Studies to provide the University Teaching and Learning Program for TAs considering academic teaching careers. In addition, the Family Studies Department participates actively in the Preparing Future Faculty program.

2. Honoring Excellence in Teaching

The University has many programs to honor excellence in teaching for both individual faculty and academic units. In addition to the Distinguished Scholar-Teacher award for senior faculty discussed below, individual instructor honors include the Distinguished Teaching Assistant Award (Appendix B-15). The Kirwan Undergraduate Award recognizes faculty or staff who have made exceptional contributions to the quality of undergraduate education at the University. Most colleges designate teaching awards for both junior and senior faculty as well as for teaching assistants. Teaching awards for academic units include the CTE-Lilly Fellows Departmental Award for Excellence in Teaching and Innovation in Undergraduate Education (Appendix B-16). Our faculty also have garnered USM teaching awards and national CASE Teacher of the Year awards.

C. The Changing Faculty

1. Faculty Titles and Responsibilities

The diverse missions of the University are reflected in the types of faculty positions that have been redefined since the last Middle States review. The changes in the fiscal climate and strategic goals are reflected in the relative distribution of faculty within these positions. Currently, there are four major groups of faculty at the University: (a) tenured/tenure-track (T/TT) faculty; (b) instructors and lecturers; (c) research faculty; and (d) library faculty. These faculty members are responsible for carrying out the University’s missions of education, scholarship, and service to the community. Other faculty, including Professors of the Practice, College Park Professors, and adjunct faculty play important special roles as described below.
Details of faculty titles and the corresponding responsibilities and regulations are described in the Appointment, Promotion and Tenure (APT) Manual (Appendix B-5, page 6). The University has carefully considered, highly detailed, and strictly enforced policies concerning the recruitment, hiring, tenure, and promotion of faculty. These policies are consistent with and expand upon the corresponding USM policies. Both USM and UM policies are periodically reviewed and revised as needed. The most recent review culminated in 2004 with the approval of the revised University APT policy.

Examination of the composition of the faculty over the last decade reveals two notable trends: (a) a 6% decline in tenured/tenure-track positions and (b) a growth in the number of research faculty. This shift in the balance has helped the University increase its research and educational potential while fulfilling its educational mission.

The core group of faculty at the University are those in tenured or tenure track positions (T/TT). Over 94% of these faculty hold the terminal degrees in their disciplines (Appendix B-17). T/TT faculty include Extension Agents who serve the state’s Cooperative Extension Service and who have titles that parallel the professorial ranks. Appointments and promotions are governed by UM and USM policies. There are also special designations that recognize faculty excellence, including Distinguished Scholar-Teacher (Appendix B-18), Distinguished University Professor (Appendix B-19), Elkins Professor (Appendix B-20) and Regents Professor.

The University’s APT policies have been continually revised to encompass these titles and to clarify expectations and procedures for mentoring and reviewing T/TT faculty. For example, the new APT policy require that units explicitly describe the research, teaching, and service requirements for promotion, and mentor junior faculty to help them meet these expectations.

The University and USM also created a policy delineating the hiring and employment practices and benefits for all instructional faculty (Appendix B-21). Instructors are hired through regular academic searches, and they are reviewed annually. Instructors comprise approximately 20% of the total faculty (Fig. 10.1). The University also benefits from the expertise of
professionals in the greater Baltimore-Washington, D.C. area who may serve in adjunct capacities. One noteworthy example of the quality of expertise that adjunct faculty bring to the University was mentioned above in the discussion of Nobel Laureate John Mather (Physics) from NASA Goddard. In 2005, the title of College Park Professor was added to recognize the most distinguished of our adjunct faculty and incorporate them into graduate education (Appendix B-22).

In 1998, the University created a special non-tenured faculty title, Professor of the Practice, for highly accomplished individuals from industry and government to assume faculty positions where their expertise can provide particular benefits to academic programs (Appendix B-23). Current Professors of the Practice include a former county school superintendent, a former Social Security Commissioner and the former CEO of a major railway system. The process for approval and renewal of their contracts requires provostial and presidential consent.

The Research Faculty are a rapidly growing group and comprise approximately 40% of all faculty. (Titles and descriptions are available in Appendix B-5). They consist of three types of appointments as shown in Table 2.5.

<table>
<thead>
<tr>
<th>Table 2.5: Composition of Research Faculty</th>
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<tbody>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Ranks Corresponding to T/TT Faculty Ranks</td>
</tr>
<tr>
<td>Research Associates</td>
</tr>
<tr>
<td>Faculty Research Assistants (Contractual)</td>
</tr>
<tr>
<td>Total (excluding faculty with unassigned titles)</td>
</tr>
</tbody>
</table>

The first group of Research Faculty have titles that parallel the T/TT ranks of assistant professor through full professor. These include research scientists, research engineers, research scholars and artists-in-residence. Their responsibilities include research, scholarship, and creative endeavors. Many faculty in this group work on specific research grants and contracts, but approximately 40% are also PIs on independent research grants. Some research faculty have had a long-term relationship with the University, oversee significant research portfolios, and mentor graduate students.

Research Associates are usually investigators who have recently completed the doctorate or other appropriate terminal degree, and who have come to the University for additional training within the research programs of specific faculty members. For the most part, these individuals are supported on research grants, through specific state funding, or through training grants and fellowships.

Faculty Research Assistants most often serve as technicians or have other roles on a research project. The minimum educational requirement for this title is generally a bachelor’s degree.

While all of the above Research Faculty appointments are governed by University policies, the University needs to examine the current implementation of these policies across the institution to ensure uniform application and to address issues that are unique to each constituency. A particular case in point is that of the postdoctoral population who are both
students and professionals. Individuals in the postdoctoral category are assigned a myriad of titles, with broad differences in compensation and benefits. The Office of the Vice-President for Research has been examining the status, roles, and support of postdoctorals at the University. As indicated at the outset, the University has experienced appreciable growth and productivity in its research faculty. This change necessitates a review of relevant policies and practices to ensure that they appropriately address the implications of this growth.

In addition, of the 267 librarian positions, 43 (Librarians II-IV) have appointments analogous to those of T/TT faculty. They hold the M.L.S. degree from an American Library Association-accredited program and/or a graduate degree in a specific discipline. The librarians holding these ranks have professional and managerial responsibilities. Some have positions such as curator or subject specialist, while others are in management roles. Many take part in the instructional program of the University.

2. Faculty Diversity

Diversity is integral to the excellence of the University of Maryland. This section analyzes faculty diversity with particular focus on the T/TT faculty. Diversity here is broadly defined as the full inclusion of women, racial and ethnic minorities, and individuals with different sexual orientations. In addition to studying the recruitment, appointment, retention, and promotion success for some of the groups mentioned, this section also examines factors that contribute to the general “campus climate” for all faculty. It also documents the contributions of the University to the study of diversity.

a. Gender

A goal of the University has been to increase the number of women in T/TT positions and at all academic ranks. There have been some successes along these lines in the past ten years, and continuing efforts to assure further successes. At the same time, a number of challenges beset our University as well as comparable institutions nationwide. First, there are far fewer women in the physical sciences and engineering than in other disciplines. Second, it has proven more difficult to retain women in the junior ranks than men, and for women to attain full professorships.

| Table 2.6: Composition of Tenured/Tenure-Track Faculty |
|------------------------|---------------------|---------------------|---------------------|
| Gender | Title | 1995 | 2000 | 2005 |
| Female | Professor | 106 | 30% | 120 | 31% | 134 | 33% |
| | Associate Professor | 151 | 42% | 151 | 39% | 159 | 39% |
| | Assistant Professor | 101 | 28% | 117 | 30% | 111 | 27% |
| | Total female faculty | 358 | 24% | 388 | 26% | 404 | 28% |
| Male | Professor | 624 | 54% | 576 | 53% | 553 | 54% |
| | Associate Professor | 394 | 34% | 327 | 30% | 319 | 31% |
| | Assistant Professor | 144 | 12% | 192 | 18% | 157 | 15% |
| | Total male faculty | 1162 | 76% | 1095 | 74% | 1029 | 72% |
| | Total number of faculty | 1520 | 100% | 1483 | 100% | 1433 | 100% |
Table 2.6 shows the composition of the T/TT faculty by rank and gender. Note: The percentages associated with the total female and total male faculty numbers are relative to the total number of faculty. Other percentages are relative to total female or total male faculty numbers.

From 1995 to 2005, the number of female T/TT faculty increased by 13% (358 to 404) while the number of male T/TT faculty has declined by almost the same percentage (1,162 to 1,029). In this period, women have moved from 24% to 28% in these ranks. As shown in Figure 2.2 there also has been an increase of women in Instructor/Lecturer and research positions.

A recent report published by the Council of Graduate Schools shows some indication that the national trends have begun a modest reversal in that female students have grown to represent 58% of the total graduate student population (Appendix B-24). Because women continue to comprise a small proportion of students and faculty in several scientific disciplines, the University continues to promote such responsive initiatives as the Women in Engineering Program (Appendix B-25) to recruit undergraduate and graduate students to the field. National data on women faculty in the sciences and engineering suggest that what we are seeing at the University of Maryland is not very different from national trends.2

![Percent Female in Each Faculty Group](image)

*Figure 2.2 Percentage of women in each faculty group.*

Institutional data show that there are more men in the higher than lower ranks, while the largest number of women are associate professors, and that the distribution of women, like that of men, has not changed appreciably since 1995. (See Table 2.6.) These institutional data also indicate a lower rate of retention in the assistant professor ranks and a lower rate of promotion from the associate professor ranks. (See Table 2.7.) This trend merits close attention and the development of clear strategies to ensure that women have opportunities for full professional advancement.

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Table 2.7: Percentage of Faculty Hired Between 1993-1999 with Different Tenure Outcomes

<table>
<thead>
<tr>
<th>Gender</th>
<th>Promoted</th>
<th>Denied</th>
<th>Withdrew/Resigned before tenure review</th>
<th>Pending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>49%</td>
<td>6%</td>
<td>40%</td>
<td>4%</td>
</tr>
<tr>
<td>Male</td>
<td>63%</td>
<td>7%</td>
<td>28%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Although the issue of retention of female faculty is a national one, the University should make significant efforts to reverse this trend and work towards a goal whereby retention for women in the assistant professor rank is no different from that for men. At least two factors have been identified that may be of relevance in retention of junior female faculty. The first is mentoring, and the second is achieving a balance between career and family.

Mentoring as a factor in retention was recognized in the report to the 2005 campus Task Force on Mentoring of Junior Faculty (Appendix B-9) and five years earlier in the Report of the President’s Diversity Panel (Appendix B-26, page 6). Mentoring also is an integral part of the revised APT procedures as discussed earlier. This appreciation for the import and impact of mentoring has been assimilated into the cultures of the departments and even extended to incorporate the efforts of alumni. One recent example of such a program is the mentoring award established by the Department of Counseling and Personnel Services’ College Student Personnel (CSP) graduate program in 2003 (Appendix B-27). The award honors outstanding members of the profession who exhibit excellence in mentoring between higher education professionals and graduate college student personnel students.

Similarly, the University continues to assess climate and practices to monitor the institution’s progress in eliminating barriers to faculty development and promotion. As an example, the University continues to formulate policies related to balancing work and family. The Provost, in cooperation with University Senate, set up a Task Force (Appendix B-28) in 2005 to examine family life issues. Immediately, the Task Force generated a revision of the tenure delay policy, subsequently passed by the University Senate (Appendix B-29) that automatically grants faculty a year’s extension of the tenure clock for the arrival of a new child and allows two such tenure postponements. These efforts are ongoing.

In addition, the President’s Commission on Women’s Issues, in collaboration with OIRP, has performed an intensive study of teaching loads and salary for T/TT women in three science colleges. Salaries in the three colleges were analyzed in a regression analysis against many variables, including gender, rank, time in rank, grants, publications, etc. According to the standard statistical tools, faculty rank, time in rank, grants, and publications significantly influenced the salary figures while the influence of gender was not statistically significant.

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b. Race, Ethnicity and Sexual Orientation

Parallel analyses have examined faculty demographics in relation to race and ethnicity and have produced parallel outcomes for African-American faculty. The data indicate a gradual increase in diversification of the total faculty. In 1995-1996, about 16% of T/TT faculty were people of color, while that grew to about 20% in 2000-2001, and 22% in 2005-2006. In addition, the proportion of faculty within a particular racial or ethnic group who are on T/TT lines is constant. The one exception to this trend is foreign faculty, who represent a large proportion of the research faculty. (Fig. 2.3)

![Ethnic Composition of Faculty](image)

**Figure 2.3:** Racial and ethnic composition of faculty to show the distribution of different groups in the various faculty categories. Some of the foreign faculty fall into other groups, but the data gathered by the University do not allow this to be determined.

Although the faculty have become more diverse, the University is having difficulty recruiting and retaining African-American faculty. This is a national challenge, because the total number of doctorates awarded to African-Americans is relatively small. Additionally, and again as a part of a national trend, there is a high rate of turnover among African-American faculty, particularly at the junior level. Table 2.8 shows that the highest rates of denial of tenure or withdrawal before the tenure review were among African-Americans.

![Table 2.8](image)

**Table 2.8: Percentage of Faculty Hired Between 1993-1999 with Different Tenure Outcomes**

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Promoted</th>
<th>Denied</th>
<th>Resigned/Withdrawn</th>
<th>Pending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian-American (56)</td>
<td>57%</td>
<td>7%</td>
<td>30%</td>
<td>5%</td>
</tr>
<tr>
<td>African-American (41)</td>
<td>34%</td>
<td>15%</td>
<td>51%</td>
<td>0%</td>
</tr>
<tr>
<td>Hispanic (23)</td>
<td>61%</td>
<td>4%</td>
<td>35%</td>
<td>0%</td>
</tr>
<tr>
<td>White (278)</td>
<td>60%</td>
<td>6%</td>
<td>30%</td>
<td>4%</td>
</tr>
</tbody>
</table>

The University recognizes the difficulties in recruitment and retention of minority faculty and is employing strategies to increase the future pool of minority faculty through recruitment, retention, and graduation of minority undergraduate and graduate students. Effective, sustained efforts by academic support units such as the Center for Minorities in Science and Engineering (Appendix B-30) and by departments such as Physics (Appendix B-31) to recruit minority and female students play significant roles in establishing the population of graduate students from which minority faculty emerge. Their efforts have begun to show positive
results. For example, the Department of Mathematics received national acclaim in 2000 when three African-American women graduated with their doctorates: Tasha Inniss, Sherry Scot Joseph and Kimberly Weems. Three years later, the NSF, the Henry Luce Foundation and the American Association of University Women recognized CMPS’s STAND program and the college’s commitment to diversity with awards and grants of more than $1.2 million. These funds supported the college’s comprehensive efforts to recruit, retain and more swiftly graduate talented undergraduate and graduate female and minority students. The Graduate School’s Office of Graduate Recruitment, Retention, and Diversity (Appendix B-32) works comprehensively with units across the institution to promote the academic success of minority graduate students.

As indicated above, the University periodically assesses climate issues to determine whether and how its policies and practices affect the performance of the various sectors of the campus community. One example is found in the previously mentioned Report of the President’s Diversity Panel (Appendix B-26). In response to this report, the University has developed a wide range of additional programs to understand and support virtually all minority groups on campus. Some of these efforts are housed in the Office of the Provost and include the Provost’s annual series, “Conversations on Diversity, Democracy, and Higher Education,” the publication “Diversity at the University of Maryland” (Appendix B-33); the new initiative, “Building Intellectual Community Between Undergraduate Students & Faculty Outside the Classroom Context”; and the website maintained by the Associate Provost for Equity and Diversity (Appendix B-34), which supports a web site that includes a variety of resources of campus minorities including a searchable Faculty of Color Directory (Appendix B-35). In addition, the Office of Human Relations Programs sponsors a broad range of programs that focus on wide areas of diversity that affect faculty and students. The President's Commission on Lesbian, Gay, Bisexual, and Transgender Issues (Appendix B-36) and the Center for Leadership and Organizational Change have been instrumental in expanding the institutional and community awareness and understanding of diversity as it relates to lesbian, gay, bisexual and transgender members of the campus community (Appendix B-37).

c. Scholarship of Diversity

In addition to increasing faculty and student diversity, the University has incorporated the scholarship of diversity into the goal of enhancing our overall reputation for excellence. The University already has tremendous strength in the scholarship of diversity and has established units entirely dedicated to the research, and teaching of diversity-related subject matter. These include the Departments of African American Studies and Women’s Studies, the Meyerhoff Center for Jewish Studies, the Asian American Studies Program, the Lesbian, Gay, Bisexual, and Transgender Studies Program, and the Latin American Studies Center, as well as academic programs, institutions, and centers within and across departments and colleges. Units such as the Institute for Minority Education also work collaboratively with faculty and students across disciplines on campus and in outreach efforts in the K-12 and surrounding communities. As discussed in the section on educational offerings, the University has also mandated a required general education diversity course.
One important institutional exemplar of the scholarship of diversity is the Consortium on Race, Gender, and Ethnicity (CRGE) (Appendix B-38). Established in 1998, CRGE is a consortium of academic units and individual faculty who promote and conduct research on intersections of difference. As previously discussed, CRGE also mentors junior faculty and graduate students through the Consortium of Interdisciplinary Scholars Program (CrISP) (Appendix B-39). In the advancement of the scholarship of diversity at the University of Maryland, CRGE published a “Campus Report on Race, Gender and Ethnicity at UM” in 2004 (Appendix B-40), which featured the work of more than a dozen units and more than 60 faculty significantly concerned with new conceptualizations of “diversity.” These research centers help spark and support new directions in the scholarship of diversity. For example, the Curriculum Transformation Project, which holds regular seminars to help faculty integrate new approaches to diversity into their teaching and research, held its first seminar series on disability in the summer of 2006. Similarly, the David C. Driskell Center was established in 2001 to bring together the fields of visual arts and African Diaspora studies through an active agenda of research, artistic production, community outreach and mentoring of artists and scholars of color through graduate and postdoctoral fellowships.

- **As the heterogeneous category of Research Faculty now represents the plurality of faculty at the University of Maryland, we recommend that the University review the content and implementation of policies regarding these faculty, and institute a more systematic method of classifying Research Faculty.**

- **Regarding postdoctoral fellows at the University, we propose that the Office of the Vice-President for Research in cooperation with the Associate Provost and Dean of the Graduate School should complete its examination of postdoctorals at the University of Maryland. By working with a task force that includes postdoctoral representatives, the University should develop a formal association to provide postdoctorals with peer and career mentoring and a forum to explore other opportunities.**

- **Given the relatively high rate of turnover among our minority faculty, we recommend that the University study and address this issue in order to substantially fulfill institutional goals for a diverse community.**

- **While there is growing attention paid to the mentoring of junior faculty, we recommend that the University should make significant efforts to mentor women and minority faculty to successful tenure and promotion to the associate professor level and beyond.**

**VI. Enriching Undergraduate Education**

Over the past decade, there has been steady growth in the number and quality of students applying for admission to the University. This testifies to our progress in fulfilling our institutional mission to become the university of choice for the most talented Maryland residents and outstanding out-of-state students. Between 1995 and 2005, we experienced a 50% growth in first-year applicants, from approximately 16,000 to almost 25,000. Concurrently, SAT scores at
the 75th percentile increased from 1260 to 1360. Typical first-year students in 2005 had an un-
weighted high school GPA over 3.86, in contrast to their 1995 counterparts with an average of 3.23. For the Fall 2005 first-year class, those accepted who chose not to come to Maryland went instead to institutions such as Harvard, Yale, Stanford, Carnegie Mellon, Johns Hopkins, Princeton, and the University of Virginia (Appendix B-41).

One of the key reasons for the upswing in both the quality and quantity of undergraduate applicants is the University’s commitment to providing enrichments to undergraduate education as a trademark of academic excellence. The quality of our academic programs resides at the heart of our undergraduate educational mission and is undoubtedly the primary draw. However, undergraduate applicants at the state, regional, and national levels also value the wide breadth of programs available at a research-extensive flagship institution and respond to great improvements in rankings such as those released by *U.S. News and World Report*. While we celebrate our institutional achievements, the challenge undertaken by the University over the past decade has been to translate the growing excellence and prominence of our academic programs, faculty, and facilities into strategies to meet the needs and demands of our increasingly talented undergraduate students.

Our University mission and strategic plan call for continued efforts to elevate the quality of undergraduate education and to provide enriched and challenging educational experiences for all students. Along the way, the University has gained national prominence for signature learning communities, research opportunities, innovative study abroad programs, experiential learning, and leadership in civic engagement. Capping this decade-long process is a pledge made by President Mote in 2004, dubbed “The President’s Promise” (Appendix B-42). As a collaborative initiative of the Academic and Student Affairs divisions, the President’s Promise guarantees an enrichment experience to all students, starting with the 2005 first-year class. Rather than being unrelated “add-ons,” these experiences are designed to complement and enhance students’ academic programs, and include living-learning programs and learning communities, internships, international study, and research assistantships. In the inaugural year, a study undertaken by the President’s Promise steering committee indicated that 54% of all new first year students already had participated in an enrichment experience during their first semester, as had over 70% of those who graduated in FY 2006. While the initiative has set a goal of 90% participation by Spring 2009, the baseline data demonstrate that great strides have already been taken. The following sections highlight some of the areas of programmatic enrichment and change.

A. Living-Learning and Learning Communities and the Undergraduate Experience

1. Living-Learning Communities

Ranked nationally by *U.S News and World Report*, the University of Maryland has long advocated that living-learning programs enhance academic programs and “makes the big store small.” For the purposes of this self-study, we define living-learning programs as education units organized around an academic theme or approach and which integrate academic learning and community living. At the time of our last Middle States report in 1997, approximately 1,400 new first-year students were participating in University Honors, Honors Humanities, Gemstone,
and College Park Scholars. In Fall 2006, that figure had increased to 1,728, and three new programs for first year students had been added—CIVICUS (Appendix B-44), Jiménez-Porter Writer’s House (Appendix B-45), and Global Communities (Appendix B-46). New living-learning programs for upper-level students include Hinman CEOs (Appendix B-47) and Beyond the Classroom (Appendix B-48).

Long established and nationally recognized programs such as University Honors (Appendix B-49) have set the standard for creating challenging and meaningful niche curricula for talented and engaged undergraduates. University Honors has spun off two additional smaller programs to meet the changing needs of talented undergraduates. Gemstone (Appendix B-50) was established in 1996 as a four-year community devoted to issues surrounding technology and society while Honors Humanities (Appendix B-51) was initiated in 1997 for students with strong interests in the arts and humanities.

As “invitational” programs, all of which incorporate rigorous academic seminars, University Honors, Gemstone, and Honors Humanities are readily recognized by applicants, parents, and high school counselors as part of the quality package of undergraduate education at Maryland. Building on the success of University Honors, the University spread the benefits of living-learning communities to a broader group of undergraduates. Established in 1994, College Park Scholars (CPS) now incorporates twelve programs: International Studies; Earth, Life, and Time; Life Sciences; Advocacy for Children; Arts; and Business, Society, and the Economy (Appendix B-52). CPS, like the Honors programs, is also invitational and builds community through specialized curricular experiences and cohorted residence halls.

Recent reviews of several of the more established living-learning programs have identified best practices and have pointed towards revitalized mission-based strategies to enhance academic rigor, co-curricular experiences, and faculty engagement in the programs. The University should ensure that the recommendations of the review committees are fully considered in processes to improve UM’s living-learning programs. An additional value of these programs is the development of university-level skills in research, team-building, oral and written communication, and technology fluency. These learning experiences prepare undergraduates for upper-level research and capstone projects, whether they be team-based, such as Gemstone, or individual, such as the departmental Honors Programs (Appendix B-53), as well as for participation in faculty-sponsored research projects outside these programs.

Some of the University’s best faculty have become deeply engaged in these living-learning programs. Distinguished University Professor Ira Berlin, an eminent historian of 18th and 19th century American Atlantic history, chairs the CPS faculty advisory board. Professor Peter Beicken, a Distinguished Scholar-Teacher in the School of Languages, Literatures, and Cultures, is the director of the CPS Arts Scholars program. Professor James Glass from Government and Politics, who recently became the Director of CPS International Studies, is a Distinguished Scholar-Teacher and was honored in 2004 with an Outstanding Faculty in the State of Maryland award. University Honors is directed by Professor Barbara Thorne, one of the leading international scholars of termite biology. Professor James Wallace from Mechanical Engineering and director of Gemstone has received the Kirwan Undergraduate Award, University System of Maryland Regents’ Faculty Award for Excellence in Teaching, and
numerous other recognitions. The location of the campus also makes it possible to attract renowned professionals and scholars to serve as adjunct faculty, such as Dr. Doug Lewis, former Curator of Sculpture at the National Gallery of Art, who for many years taught Honors seminars in art, photography, and the design of Washington, D.C.

The enhancement and growth of the University’s living-learning programs responds broadly to our institutional goal to increase the number and percentage of undergraduates who participate in enrichment programs. The specialized programs, moreover, incorporate more focused goals of internationalization, civic engagement, and community outreach and partnerships at the undergraduate level. The continued success of the living-learning programs is contingent on faculty oversight, close working relationships with various units in the Student Affairs division—including Resident Life and the Career Center—and a dynamic process of assessment and feedback to improve and further enrich the undergraduate experience particularly as new strategic goals and outcomes are articulated in the next two years.

To ensure the continued success of our living-learning programs, we recommend that the University regularly review all of these programs. Regular review will translate to continual improvement for dynamic programs that continue to grow with the University and our undergraduates. These programs must not lose emphasis on the learning portion and should increase the rigor of seminars, associated classes, and other learning experiences. All living-learning programs should have current program missions, goals, and objectives, with associated student learning outcomes that can be measured and assessed.

2. Non-residential Learning Communities

The University of Maryland offers a wide range of non-residential learning communities that extend well beyond the living-learning groups described above. Recent programs offer four-year learning community models with a focus on particular majors. The following developments since 1997 demonstrate the University’s continued commitment to enriching undergraduate education in broad and creative ways:

- **Letters & Sciences Learning Communities:** In 2004, the Division of Letters & Sciences (a unit within Undergraduate Studies that serves as the advising home for undeclared majors) began offering two new learning communities linked to large CORE General Education courses, Journalism175: Media Literacy and Philosophy 140: Contemporary Moral Issues. These and other L&S Learning Communities (Appendix B-54) include small cohered sections of UNIV100, which are courses that connect students to the University, community resources, and each other. The course cluster is enhanced through special programs and expert speakers.
• **Inventis:** Created in 2004 as an Academy of Engineering Scholars program, Inventis is a four-year community that follows Engineering majors through their undergraduate careers (Appendix B-55). As juniors and seniors, Inventis students participate in guided research or teaching experiences, working very closely with faculty mentors. Approximately 10% of first year Engineering students are admitted into the Inventis academy.

• **The Smith Fellows Program:** In the Fall 2006 semester, the Robert H. Smith School of Business began offering a choice of Fellows Programs for all first year students directly admitted into majors in BMGT (Appendix B-56). The Fellows Programs combine active learning with rigorous coursework and professional development in areas such as international business, ethics, and leadership. Junior/Senior Fellows communities more closely tailored to the specific academic programs are projected for Fall 2007. Programmatic opportunities for fellows will be available in the areas of supply chain management, entrepreneurship, electronic marketing, and Reuter’s financial certification.

**B. International Experiences: Study Abroad**

In his 2005 State of the Campus address to the University Senate, President Mote placed particular emphasis on international issues (Appendix B-57). While noting that there had been an increase of 50% in the number of students in study abroad programs during FY05, he also called for greater participation and stated, “our goal is to facilitate an international experience for every undergraduate student.” A campus-wide committee charged by the President with reviewing International Programs issued a report on April 15, 2005 (Appendix A-17). A subcommittee devoted to undergraduate issues proposed several changes that would allow international curricula, activities, and experiences to take a more central place in the University’s mission and strategic plan. Those recommendations included establishing a web-based clearinghouse for international programs and opportunities relating to undergraduate education, enhancing the Study Abroad Office, and working closely with academic units in the creation of international strategic plans. The Office of International Programs has plans underway to accomplish these goals. Given the high institutional priority of international education, the University Senate has directed its standing Committee on Education Affairs in AY06 to further examine study abroad programs and deliver recommendations in Spring 2007 (Appendix B-58).

As cited by the President, the University has developed innovative study abroad course offerings both to increase student participation in University of Maryland international academic programs and to allow faculty to offer these programs in their areas of expertise. In addition to the traditional semester, year-long, and a wide selection—twenty-five in 2006—of summer offerings, a three week academic session in January known as “Winterterm” has proven to be an optimum time for offering short-term study abroad courses. Eighteen international courses will be offered in January 2007 in Europe, Australia, Africa, Asia, and Latin America (Appendix B-59). Faculty who have developed specialized courses and lead the international experiences represent a variety of disciplines including Family Studies, Anthropology, English, Economics, Agriculture and Natural Resources, Education, and Languages, Literatures and Cultures. Student evaluations have been overwhelmingly positive. An additional boon has been the increased participation of minority students in these short-term courses. Many students who would
otherwise have employment or other obligations during the summer are more likely to be able to take advantage of these short-term international courses. This success in facilitating study abroad opportunities was cited by *U.S. News and World Report*’s 2007 “Best Colleges” listing. For the first time, the University of Maryland was ranked among “America’s Best” in the area of Academic Programs: Study Abroad (Appendix B-60).

*The Office of Study Abroad, in collaboration with academic units, has done an outstanding job of increasing access and participation in international programs. As an important next step, we recommend that the Office of Study Abroad articulate goals for international learning experiences in general. An evaluation process and assessment instruments should be developed for all international courses, in continued collaboration with faculty and academic units. It is also essential that there be sufficient feedback to faculty and academic units to ensure program improvement. The University Senate report on Study Abroad (2006-2007) will provide further recommendations.*

C. Undergraduate Research

The University takes great pride in its development as a modern research university and, within this context, its creation of opportunities for undergraduates to engage in the campus research agenda. Curricular and extra-curricular experiences range from individual departmental honors research theses to projects associated with learning communities such as those described above—Gemstone’s team-based research projects, Honors Humanities “Keystone Project,” or College Park Scholars’ “Discovery Project.” Many individual faculty members invite formal and/or informal participation in their research projects. The Maryland Center for Undergraduate Research (MCUR) (Appendix B-61), a unit within Undergraduate Studies, serves as a clearinghouse for students and faculty and provides a comprehensive listing of Institution-Wide Research Programs (Appendix B-62). MCUR also administers the Maryland Student Researchers program, which matches faculty with undergraduates interested in doing research (Appendix B-63). Students spend four to six hours per week working with a faculty mentor on the faculty member's own research, and receive an Undergraduate Research Assistant notation on their transcript. In 2005-2006, 239 students participated in the Maryland Student Researchers program.

UM institutes and centers such as the Joint Institute on Food Safety and Applied Nutrition (JIFSAN) (Appendix B-64), the Institute for Physical Sciences and Technology (IPST) (Appendix B-65), and the Institute for Systems Research (ISR) (Appendix B-66), among numerous others, also provide opportunities for formal undergraduate engagement in state-of-the-art research projects. The Maryland Technology Enterprise Institute (MTECH) (Appendix B-67), a division of the A. James Clark School of Engineering, sponsors Hinman CEOs as an integral part of its entrepreneurship education mission associated with MTECH Ventures. MTECH also matches undergraduate engineering majors with research opportunities through its ASPIRE program (Appendix B-68). Students perform research during the regular semesters or summer sessions, receive an ASPIRE stipend, and receive a transcript notation as an undergraduate researcher.
UM also has been successful in obtaining external funding such as the Howard Hughes Undergraduate Research Fellowship funds (Appendix B-69). Close to 400 students and 139 faculty have participated over the past 10 years, and the University is one of only a few institutions in the U.S. to have received HHMI funding through four successive grant periods. Fellows in the program have co-authored over 100 peer-reviewed publications, produced original scholarship, and participated in research projects at the University and at leading institutions in the area. Post-graduation data demonstrates that close to 85% have pursued graduate degrees in the life sciences and related fields.

An ongoing concern has been the ability of the University to adequately account for all of the different types of for-credit research experiences.

*Given the high value that the University of Maryland places on undergraduate research, we recommend that the University explore ways to track and report the credit-bearing and other research experiences of our undergraduates.*

D. Experiential Learning and Internships

The University of Maryland encourages all students to challenge themselves and enrich their education through experiential learning opportunities. Many of the living-learning communities incorporate experiential learning as an important component of the program. For example, College Park Scholars includes experiential options in all of its program areas. For instance, in Advocates for Children, students are required to choose one of the following experiential “Advocacy in Action” capstone course options: Community Mobilization; Community-based Research; or Community Leadership. Similarly, the CIVICUS program’s capstone requires an internship or community service component.

In the general University curriculum, almost all academic units offer undergraduate credit-bearing experiential learning courses, which usually carry 286 or 386 numbers. During FY98, the standing Committee on Education Affairs of the University Senate presented a report on experiential learning for academic credit (386 courses). At the time, the Career Center, a unit within the Student Affairs division, had administrative oversight for these courses. As a result of the Committee’s recommendations, the University Senate passed a proposal (Appendix B-70) that transferred the administration of the experiential learning courses to the individual academic departments that offer the courses and should be “responsible for the academic integrity of the course and any modifications of it, as consistent with University policy.” The experiential courses are carefully regulated by academic units and stipulate minimum hours per credit requirements and academic components, as exemplified by ARHU 286, a college-based experiential course (Appendix B-71). Students must complete contracts, similar to the one for PSYC 386, that require faculty sponsorship, on-site supervision, and the development of learning objectives (Appendix B-72). The Career Center maintains institution-wide information for students on the departmental experiential courses and faculty internship coordinators (Appendix B-73).

One of the challenges in ascertaining the impact of experiential learning and internships on undergraduate education resides in collecting accurate data. Student registration in program-
specific 286 or 386 courses represents only one vehicle for credit-bearing experiential learning and internships. Having said this, in AY04, 1,071 students registered for 286 or 386 credits. For AY05, that number is 1,054.

There are also numerous departmentally sponsored internship and experiential opportunities linked to other learning experiences (Appendix B-74). For example, the English Department (ARHU) oversees an internship program with the Maryland General Assembly. Students intern with state representatives in the field of professional writing and complete a specialized course in professional writing to prepare for the experience. As this program is open to all majors, students pursuing a bachelor’s degree in Community and Public Health, for instance, could have opportunities to write drafts of health policy as part of their internship. In the Anthropology Department (BSOS), students participate with faculty in a service-based experiential learning course working with immigrant populations in the Langley Park community.

*We propose that the University develop methods for gathering more robust data for credit-bearing and other experiential learning and internships that are carried out by our undergraduates.*

E. Civic Engagement

The Coalition for Civic Engagement and Leadership (CCEL) (Appendix B-75) was formed in 2004 as a collaborative project of the divisions of Academic Affairs and Student Affairs. Consistent with the University’s mission, CCEL proposes to prepare students to become conscientious and involved citizens, scholars, and leaders. The work of CCEL builds upon civic engagement learning in living-learning programs such as College Park Scholars and CIVICUS, and in research centers such as the Democracy Collaborative (Appendix B-76) in the School of Public Policy and the College of Behavioral and Social Sciences. CCEL is comprised of University programs and has the following goals:

- to develop and disseminate resources for students to learn about and practice civic engagement and leadership;
- to assist faculty and staff to integrate civic engagement learning purposefully into the curriculum and co-curriculum; and
- to articulate civic engagement and leadership learning outcomes (Appendix B-77) that will be assessed to provide data for improvement of learning experiences.

Selected CCEL objectives for AY06 demonstrate the ways in which these goals are being met:

- to develop an interactive website for students to explore civic engagement and leadership opportunities on and off campus; and
- to integrate ten of the civic engagement learning outcomes into 90% of the sections of ENGL101: Introduction to Writing, a Fundamental Studies CORE-General Education course. A full ENGL101 Civic Engagement project description is available in Appendix B-78. The learning outcomes will be assessed in the Spring 2007 semester.
F. Ensuring Academic Success

As stated in the Mission and Goals Statement, UM is committed to recruiting students who will contribute to and benefit from an enriched educational environment; improving the conditions for their enrollment and success, including expert advising; and increasing retention and graduation rates for all undergraduate students. To fulfill these goals, the University has a number of programs that reach out to potential students prior to their formal admission and to those admitted students who need assistance.

The University System of Maryland (USM) Policy on Undergraduate Admissions outlines minimum qualifications for students to be admitted to any of the USM schools (Appendix B-79). These criteria include a high school diploma or its equivalent, standardized test scores, a minimum of a C grade point average, and minimum content core proficiency requirements. Each USM institution may add other criteria for admission to address the rigor of the high school curriculum as demonstrated by: advanced-level coursework; academic electives; performance on high school assessments; trends in performance, citizenship and leadership; special talents; or personal circumstances. In addition, the USM policy states, “Each institution may admit, to a maximum of 15 percent of its entering freshman class, students who do not meet the minimum qualifications outlined… but who show potential for success in postsecondary education.” The UM Policy on Admission Exceptions builds on the USM regulations with reference to specific programs (Appendix B-80).

1. Academic Achievement Programs (AAP)

The University of Maryland has two programs that address the USM policy guidelines for first-year students. The first is a federally sponsored program, Academic Achievement Programs (AAP), established in 1990 and located within the Office of the Associate Provost for Academic Affairs and Dean for Undergraduate Studies. Through its Student Support Services/Intensive Education Programs, AAP serves students who meet one of the following criteria as stipulated by federal guidelines: 1) has a low-income status; 2) is a first generation college student; 3) is disabled; or 4) is part of a traditionally underrepresented group. Qualifying first-year applicants who do not meet the requirements for direct admission to the University are referred by the Office of Admissions to AAP for further review of their potential for academic success and an assessment of the support required for them to realize this potential. AAP evaluates these students in Math, English, Reading and Study Skills, and the results from these assessments are reviewed by members of a multidisciplinary team, along with individual applications, essays and high school recommendations. After individual reviews, the team jointly makes recommendations to the AAP Executive Director, who may authorize enrollment in the Summer Transitional Program (STP) (Appendix B-81). Students who successfully complete the STP program are then accepted into the University. Once admitted, students remain in AAP until they reach 60 college credits. AAP works closely with students in developing academic skills in mathematics, English, reading, and college study skills development. In Fall 2006, over one hundred individuals were admitted as first year students after successful completion of the STP program.
There is ongoing assessment of different aspects of the AAP to ensure that the program is dynamic and responsive to students’ needs, as required by federal reporting regulations (Appendix B-82). Both qualitative and quantitative measures are used where appropriate. In 1995, 75.2% of AAP students were retained after the first year. In 2004, this figure rose to 92.1%, comparable to the University-wide first year cohort. Fifty-one percent of the 1999 cohort graduated within six years.

2. Scholastic Transitions Educational Program (STEP)

Like AAP, the Scholastic Transitions Educational Program (STEP) (Appendix B-83) is located in the Office of the Associate Provost for Academic Affairs and Dean for Undergraduate Studies. STEP provides enhancement of basic skills in mathematics, writing and reading that are fundamental to the achievement of other University requirements. This program is directed to students who have been admitted to the University with the understanding that their preparation in basic writing and/or math skills will require enhancement. STEP incorporates the innovative Developmental Math Program (Appendix B-84).

The STEP program was first offered in the summer of 2003. Comparison data has been assembled regarding students’ performance, and changes to the program have been made based on assessment information. By early 2005, 85% of all STEP participants were in good academic standing.

VII. Foundational Education: CORE General Education

A. The Scope of the CORE-General Education Program

Based on principles established in 1987 and approved by the University Senate in 1988, the University’s general education CORE Liberal Arts and Sciences Studies Program has been in effect since May 1990 (Appendix B-85). The CORE program puts into action the University’s conviction that every graduate needs to have a basic education in a variety of fields. The CORE program helps the University provide a quality liberal arts education embedded within a major research university setting. The curriculum, comprising 43-46 credits, exceeds State of Maryland requirements for General Education Programs and is organized by disciplinary areas and academic level. The CORE Curriculum (Appendix B-86) consists of four areas: Fundamental Studies (Introduction to Writing, Professional Writing, and an introductory mathematics course); lower-level Distributive Studies (Humanities and the Arts, Science and Mathematics, Social Sciences and History); (upper-level) Advanced Studies; and Human Cultural Diversity (one course at either the lower- or upper-level). Effective fall 2005, in recognition of the strategic role of interdisciplinary studies at UM, the University Senate added Interdisciplinary and Emerging Issues (Appendix B-87) as an optional Distributive Studies category. Approved courses in this category include JOUR175: Media Literacy, the anchor course for one of the Division of Letters & Sciences learning communities, and the team-taught WRLD235: The Power of Water: Politics, Technology, and Development of the Mekong River. Creation of the new CORE category recognizes the important contributions of interdisciplinary studies and encourages development of innovative courses and collaborations across the campus.
B. Managing CORE: Oversight, Access and Planning

Courses must be approved for CORE status by the University Senate’s CORE committee, which includes faculty representatives from across the institution and two student representatives. University initiatives make certain that CORE requirements relate to other academic programs. Many CORE courses fulfill major, minor, departmental or college requirements, as well as serve as gateway requirements for majors. Such interrelationships ensure depth as well as breadth.

Providing CORE courses for approximately 25,000 undergraduate students requires watchful management. Approximately 80% of departments and programs contribute CORE courses. In AY04, the University offered approximately 92,400 CORE seats. To ensure availability and the appropriate distribution of courses, the Provost conducts an annual Planning Cycle process to provide funds when there are shifts in enrollment. Rapid growth in the number of students in a major will affect enrollment in required major courses that also count for CORE. For instance, the total number of majors in Kinesiology grew from 559 in Fall 2003 to 667 in Fall 2005. To accommodate this growth, new sections were needed in the required sequence BSCI 201 and 202: Human Anatomy and Physiology I and II, which are CORE courses offered by CLFS. This growth was accommodated by adding sections through funding from the Planning Cycle process.

C. Examining CORE for this Report: Student Learning Across Educational Areas

For the purposes of this self-study, we inquired into whether and how the University’s general education curriculum assures proficiencies in the essential areas designated by Standard 12. We focused on selected high-enrollment, high-impact CORE courses, identified by the University’s enrollment management process as those taken by at least 10% of students. A survey was distributed to faculty who teach those courses, asking whether and how each of these courses develops proficiencies in: diversity, ethics, and values; oral and written communication; quantitative and scientific reasoning; technological competency; and information literacy and critical analysis and reasoning. Given the importance of research to the University’s mission, the survey also included a question on student research. This survey gives a focused view of the accomplishments of the general education program and gathers information about a group of courses in which the stakes are indeed high, given the number of students they serve. In general, we found that the high impact CORE courses cross-develop proficiencies. While this is to be expected in an area such as diversity (because most CORE diversity courses also fulfill one of the distributive studies categories), findings demonstrated that non-diversity CORE courses also expand students’ knowledge beyond Western content. A case in point is PSYC 100: Introduction to Psychology, which addresses the influence of diverse cultures on the development of cognition, personality, and emotion. Cultural differences in human motivation and the impact of these diverse perspectives are also discussed in this course. In similar fashion, there are numerous instances of CORE science courses with integrated writing components that build upon the CORE Fundamental Studies required writing courses.
The survey responses and college syntheses are available as Appendices B-88 and B-89, while the analysis of the survey data is available as Appendix B-90. The findings of the survey materials serve as a review of CORE to determine how essential competencies are developed across the curriculum.

D. Assessment of CORE

1. **CORE Periodic Review**

   Since 1992, the University has conducted periodic review of approved general education courses, a process overseen by a standing committee of the University Senate, the University Senate Committee on CORE. Normally, courses become eligible for review five years after approval. If the original approval or subsequent review of a CORE course raises concerns with the CORE committee, the course may be reviewed again the following year to determine whether and how the concerns have been addressed. Periodic Review has helped to keep the CORE Program vigorous and flexible, with many positive results. Over 26 semesters, the CORE Committee completed 361 reviews through its faculty subcommittees. This averages to thirteen courses per semester out of a total of approximately 300 approved CORE courses offered in any given academic semester. This relatively small number reflects the depth of and time taken for each individual review. It is expected that the new outcomes assessment process under development will allow a much larger number of courses to be reviewed each year.

   Periodic review portfolios contain syllabi, sample assignments, and examinations, along with statements from faculty about the current status of the course, changes over time, responses to questions raised previously, and future plans. These statements help the CORE Committee understand the ways in which individual courses adapt in response to changes at the University (enrollment patterns, resources, etc.), world events, new discoveries and research, and experience gained from student progress in the courses.

   In their CORE portfolio statements, faculty report course improvements as based on closing the feedback loop from the prior review, as illustrated for Theatre 110: Introduction to the Theatre (the addition of problem-based learning modules, library resources and WebCT) (Appendix B-91); for Sociology 100: Introduction to Sociology (the development of a training seminar for teaching assistants; active learning increased to include a variety of writing assignments and class presentations); and Math 140: Calculus I (a new “close contact” version of the course with a small-group setting, web-based homework called “WebAssign” that gives students “instant feedback”) (Appendix B-92). Periodic review of general education courses allows faculty, departments, and the committee to reconsider the place of any course in an ever-changing curriculum and acknowledge their oversight of the course.

2. **Growing an Outcomes Environment**

   Like the rest of the University, the CORE-General Education program is in the process of transitioning to a student learning outcomes environment, a move that will enhance the assessment measures already in place. In 2004-2005, in the context of the ongoing work of the Provost’s Commission on Learning Outcomes Assessment, the CORE faculty subcommittees
developed CORE Learning Outcomes (Appendix B-93) for all Distributive Studies categories and for Human Cultural Diversity. At the same time, faculty in the Freshman Writing Program, the Professional Writing Program, and the Department of Mathematics wrote statements for CORE Fundamental Studies. The Senate CORE committee also articulated broad General Education Goals for the CORE curriculum.

Shortly after the approval of the CORE General Education goals and objectives, the Associate Provost for Academic Affairs and Dean for Undergraduate Studies appointed a multidisciplinary CORE assessment planning team to develop a preliminary assessment plan. Taking full advantage of resources at a January 2006 Middle States-sponsored workshop on next steps in learning outcomes assessment, the team produced an accompanying Power Point presentation on the assessment of CORE available as Appendix B-94. The team recommended that CORE assessment begin with the CORE Human Cultural Diversity outcomes, given the importance of diversity to the University's educational mission. Planning for the assessment of the other outcomes will follow soon after.

The CORE Diversity Assessment Working Group (C-DAWG) was formed in May 2006 to plan and conduct assessments of student learning from the CORE courses in Human Cultural Diversity in 2006-2007. Chaired by the Associate Dean for Undergraduate Studies, the Group has ten members from disciplines ranging from music and women's studies to engineering.

3. The CORE Outcomes Mapping Project

In Fall 2005, the Provost reviewed the newly published outcomes for the CORE general education program, in which the Campus CORE Committee stated desired learning outcomes for each of its categories and for the CORE program overall. To gather additional information on how well these outcomes fit our present courses, the Provost asked for each professor, lecturer or instructor for every CORE course to check off the learning outcomes satisfied by his or her course. Faculty members were sent lists of outcomes appropriate to their courses and asked to check and return the forms by March 15, 2006.

More than 330 checklist forms were returned, indicating which CORE learning outcomes are addressed in presently approved courses. Both overall CORE outcomes and category-specific outcomes were checked. All responses were entered in an SPSS dataset and analysis is underway. These data allow for examination of the CORE program to see that all desired outcomes are addressed. The data also permit comparisons between and among CORE categories, as well as between Colleges.

E. Committee Conclusions and Specific Recommendations for General Education

The following specific and focused recommendations for the University are excerpted from the Standard 12 working group’s report, which also contains many recommendations of a more general nature. The full report, including the working group’s list of programmatic strengths, challenges, conclusions and recommendations is available as Appendix B-95.
• Develop a set of innovative courses that engage students in applying scientific principles and knowledge, in some cases with inclusion of contemporary issues. With the intent of creating a national model for science education, such courses would foster a culture of scientific literacy on campus by appealing to both non-majors and majors. The goals of such courses would include attracting more students to major in science and helping others become more informed consumers of scientific research and information.

• Encourage CORE courses to regularly incorporate appropriate research skills and processes into their curricula.

*The Learning Outcomes for CORE have been articulated and an assessment plan is being developed. We recommend that the University assure that assessment proceeds expeditiously.*

**VIII. Undergraduate Interdisciplinary Programs**

If one of the University’s strategic goals has been to provide enriched and challenging educational opportunities for all undergraduates, the ultimate purpose has been to prepare our students to be citizens in an increasingly complex and interrelated world. Some of the objectives discussed above, including the enhancement of learning communities, undergraduate research, and international learning, as well as the incorporation of information technology in the learning process, have profoundly changed undergraduate education at the University and greatly enhanced our effectiveness at producing high quality experiences for all students. Another significant development in ensuring that our graduates obtain the academic knowledge and skills to engage in the larger world has been the campus-wide enhancement of the curricula through interdisciplinary studies. In a later section, the self-study report will provide an analysis of the significant changes in interdisciplinary studies in graduate education. However, the shifts in undergraduate education also are substantial, and often reflect the interdisciplinary programs initially developed for graduate education, or the research centers developed by faculty in response to the increasingly interdisciplinary nature of their scholarly activities. Some of the highlights in interdisciplinary undergraduate education include:

• **CORE-General Education:** The addition of a new distributive studies area in Interdisciplinary and Emerging Issues (Appendices B-87 and B-96).

• **World (WRLD) Courses:** Interdisciplinary team-taught courses that have included World 118A: The Creative Drive (Architecture, Music, and Mathematics) and World 235: The Power of Water: Politics, Technology, and Development of the Mekong River (Cell Biology and Molecular Genetics, Civil Engineering, Government and Politics). The latter course was followed by a Winter Term (January 2006) study abroad course in Viet Nam and China (Appendix B-97) led by two of the original World faculty.
• **Environmental Science and Policy (ENSP):** The ENSP major (Appendix B-98) was established in 1997 as a collaborative academic program across four colleges: Agriculture and Natural Resources; Behavioral and Social Sciences; Chemical and Life Sciences; and Computer, Mathematical and Physical Sciences. The approval process for this program included an lively Senate debate in 1996 about the meaning and impact of “interdisciplinarity” in a campus divided into traditional disciplines. Since its inception, the program has grown to more than two hundred students, and draws faculty and courses from twenty different departments. This growth in part reflects the increasing interest of faculty in the scholarship of environmental science and policy, and has led to the hiring of new interdisciplinary faculty. Students in the ENSP major complete core courses in science and policy, specializing in one of eleven current program concentrations that range from Environmental Economics to Wildlife Ecology and Management, with oversight by the appropriate college. The program has also gone through several significant refinements since it started, particularly in defining effective concentrations that meet the traditionally focused rigor of scientific disciplines, while also providing students with the broad interdisciplinary background and skills to successfully master the program goals. For instance, the concentration in Wildlife Resources has been replaced by one in Wildlife Ecology and Management, with a curriculum that prepares graduates for careers as wildlife biologists. Similarly, the administrative structure also has been revised. Initially, students entering the major were temporarily housed in the College of Agriculture and Natural Resources until they chose a specific college-based concentration. In 2006, the University approved the creation of a Department of Environmental Science and Technology in AGNR, and ENSP has moved into a departmental home while still maintaining its interdisciplinary status.

• **Undergraduate Minors:** In the spring of 2004, the University approved minors as a new category of secondary study for undergraduates. Previously, course groupings known as “citations” fulfilled this role, but were not considered a recognizable designation outside of the University. Since 2004, over fifty minors have been approved (Appendix B-99). Some of them represent citation conversions, but all minors, whether new or developed from an existing citation, were considered as separate actions by faculty review committees. Some undergraduate minors represent subsets of existing majors, such as Computer Science or Linguistics. Others are truly interdisciplinary in nature and allow for deep collaboration among faculty and undergraduates across departments and colleges. Examples include Black Women’s Studies (African American Studies and Women’s Studies) (Appendix B-100) and Nanoscience and Technology (Materials Science and Engineering, Electrical and Computer Engineering, Mechanical Engineering, Physics, Chemistry and Biochemistry) (Appendix B-101).

• **Interdisciplinary Certificates:** An official University award as recognized by the state, upper-division undergraduate certificates require a minimum of 21 credits. In 2000, the University added a new undergraduate certificate in Asian American Studies (Appendix B-102). The product of several years of active engagement and planning on the part of faculty, staff, and students, the Asian American Studies Certificate comprises 21 credits in interdisciplinary coursework in history, sciences, technology, literature, anthropology, sociology, and related fields. For effective management of such an interdisciplinary
cross-college certificate, the Asian American Studies Program resides in the Office of Undergraduate Studies. Faculty appointments, however, reside in college-based departments with commitments to teach in the Program. In 2002, the University approved an upper-division undergraduate certificate in Lesbian, Gay, Bisexual and Transgender (LGBT) Studies (Appendix B-103). Similarly housed in the Office of Undergraduate Studies, LGBT Studies draws upon an interdisciplinary curriculum that includes history, philosophy, literatures, and social sciences.

IX. Effectiveness in Undergraduate Education

A. Improvements in Retention and Graduation Rates/Time to Degree and Undergraduate Four-Year Plans

See Appendix A-4 for a discussion of the Student Academic Success-Degree Completion Policy, the President’s Task Group on Undergraduate Rate/Student Success and its complete report, recommendations, and resulting policy statement. The Policy establishes provisions to guide all undergraduates to baccalaureate completion in a reasonable period of time, usually understood as four years. The provisions include the development of four-year graduation templates for all undergraduate majors, yearly academic progress benchmarks in those majors, and enhanced advising. The Policy further stipulates that those students who do not meet progress benchmarks may be assisted in identifying and enrolling in an alternative major.

Over the past fifteen years, the University of Maryland has been increasingly successful in retaining students and graduating them in a timely fashion. Table 2.9 shows that, beginning with the first-year cohort that entered UM in Fall 1992, our one-year retention rates have improved almost steadily from less than 85% to close to 92% for the Fall 2005 cohort. The four-year graduation rate for the 1992 group was 32%. For the cohort entering 10 years later, in 2002, that rate had improved to close to 59% with a corresponding five-year graduation rate increase from 58% to almost 76%.
Table 2.9: Retention and Graduation Rates
Note: These rates are for full-time, degree-seeking, new first-year students. For years 1-3, percentages include those retained or graduated. For years 4-6, percentages include only those that graduated.

<table>
<thead>
<tr>
<th>Retained or Graduated</th>
<th>Graduated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort Size</td>
<td>After 1 year</td>
</tr>
<tr>
<td>Fall 1992</td>
<td>3,018</td>
</tr>
<tr>
<td>Fall 1993</td>
<td>3,142</td>
</tr>
<tr>
<td>Fall 1994</td>
<td>3,628</td>
</tr>
<tr>
<td>Fall 1995</td>
<td>3,570</td>
</tr>
<tr>
<td>Fall 1996</td>
<td>3,538</td>
</tr>
<tr>
<td>Fall 1997</td>
<td>3,950</td>
</tr>
<tr>
<td>Fall 1998</td>
<td>4,038</td>
</tr>
<tr>
<td>Fall 1999</td>
<td>3,864</td>
</tr>
<tr>
<td>Fall 2000</td>
<td>3,928</td>
</tr>
<tr>
<td>Fall 2001</td>
<td>4,338</td>
</tr>
<tr>
<td>Fall 2002</td>
<td>3,886</td>
</tr>
<tr>
<td>Fall 2003</td>
<td>4,047</td>
</tr>
<tr>
<td>Fall 2004</td>
<td>4,176</td>
</tr>
<tr>
<td>Fall 2005</td>
<td>4,196</td>
</tr>
<tr>
<td>Fall 2006</td>
<td>3,945</td>
</tr>
</tbody>
</table>

With the goal of further improving retention and timely graduation of our undergraduates, ongoing monitoring is recommended to ensure that students are being held to benchmarks and are being advised appropriately when they are not meeting those benchmarks.

B. Transfer Student Numbers, Challenges, and Initiatives

1. Transfer Student Numbers and Trends

While first-year admits comprise the majority of undergraduates at the University, the institution also accepts a significant number of transfer students. Table 2.10 shows the unduplicated headcount of all undergraduates who matriculated in the fall semesters from 1998-2005, based on their original status upon entrance to the University. (Note: The new first time and transfer numbers are a subset of the total unduplicated headcount numbers.)
As Table 2.10 demonstrates, the first-time and transfer undergraduate populations have remained relatively stable, while there has been a substantial drop in the number of part-time students.

Table 2.11 provides data on the retention and graduation rates of full-time, degree-seeking transfer students who achieved junior status in the indicated fall semester. The figures demonstrate a marked improvement over time in the retention and graduation rates for transfer students achieving junior status in the fall semesters.

Tables 2.12 and 2.13 show, respectively, the total number of undergraduate students by class and the percentages of bachelor’s degrees awarded to first-year admit and transfer students by cohort. While the number of first-year students has remained relatively stable, the numbers of sophomores and juniors have increased due to increased transfers at those levels and increased rates of retention for both first-year admit and transfer populations. The decreased time to
graduation translates effectively to increased throughput and to lower numbers of “senior” students. Table 4 also demonstrates the significant decrease in the fraction of bachelor degrees awarded to those students who entered the University as transfers. In other words, there are fewer students at any given time, but they are more successful.

Table 2.12: Number of Undergraduates by Class

<table>
<thead>
<tr>
<th>Term</th>
<th>Fall 1998</th>
<th>Fall 1999</th>
<th>Fall 2000</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Freshman</td>
<td>5722</td>
<td>5599</td>
<td>5351</td>
<td>5524</td>
<td>5676</td>
<td>5522</td>
<td>5584</td>
<td>5824</td>
</tr>
<tr>
<td>2. Sophomore</td>
<td>5217</td>
<td>5308</td>
<td>5429</td>
<td>5379</td>
<td>6138</td>
<td>6147</td>
<td>5842</td>
<td>6079</td>
</tr>
<tr>
<td>3. Junior</td>
<td>5768</td>
<td>6033</td>
<td>5938</td>
<td>6168</td>
<td>6049</td>
<td>6361</td>
<td>6313</td>
<td>6141</td>
</tr>
<tr>
<td>4. Senior</td>
<td>6944</td>
<td>6725</td>
<td>7007</td>
<td>7067</td>
<td>6404</td>
<td>6478</td>
<td>6585</td>
<td>6599</td>
</tr>
<tr>
<td>5. Post-bacc</td>
<td>451</td>
<td>363</td>
<td>353</td>
<td>311</td>
<td>350</td>
<td>323</td>
<td>266</td>
<td>233</td>
</tr>
<tr>
<td>6. Special UG</td>
<td>674</td>
<td>689</td>
<td>484</td>
<td>581</td>
<td>562</td>
<td>548</td>
<td>475</td>
<td>497</td>
</tr>
<tr>
<td>7. Applied Ag.</td>
<td>76</td>
<td>69</td>
<td>61</td>
<td>67</td>
<td>75</td>
<td>69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>24776</td>
<td>24717</td>
<td>24638</td>
<td>25099</td>
<td>25240</td>
<td>25446</td>
<td>25140</td>
<td>25442</td>
</tr>
</tbody>
</table>

Table 2.13: Bachelor Degrees Awarded by First Matriculation Classification

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>57.70%</td>
<td>59.20%</td>
<td>59.30%</td>
<td>63.30%</td>
<td>64.50%</td>
<td>65.50%</td>
<td>68.90%</td>
</tr>
<tr>
<td>Transfer</td>
<td>42.30%</td>
<td>40.80%</td>
<td>40.70%</td>
<td>36.70%</td>
<td>35.50%</td>
<td>34.50%</td>
<td>31.10%</td>
</tr>
</tbody>
</table>

2. Transfer Challenges and Initiatives

Undergraduate transfers to the University face many challenges, most of which are endemic to large, diverse, state institutions. These challenges include fewer scholarship opportunities and limited access to residential community housing and special academic programs. New transfers generally register after the regular registration period for returning students. Many seats have already been taken by the returning students, thus placing transfer students at a disadvantage in access to upper-level courses. As the above data demonstrate, the transfer retention and graduation rates have improved significantly in the past ten years, although the pervasive perception of transfer students as “second-class citizens” still prevails across the institution. In September 2005, the Campus Assessment Working Group (CAWG) completed an in-house qualitative report (Appendix B-104) on transfer students’ perceptions titled “Transfer Students at the University of Maryland.” The study focused on areas important to educational enhancement and success, such as advising, undergraduate learning outcomes, internships, and information technology. The results of this report have been shared with offices and divisions across the institution and have informed current efforts.

Concrete steps have been taken to improve the quality of experience and services for transfer students to ease their transition and assure their continued academic success. The Maryland Transfer Advantage Program (MTAP), for example, is a partnership between the University of Maryland and two local community colleges, Montgomery College (MC) and
Prince George’s Community College (PGCC), to provide structured support and ensure academic success for transfer students. The Hillman Entrepreneurs Program partnership between UM and PGCC is a four-year program that provides financial support to students in the field of entrepreneurship (Appendix B-105). A summary of recent initiatives is available in “Transfer Matters” (Appendix B-106). An additional ongoing initiative is “Transfer Profiles,” a cooperative data project by the Office of Institutional Research and Planning and four Maryland community colleges to track the academic success of transfers and provide opportunities for dialogue, feedback, and improvement.

Learning Assistance Services, the academic support unit of the Counseling Center in the Student Affairs division, offers a one-credit, second stage orientation course (Education Counseling and Personnel Services 108G) for transfer students every semester (Appendix B-108).

Great strides are being made in improving transfer recruitment and the climate for transfer students at the University of Maryland. We recommend that this effort be intensified and made more inclusive. Various past and current studies, reports and initiatives should be well-connected one to another. An additional recommendation concerns the need to fully integrate the process of recruitment and admission to our off-campus transfer programs at Shady Grove as part of UM transfer admissions.

C. Instructional Technology

The systematic integration of information technology into undergraduate instructional programs is an important strategic goal at the University of Maryland. The responsibility to meet this objective is shared among the individual academic departments and colleges, the University Libraries, the Office of Information Technology (OIT), and Facilities Management. Over the past decade, the University has made great strides towards enabling all faculty and students to fully utilize new technologies in teaching and learning. The following section highlights some of the key developments in this area.

1. The Office of Information Technology and Related Collaborative Projects

OIT, and particularly its Academic Support unit, provide institutional leadership in the integration of technology with pedagogy (Appendix B-109). Key areas of service and collaboration include the enhancement of physical and virtual learning environments and the formation of faculty-centered design and development teams. Through OIT, faculty have access and training to best utilize technology classrooms, teaching theaters, and instructional lab and design facilities. OIT also offers classes for faculty and graduate assistants in a state-of-the-art Faculty Technology Center (Appendix B-110).

Until recently, the University used several different course management systems to support faculty who put course materials online. In 1998, when WebCT was selected as the central course management system, it began by supporting 14 instructors using 28 course spaces for a total of 1335 seats. Most recently, WebCT Institution Edition accommodated 710 course spaces and 554 instructors (both faculty and graduate teaching assistants) and served over 18,500
students in over 40,000 course spaces, which means that students had multiple WebCT-enhanced classes. At the same time that most units were using WebCT, others, such as BMGT and ENGR, provided teaching support through Blackboard Learning Systems. The use of multiple platforms presented a challenge for both faculty and students, so the University undertook a yearlong selection process to choose a single enterprise-level learning management system. In late spring of 2006, the University selected the Blackboard Academic Suite to be its Enterprise Learning Management System (ELMS, Appendix B-111). AY06 will be one of transition as users and courses are migrated to the new system. On the administrative side, the UMEG system provides a vehicle for faculty to submit grades electronically, download class information and roster photos, and automatically create course e-mail reflectors to communicate with students.

OIT collaborates with other units to advance the use of instructional technology in teaching and learning. One such collaboration is with the Center for Teaching Excellence (CTE) to organize an annual Teaching with Technology Conference that will mark its fifteenth iteration in 2007. This conference series highlights University faculty and departmental innovations in classroom technology and also provides a forum for the exchange of ideas on how rapid advances in technology can best be harnessed to meet the needs of faculty and students. With the University Libraries, OIT has co-sponsored a speaker series on Teaching, Learning and Technology.

Other collaborative committees and projects that advance the use of instructional technology include:

- **The Teaching Facilities Committee (TFC):** reports to the Facilities Council and includes representatives from the Provost’s Office, Plant Maintenance; Plant Engineering, OIT, Facilities Planning, the Registrar’s Office, and the Center for Teaching Excellence (Appendix B-112). See Topic A, Section III.B on TFC procedures and significant projects and Appendices A-35b and c for details concerning the TFC.

- **Maryland Institute for Technology in the Humanities (MITH):** Founded in 1999 as a collaborative venture between ARHU, OIT, and the Libraries, MITH is an applied think tank for the digital humanities (Appendix B-113). In the 2000 Strategic Plan, the recently established MITH is forecast as a national model for integrating cutting-edge technology into the liberal arts. Since its establishment, faculty MITH fellows have completed digital projects in history, languages, philosophy, and literatures that have led to numerous undergraduate and graduate humanities courses hosted by MITH.

- **Clicker Project:** Clickers are wireless transmitters that enable students to respond individually to questions posed by an instructor in the classroom. In BMGT, clickers were initially used in four graduate courses in Fall 2004. An assessment report by BMGT faculty recommended continued usage and expansion of the clickers in the graduate program (Appendix B-114). A parallel two-year “clicker project” by CTE and OIT to assess the use of clickers on undergraduate student learning and engagement more broadly is currently underway (Appendix B-115).
2. The University Libraries

The University Libraries are the knowledge portal for the University community. They provide leading-edge information services and collections in support of the University's mission and to further the creation of new knowledge and fields of research. Over the past ten years, the Libraries have reinvented themselves in highly imaginative ways. Through innovative uses of the newest technologies, the Libraries have moved from being a storehouse and cataloger of books and journals to being both a physical and a virtual source of information readily available to faculty and students twenty-four hours a day, seven days a week, no matter where in the world the user might be located.

Consistent with the flagship status of the University, the Libraries help create research and scholarly information communities on campus. They are a model for client-centered service excellence, providing information resources that enhance teaching and learning, in physical and virtual environments that are inviting and user-friendly. The Libraries encompass seven libraries across the campus, holding more than three million physical volumes. There are 257 FTE staff, including 87 library faculty.

Beyond the campus, the Libraries have developed effective and useful partnerships with many major libraries and archival repositories in the Washington metropolitan area, including the Library of Congress, the National Archives, and the National Agricultural Library. The unparalleled quality of these national resources provide faculty and students with unique and exciting access to specialized collections and services that enhance our campus-held resources. The University Libraries, moreover, serves as the hub for the University System of Maryland and Affiliated Institutions (USMAI) Consortium of Libraries (Appendix B-116).

A major change for the University Libraries was the shift, beginning in 2004, to exclusively electronic access to numerous journals. During FY05 the Libraries continued to subscribe to approximately 6,500 journals, both print and electronic. However, in less than two years, 27% of that total—1,800 journals—became exclusively electronic subscriptions.

In FY05, close to 5.8 million searches were recorded for 241 databases, ranging from ArtSTOR to Medline. This represents an increase of one million in the number of searches over FY04, and an 18% increase in the number of databases available. The Libraries have done an outstanding job in making these databases available to the University community and are widely lauded by faculty and students for making access user-friendly and highly effective. Digital reference services, desktop article delivery, user empowerment capabilities, and digital library initiatives are means by which the Libraries will reach out electronically to all user groups.

In January 2003, the Libraries launched a new online catalog (Appendix B-117) that substantially improves access to the collections of the UM Libraries, other USM libraries, and the aforementioned partners in our region. Research Port’s “My Account” capability enables UM and USM users to save searches and results and to access library account information (Appendix B-118). Most importantly, the interface to electronic materials is very robust, with capabilities to search across databases, along with a transparent link from search to source.
The Libraries are encouraging electronic-only access to articles and book chapters placed on course reserve. By January 2005, the UM Libraries were providing electronic-only access to reserves materials at McKeldin Library. By Fall 2005, all campus libraries were included in this service enhancement.

The phenomenon of the continuing importance of “library as place,” in an era when the location of information matters less, is a reality supported by gate counts for all libraries (e.g., figures for the past several years: 1,637,000 in FY02; 1,665,000 in FY03; 1,813,000 for FY04). Since the last Middle States review, the Michelle Smith Performing Arts Library facility was constructed, as an integral component of the new Clarice Smith Performing Arts Center on campus. Significant renovations have been completed in the central McKeldin Library, and in Hornbake Library, formerly the Undergraduate Library.

The Libraries have a long history of instruction. During the 2005 academic year, 1,027 classes, tours, workshops and seminars were offered to 23,518 participants, a 10% growth in activities compared to the previous year. The Libraries are notable for their systematic outreach (Appendix B-119) to large programs, such as University Honors and the Professional Writing Program. The Libraries have successfully reached first-year students through large “gateways” such as the living-learning programs (University Honors 100), and first-year courses such as English 101, Engineering Science 100, Gemstone 100 and University Courses 100/101.

The Libraries have structured the information literacy program to increase in complexity throughout a student’s university career. Subject specialist librarians work closely with academic departments to integrate information literacy skills throughout the major, focusing on courses such as research methods courses or capstone experiences. Due to the technological innovation occurring both inside and outside academia, providing a cutting-edge education depends in part on helping students to develop information literacy of sufficient breadth.

In addition to face-to-face instruction, new technologies provide opportunities to reach students in different ways through stand-alone and course-related online tutorials, and to integrate information literacy skills and resources into courses using WebCT and other course management software. The Terrapin Information Literacy Tutorial (TILT) (Appendix B-120) is an online tutorial developed by the Libraries’ User Education Services and the Information Technology Division specifically for English 101 students, and is used heavily by instructors to prepare students before coming to the library.

The Libraries have also been involved in a project testing assessment instruments such as the Standardized Assessment of Information Literacy Skills (SAILS). In 2004, SAILS was administered to 32 University library instruction sessions for the Professional Writing Program, where 503 students agreed to have their responses reported. The results are available in the 2004 SAILS final report included as Appendix B-121. (The Libraries will administer the test again Spring 2007 to Professional Writing students.) The test has been in revision and testing on the national level, and has just been released again. The University intends to use the test in the spring of 2007, and is exploring discipline-specific assessments for use by 2008.
X. Strategies for Excellence in Graduate Education

A. Introduction

As the flagship institution of the University System of Maryland, the University has a mandate to become nationally and internationally recognized for excellence in the advancement of knowledge. As an integral part of this mandate, the University is the primary public state academic institution for graduate education and research. Because of its excellence as a research institution, and the excellence of its faculty, the University is able to compete for, and attract, the most talented students in the state, regional, national, and international arenas in numerous scholarly disciplines.

Table 2.14 provides data from Fall 1998 to Fall 2005 on graduate students by degree program classification. As the data demonstrate, the number of doctoral students has increased by approximately 1,000 students in this period. An almost equal and deliberate shift appears in the numbers of full-time versus part-time doctoral students. This trend correlates with improved graduate education and recruitment of full-time graduate students. On the other hand, the growth in the number of students seeking master’s degrees is evenly distributed between full- and part-time students. This trend, too, is deliberate, and corresponds to the development of several part-time master’s programs that respond specifically to market demand and need (Appendix B-122).

Table 2.14: Graduate Students by Full-Time vs. Part-Time Status and by Degree Program

<table>
<thead>
<tr>
<th>Student Type</th>
<th>Fall 1998</th>
<th>Fall 1999</th>
<th>Fall 2000</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adv Special (qualified post-bacc. students with no degree objectives)</td>
<td>32</td>
<td>31</td>
<td>47</td>
<td>40</td>
<td>48</td>
<td>37</td>
<td>24</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td>655</td>
<td>693</td>
<td>678</td>
<td>723</td>
<td>783</td>
<td>698</td>
<td>570</td>
<td>567</td>
</tr>
<tr>
<td>Doctorate</td>
<td>687</td>
<td>724</td>
<td>725</td>
<td>763</td>
<td>831</td>
<td>735</td>
<td>594</td>
<td>612</td>
</tr>
<tr>
<td>Full-time</td>
<td>2237</td>
<td>2337</td>
<td>2394</td>
<td>2580</td>
<td>3398</td>
<td>3621</td>
<td>3850</td>
<td>4119</td>
</tr>
<tr>
<td>Part-time</td>
<td>1480</td>
<td>1355</td>
<td>1318</td>
<td>1376</td>
<td>761</td>
<td>745</td>
<td>732</td>
<td>570</td>
</tr>
<tr>
<td>Total</td>
<td>3717</td>
<td>3692</td>
<td>3712</td>
<td>3956</td>
<td>4159</td>
<td>4366</td>
<td>4582</td>
<td>4689</td>
</tr>
<tr>
<td>First Professional (Veterinary – Medicine Joint Program with Virginia Tech)</td>
<td>119</td>
<td>119</td>
<td>120</td>
<td>119</td>
<td>115</td>
<td>114</td>
<td>114</td>
<td>114</td>
</tr>
<tr>
<td>Masters</td>
<td>1910</td>
<td>2086</td>
<td>2406</td>
<td>2693</td>
<td>2782</td>
<td>2726</td>
<td>2366</td>
<td>2364</td>
</tr>
<tr>
<td>Full-time</td>
<td>1835</td>
<td>1645</td>
<td>1589</td>
<td>1530</td>
<td>1669</td>
<td>1937</td>
<td>2136</td>
<td>2148</td>
</tr>
<tr>
<td>Part-time</td>
<td>3745</td>
<td>3731</td>
<td>3995</td>
<td>4223</td>
<td>4451</td>
<td>4663</td>
<td>4502</td>
<td>4512</td>
</tr>
<tr>
<td>Total</td>
<td>8149</td>
<td>8147</td>
<td>8551</td>
<td>9061</td>
<td>9561</td>
<td>9883</td>
<td>9793</td>
<td>9927</td>
</tr>
</tbody>
</table>
In significant programmatic developments, this self-study highlights the strategic increase in interdisciplinary academic programs and two new degree programs in Professional Studies with oversight in the Graduate School. In the international arena, graduate programs in business and criminology have been created in Shanghai, Beijing, Nanjing, and Zurich.

B. Highlighted Interdisciplinary Graduate Programs

The strategic goals for continuing to build a culture of excellence in graduate and professional education include several important initiatives addressed in the faculty section (Section V) of this self-study. Undoubtedly, faculty strength is central to graduate excellence in a research-extensive university and our accomplishments in that area speak to the commitment of the University to develop national and international eminence within and across the disciplines, according to the University’s Statement of Mission and Goals. Accordingly, the University supports intellectual exchange, research, and graduate teaching across academic fields. Collaborative scholarly interactions produce new knowledge and create a dynamic and emergent curriculum that forges new frontiers in research and teaching.

Specifically, the University has strengthened graduate offerings through strategic interdisciplinary programmatic developments in bioengineering, neuroscience and cognitive science, second language acquisition and application, bioinformatics and computational biology, and other interdisciplinary fields including nanotechnology and applied mathematics and scientific computation. The growth of interdisciplinary graduate programs has been deliberate, particularly in the multidisciplinary BioSciences Initiative, as evidenced in the examples of Molecular and Cellular Biology, Bioengineering, Neuroscience and Cognitive Science, and Bioinformatics and Computational Biology. This section highlights the growth of interdisciplinary programs in the past decade.

- **Bioengineering:** In spring 2002, the University approved new interdisciplinary graduate programs (M.S. and Ph.D.) in Bioengineering. At the time, faculty expertise was spread out across four departments in the A. James Clark School of Engineering (Chemical, Electrical and Computer, Mechanical, and Materials Engineering), as well as in other colleges (AGNR, CLFS, CMPS). The initial group of five students in Fall 2003 has grown to twenty-five in Fall 2005. With the establishment of a graduate program, opportunities to develop new areas of research, and a sizeable donation from inventor and entrepreneur Robert E. Fischell, the University established the Fischell Department of Bioengineering in 2006. Several engineering faculty from various units were joined by colleagues from AGNR’s former Biological Resources Engineering (ENBE) program in a reorganization that moved, modified, and renamed the undergraduate program (from Biological Resources Engineering to Bioengineering) into the new department. The new department, still interdisciplinary in focus, is the tenure home of ten faculty members and includes over fifty affiliate faculty from other units in ENGR, and from CLFS, CMPS, HLHP, the University of Maryland Biotechnology Institute (UMBI), and the University of Maryland Schools of Medicine and Pharmacy.
• **Bioinformatics and Computational Biology:** The Center for Bioinformatics and Computational Biology (CBCB) (Appendix B-123) is affiliated with CLFS and CMPS, and is located within the University of Maryland Institute for Advanced Computer Studies (UMIACS). While there is no Ph.D. program specifically in Bioinformatics, the Center’s faculty mentor and supervise doctoral students in Computer Science; Applied Mathematics and Scientific Computation; Bioengineering; Biology; Cell Biology and Molecular Genetics; Molecular and Cell Biology; and Behavior, Ecology, Evolution and Systematics. Graduate students are included in research teams and bioinformatics courses are offered in the individual academic units. CBCB sponsors semester-long seminar series that bring leading researchers and scholars to the University of Maryland. This also provides Ph.D. students with an opportunity to present their research as part of the series.

• **Neuroscience and Cognitive Science:** The Neuroscience and Cognitive Science (NACS) Ph.D. program, housed in the Graduate School, was created in 1996. NACS currently is training over forty doctoral students and has faculty from fourteen departments in eight colleges. These faculty pursue active cross-disciplinary research collaborations and foster similar training not only for graduate students, but also for the many undergraduates and postdoctoral fellows in NACS laboratories. One major outcome of the NACS program has been the addition of over 30 new faculty to the University in the past ten years, all of whom sought the collaborations offered by the interdisciplinary nature of the program. A second outcome has been the strong ties that have developed with investigators at the National Institutes of Health. This has enhanced faculty research on campus and, more importantly, provided unique and interactive research opportunities for the many graduate students who can take advantage of the expertise and facilities at both institutions. The NACS program highlights for 2005-2006 are exemplary of the success in recruiting high quality graduate students into the program and placement of graduates following successful completion of the Ph.D (Appendix B-124).

• **Second Language Acquisition:** The Ph.D. program in Second Language Acquisition (SLA) was approved for Fall 2005 as an initiative of the recently formed School of Languages, Literatures and Cultures (SLLC). Though housed in SLLC, the program has a strong cognitive science research focus and draws upon affiliate faculty in Linguistics; Psychology; Measurement, Statistics and Evaluation; Communication; Education Curriculum and Instruction; and Philosophy. An M.A. in Second Language Acquisition and Application (SLAA) was approved for Fall 2002 as a program designed for researchers, language teachers, government service professionals, social service employees, and others interested in the acquisition and application of languages other than English. The M.A. and especially the Ph.D. program benefit from close associations with the National Foreign Language Center (NFLC) (Appendix B-125), the nation’s most influential center for strategic planning and development of policy for language, and the University of Maryland Center for Advanced Study of Languages (CASL) (Appendix B-126). The second language acquisition programs and CASL are linked in several important ways, including the funding of graduate students through projects such as the Linguistic Correlates of Proficiency and the Aptitude Battery. CASL has organized
workshops and seminars for SLA/A students and faculty, and CASL affiliate faculty teach courses periodically, supervise independent study projects, and can serve on exam and dissertation committees. See also Appendix A-5.2 for information on CASL.

- **Maryland Population Research Center** Founded in 1998, this initiative began as a joint project between the Departments of Sociology and Economics and resulted in an unusually active, balanced, collaborative, and multidisciplinary partnership (Appendix B-127). The Center was awarded a Population Research Infrastructure Program (R24) grant from the National Institute of Health’s National Institute of Child Health and Development in 2002, making it one of only fifteen population research centers nationally. Today, the MPRC includes forty-three faculty associates from ten University departments, including most recently the School of Public Policy. The cross-disciplinary research interests of the faculty in this Center allow the MPRC to make a unique contribution to the field of population studies. MPRC has developed an interdisciplinary graduate certificate that has been submitted for approval in Fall 2006.

**XI. Effectiveness in Graduate Education**

**A. The New Graduate School**

As previously described in the section on assessment and the President’s task forces, the positions of Dean of the Graduate School and Vice-President of Research were provisionally separated in the spring of 2004. A comprehensive review in the spring of 2005 concluded that graduate education would best be served by the formation of a separate graduate division. See Appendix A-16b for the full report of the Review Committee. In the ensuing period, the Graduate School and Academic Affairs, with the advice and consent of the Graduate Council, have adopted and enforced a number of programs and policies to improve graduate education at the University.

Among the most significant changes implemented are the following:

- **Graduate School Field Committees:** In Spring 2005, the Graduate Council of the Graduate School developed and approved guidelines for the formation of Field Committees (Appendix B-128) as a means to facilitate interdisciplinary research. Field Committees, established through a streamlined formal process, provide a responsive and cost-effective means of employing existing resources to increase interdisciplinary research in fast moving fields. Composed of five or more regular faculty members from at least two disciplines, Field Committees allow faculty to gain formal recognition of their work in interdisciplinary areas and help in recruiting graduate students interested in the emerging fields of study. Presently, there are five such field committees: The Burgers Program in Fluid Dynamics; the Field Committee in Nanoscience and Technology; the Maryland Biophysics program; the Field Committee in Energy Systems Engineering; and the Field Committee in Developmental Science.
• The Graduate School has acquired funding for the Ann G. Wylie Dissertation Fellowships (formerly the Dean’s Dissertation Fellowships). Twelve fellowships were awarded in Spring 2006 and another thirty for the 2006-2007 academic year. Graduate Dean’s Dissertation Fellowships are part of a new initiative to improve graduate degree completion rates, as discussed in the Section B below (Appendix B-129).

• The Graduate School also has secured seed money for Flagship Fellowships. These awards, currently under development, will enable programs to compete successfully for the best students. Flagship Fellowships will be in place for the 2007 graduate recruitment season. This initiative addresses some of the issues raised in Section C below.

B. Ph.D. Completion and Time to Degree

A continuing challenge for the Graduate School and graduate studies in general at the University is the ten-year Ph.D. completion rate. For students who entered Ph.D. programs between 1993 and 1996, that rate is 48.75%, in contrast to the national average of 60%. The UM rate is even lower for women and minority graduate students. In light of this challenge, the Provost appointed a committee to study the issues that affect degree completion and time to degree rates. The committee produced a “Report on Ph.D. Completion” that included the results of a survey on graduate assistant workload. The report of the committee and its subcommittees issued several recommendations concerning mentorship, financial assistance, resources, advising and workload requirements for the Graduate School, Colleges and Schools, and Academic Programs. Those recommendations are available in the full report, included as Appendix B-130.

C. Graduate Student Stipends and Workload

While much has been accomplished in the past two years to address graduate student needs, ongoing challenges persist in relation to stipends and workload. As the quality and reputation of our graduate programs and faculty continue to rise, the University also continues to attract applications from the most talented students. The “funding package” offered to these exceptional graduate applicants often is not competitive, particularly in relation to the relatively high cost of living and housing in the area. The funding issue is an important area in which we lag behind our institutional peers. Stipends for graduate assistantships vary across the University, as does the actual workload associated with those assistantships. To make ends meet, an increasing number of graduate students take second jobs. These factors affect not only our ability to recruit competitively, but also the rate of degree completion and time to degree. In 2006, the Graduate School and OIRP conducted a Graduate Assistant Survey, the results of which are available in Appendix B-131. Addressing the challenges of funding and workload are immediate priorities for the newly reorganized Graduate School.
• We recommend that careful follow-up be taken in regard to the Time-to-Degree Study and Report. Measures for improvement are being established, and we recommend ongoing assessment of these and subsequent endeavors.

• We recommend that the University continue to improve the overall support for graduate students.

XII. Graduate Professional Programs

In early 2005, two new entrepreneurial programs were developed. These programs, the Master of Professional Studies and the Certificate in Professional Studies, were approved as templates designed to give academic units the flexibility to propose customized multidisciplinary degrees or certificate programs for qualified employees in government agencies and private sector organizations. Having such programs enables the University faculty to respond quickly and creatively to the needs of government and private organizations by developing programs that cross disciplinary lines and meet specific needs.

The Graduate School serves as the default academic home for these programs and provides general oversight, while the programs are normally administered through the Office of Professional Studies (Appendix B-132). Each iteration of the non-thesis master or certificate program requires approval first of the Graduate and Senate Programs, Curricula and Courses committees, with final approval by the USM Chancellor. For each offering, a discrete committee composed of faculty from the core academic areas, a representative from the Graduate School, and an administrative manager provides hands-on oversight. Each proposal must also include program goals and student learning outcomes expectations consistent with the University’s standards for graduate education. Assessment of each program precedes any repeated offering with necessary changes made based on feedback.

In AY05, the University approved four professional masters and ten certificate programs, with all but one administered through the Office of Professional Studies. These programs draw on UM’s strengths in critical languages, information assurance technology, public health informatics, and food safety. While it is still too early to measure the full impact of these professional master and certificate programs, they promise to provide innovative vehicles for graduate professional education and outreach, as well as for revenue resources for academic units.

Several schools and colleges have developed executive education programs. The Robert H. Smith School of Business offers the executive track of the University’s MBA degree at College Park and in international locations, particularly in China, as detailed below. Executive education also forms a central part of the School of Public Policy’s mission to create public policy leaders. For more than twenty years, PUAF’s Office of Executive Programs has been dedicated to educational outreach, particularly to mid-career and senior level professionals in government and non-governmental sectors. Public Policy’s graduate certificate programs in areas such as national security policy and public sector finance typically are sought by professionals with advanced degrees. Among its many collaborations, PUAF partners with the
Council for Excellence in Government; the University offers an Executive Master of Public Management off-site at the Council’s facilities in Washington, D.C. The University also offers other graduate programs tailored for professional development. The Professional Master of Engineering (ENPM) (Appendix B-133) and the Graduate Certificate in Engineering are designed specifically as practice-oriented, part-time professional development programs and are offered in a variety of formats and sites—at College Park, at designated locations such as the Universities at Shady Grove, and online. The College of Chemical and Life Sciences offers an online Master of Life Sciences designed to update working high school teachers of Biology and Chemistry with modern developments in these fields. The Master of Information Management is offered by the College of Information Studies both on and off campus mostly to government professionals. The Professional Masters program in the Mathematics of Advanced Industrial Technology is designed to train professionals already working in the field of mathematical engineering.

The growth of both on- and off-campus executive and professional programs presents challenges to the University, particularly in terms of policies and procedures. Current policies largely pertain to research degrees and courses offered in a semester-long format in a traditional classroom setting. Additionally, as these programs proliferate, the University needs to reiterate guidelines for graduate admissions, regular faculty overload, and adjunct graduate faculty status.

*Given the relatively rapid growth of professional and executive programs, we recommend that the University identify goals and challenges for their development and implementation. We propose that a standing committee or special task force review current academic policies and procedures to assure that they are consistent with the University’s strategic plan to expand our professional and executive programs both domestically and internationally. The committee or task force should be charged with recommending procedural and policy changes that will facilitate flexibility in program design and delivery of courses while assuring academic oversight and quality.*

**XIII. Off-Campus Locations**

The University offers a growing array of off-campus academic programs at the undergraduate and graduate levels. According to the Code of Maryland (COMAR), an academic program is considered to be “off-campus,” if more than one-third of the required coursework in a 12-month period is offered at a location other than the institution’s central campus. The state, moreover, has taken a pro-active stance that considers “off-campus” any coursework offered at a location other than the institution’s principal campus if advertised as leading to an undergraduate or graduate degree regardless of the fraction thereof. The approval process for off-campus offerings of existing academic programs assures that program quality will be maintained and that adequate student support services will be provided in the new location. The University currently offers off-campus academic programs in numerous locations in the State of Maryland, the greater Washington-Baltimore metropolitan area, and internationally (Appendix B-134). The following highlights two expanding off-campus locations, the Universities at Shady Grove, an emerging regional center in nearby Montgomery County, and the developing educational partnerships with universities in China.
A. The Universities at Shady Grove

The Universities at Shady Grove (USG) is a University System of Maryland (USM) academic facility located at the Shady Grove Educational Center in Montgomery County. The Center has existed for about twenty years as an outreach location and, until recently, was used exclusively in evening and weekend hours as a venue for a few graduate programs of USM institutions and for part-time undergraduate programs mostly offered by the University of Maryland University College (UMUC). Beginning four years ago, however, USG has become a facility where eight of the USM’s eleven degree-granting institutions offer courses and degree programs, now mostly for full-time undergraduate day students at the upper division (junior and senior) levels.

The undergraduate programs offered at the USG are the upper division portions of the same programs offered at the home institutions. Students are expected to transfer into the programs with the lower division requirements completed, usually at a community college, and most often from Montgomery College, the community college of Montgomery County. The institutions providing the degree programs admit students and grant degrees, while the USG provides local student services, in close cooperation with the service providers at the home institutions. On-site library and computing services are provided, and the classrooms are modern and well equipped. Program faculty from the home institutions offer instruction on-site at the USG. Detailed articulation agreements with several local community colleges facilitate the transfer of students into the USG programs.

A shortcoming of the USG site is that the range of available College Park courses is limited. This is mitigated somewhat by arrangements for sharing courses among the eight institutions involved. As of Fall 2006, a special committee of representatives for the USG programs is studying course sharing priorities and will make recommendations shortly. In addition, USG students have the opportunity to take a limited number of courses at the home institution. As the facility grows and new programs are added, the range of courses offered on site will continue to expand. A new building that will double capacity is presently under construction.

The University began offering four undergraduate Business specializations and the General Biology specialization of its Biological Sciences program at the USG in Fall 2001, and added its Criminology and Criminal Justice program in Fall 2003 and Communication in Fall 2005. Additional programs are being prepared for offering at the USG, including Public and Community Health. A total of 341 students majored in the undergraduate programs offered by the University at the USG in the 2005-2006 academic year. The retention and graduation rates at the Shady Grove programs exceed the success rate for community college transfers into the corresponding home institution programs. Mitigating factors include smaller cohorted classes and individualized attention from an on-site Program director for each undergraduate program.

The University has offered a part-time evening MBA program at the Shady Grove Center since 1990. (The MBA program is also offered at locations in Washington, D.C. and in Baltimore.) More recently, the University has added to its USG portfolio portions of its interactive, video-based Master of Engineering program, and two cohorts of students working
towards the Master of Education, specializing in middle school mathematics education or teaching English to speakers of other languages. These Master of Education programs are at the request of and in collaboration with the Montgomery County Board of Education to address teacher shortages. Additional graduate programs to be based at the USG are in preparation, including a Master of Education in (Middle School) Science Education and a Graduate Certificate for teachers in Literacy Training.

There are special challenges associated with the coordination of off-site programs with each other and with main institution offices. At startup, the general oversight of the programs at the USG was the responsibility of the Associate Provost for Academic Planning and Programs. However, as our involvement grows, more time and attention must be devoted to this enterprise. A new staff member has been hired within the Office of Academic Affairs to bolster our ability to oversee and coordinate our programmatic offerings, and a new advisory committee has been established to ensure that our offerings at the Shady Grove Center integrate well with their home programs and each other, and that growth is healthy and deliberate. In Fall 2006, USG will be coordinating an academic strategic planning exercise with all of the participating institutions as a step in assuring optimum growth in key areas of workforce need in Montgomery and surrounding counties.

We recommend that the University organize a UM-Shady Grove committee to examine issues of enrollment management, student services, program offerings, and short and long-term plans for establishing College Park programs at the Regional Center.

B. International Off-Site Programs (China)

The University has pursued close ties with Asian institutions over more than two decades. Maryland has had a sister state relationship with the Anhui Province since China and the U.S. established closer relations in the 1980s. Since then, a large number of cooperative agreements between the University and leading Chinese institutions have paved the way to a growing number of student and faculty exchanges and collaboration among scholars. We have strong alumni organizations throughout East Asia, most notably in Taiwan and Thailand, as well as informal networks throughout eleven provinces in China and in the municipalities of Shanghai and Beijing.

The University is the site of the first Confucius Institute (for Chinese language and culture training) opened in the United States, and also hosts the U.S.-China Science Park at Maryland, the first Chinese government research park in the U.S. (Appendix B-135). The Institute for Global Chinese Affairs (IGCA), part of the Office of International Programs, oversees a number of China-related programs, in particular an on-campus training program in economic development, management, and policy implementation for business, government, and academic leaders from China. To date, over 1,000 executives have been trained by IGCA and constitute a loyal and active alumni base as they also advance in their careers throughout China.

Recently we have begun to offer full-scale masters programs in several locations within China. In particular, we have Executive MBA programs in both Beijing and Shanghai, and a professional masters program in Criminal Justice in Nanjing. These programs strengthen ties
between University faculty and academics and others in China. They provide broadened perspectives and research opportunities for faculty, and help cement economic relationships with Maryland entities. Each new program location requires a separate University approval process for off-site programs, where the program curriculum, faculty, and venue are reviewed to assure that program integrity, quality, and student services are maintained (Appendix B-136).

XIV. The Assessment of Student Learning

A. Introduction and Overview

As described in the first two elements of its Strategic Plan, the University intends to “continue to elevate the quality of undergraduate education” and to “build a strong, university-wide culture of excellence in graduate and professional education.” Earlier sections of this report described close faculty oversight of the creation or modification of educational programs, review of individual programs through unit reviews, review of courses through student evaluations, and many ways that the educational experience is strengthened through special programs or students assisted through ordinary and special advising opportunities. The University is now adding to this effort by building a campus-wide culture of learning outcomes assessment. The assessment of student learning is more deeply institutionalized in colleges such as BMGT and ENGR, where assessment practices have been adopted with the guidance of outside accrediting agencies. However, learning outcomes assessment on an institution-wide scale is a more recent undertaking at the University, and one for which the initial impetus was largely external and linked to state, regional and national concerns and mandates.

The September-October 2006 edition of the University's Center for Teaching Excellence newsletter featured an article (Appendix B-137) by Donna Hamilton, Associate Provost for Academic Affairs and Dean for Undergraduate Studies, describing the collective institutional effort to put in place a system of learning outcomes assessment in every department of every College. Hamilton summarizes recent changes brought about by a network of committed faculty members and administrators:

"In just one year, the University has shifted its approach to teaching and learning by generating statements of Learning Outcome goals for every degree program offered here at Maryland. To date more than 400 academic programs have stated learning outcome goals for their students, as have the Libraries and Student Affairs. The credit for this amazing progress goes to an energetic campus network that began with the formation of the Provost's Commission on Learning Outcomes Assessment nearly three years ago."

A full discussion of the Commission, its structure, and some of its activities is in Section B below. The results of these three years of work include the following:

- The Provost’s Commission convened a faculty working group that engaged the campus in developing University-wide goals for student learning in five essential areas of an undergraduate education. See Section D.1 below.
• As described above in Section VII.D.2, outcomes goals (Appendix B-93) were developed for the General Education (CORE) program as a whole and for each of the eleven categories of courses that comprise the program and were then approved by the University Senate CORE Committee. Additionally, all CORE courses have been mapped according to the intended outcomes and each course.

• Through a lengthy, collaborative, and iterative process, faculty throughout the institution have developed learning outcomes goals for each undergraduate major program, many program tracks, each minor, and each graduate program offered at the University. Details of this unprecedented project are in Section C below. Goals have also been established for the Libraries’ Information Literacy training program and for learning-skills programs offered in the Division of Student Affairs (see Section E, below). The complete set of current program goals is available as Appendix B-138, and as a sample, the goals for the College of Computer, Mathematical and Physical Sciences is available as Appendix B-139.

• The process for developing program goals has extended into the creation of specific plans for how to do outcomes assessment in each program. Details of the iterative process through which assessment plans were created and reviewed are discussed in Section C below.

• The initial application of a portion of these newly developed assessment plans will occur during Fall 2006 and Spring 2007, with results due to be reported in early March 2007. All student learning goals within every program are to be assessed within four years, by March 2010.

• As described in Section VII.D.2 above, a faculty working group will be assessing learning outcomes in the Human Cultural Diversity portion of the CORE program general education this year. Assessment projects related to University-level learning outcomes are discussed in Section D.2 below.

Although originally driven by external forces, these developments concerning outcomes and assessment are taking hold as integral parts of our academic structure. As several examples, we note that:

• All new academic programs proposals require articulated learning goals and outcomes along with a plan on how these outcomes are to be assessed. See Appendix A-11.2, sections III.A and B.

• As amended in 2001, the Policy on Academic Unit Reviews (Appendix A-23a) already requires that academic units report, as part of their review self studies, on measures taken to improve programs through outcomes assessment. External reviewers will henceforth be asked to evaluate program learning goals and assessment rubrics as part of program review.

• All CORE proposal forms begin with a checklist of the Senate-approved CORE Learning
Outcomes. Conditions for approval are that intended course outcomes parallel those prescribed and that the proposed course content supports this goal.

- The Provost’s Commission on Learning Outcomes Assessment has created an institutional infrastructure with strong leadership support, which will coordinate these efforts.

- The position of Director of Assessment was recently created in the Office of Institutional Research and Planning to direct, coordinate and support assessment projects across campus. This office also coordinates the newly developed plan to administer university-wide course evaluations.

- Assessment of all student learning figures prominently in the Mission and Goals Statement of the University of Maryland.

B. Provost's Commission on Learning Outcomes Assessment

1. Organization and Roles

The Provost's Commission on Learning Outcomes Assessment (Appendix B-140) was established in the fall of 2003, with the Associate Provost for Academic Affairs and Dean for Undergraduate Studies, Donna Hamilton, named as chair. Charged by the Provost to work with all campus units as they develop learning outcomes and to establish a new standard for assessment at the University of Maryland, the Commission consists of four interacting groups of UM faculty and administrators.

- The Planning Team that establishes the agenda for and oversees the work of the entire Commission is chaired by the Associate Provost and Dean for Undergraduate Studies. Members include the campus Director of Assessment, the Dean of the College of Education, an Associate Dean from the Office of Undergraduate Studies, and the Director of the Center for Teaching Excellence.

- The Deans' Steering Committee, comprised of six college deans, serves as an advisory board for the Planning Team and meets two or three times per year.

- The College Assessment Coordinators serve as liaisons between the Planning Team and their respective deans and colleges. Each College designates one or two faculty members to serve as Coordinators. These coordinators attend monthly meetings with the Planning Team and disseminate information to their colleges. They act as resources for their colleges, providing guidance to faculty as they develop learning outcomes goals and assessment plans. Coordinators also manage the process whereby unit goals and plans receive college-level review and approval prior to submission to the Provost. This review process places ultimate responsibility for the quality of assessment products in the colleges.
Faculty Working Groups are task-specific groups charged with solving particular outcomes and assessment problems. The first Faculty Working Group developed campus-wide learning goals for the University and conducted two pilot projects. The assessment of CORE general education depends on a series of Faculty Working Groups, one for each of the eleven CORE categories to be assessed.

2. Training and Workshops on Student Learning Outcomes

The Provost's Commission sponsors on- and off-campus events and workshops with national leaders in the field of learning outcomes assessment, as well as with our campus experts, to address critical issues. These events included an initial group of nine faculty and administrators who attended an AAHE assessment workshop. The following events, among many others, have highlighted this year of learning about assessment:

- In September 2005, fourteen Campus Coordinators attended a Middle States Assessment Conference in Baltimore. Those who attended spent time at their next campus meeting discussing what they had learned and sharing with other Coordinators.

- In October 2005, some eighty College Coordinators and other representatives joined in a full day of consulting on learning outcomes and assessment with Dr. Peggy Maki, who also met separately with deans and with faculty assessment leaders on integrating assessment of student learning into educational practices, processes, and structures.

- The Provost's Commission sponsored an institution-wide presentation, “Simple Assessment: Etudes on the Minute Paper and Other Simple Assessment Techniques” by Dr. Douglas J. Eder. Dr. Eder also spent time consulting with departments and programs that requested private meetings. In addition, Dr. Eder's tips on simple assessment methods were captured on video for later use by individuals, departments, and colleges.

- The Provost's Commission on Learning Outcomes Assessment provides ongoing in-house workshops on topics that include an overview of learning outcomes assessment and our institutional process, establishing student learning outcome goals and objectives, methods for assessing student learning outcomes, designing rubrics for evaluating student learning outcomes, and utilizing results of student learning outcomes assessment.

As our campus network of experts grows, presentations and workshops rely more and more on home-grown expertise. For example, an October 2006 session on program outcomes for the University Libraries is being co-chaired by a member of the campus Assessment Planning Team and a University librarian who also belongs to the College Coordinator group.

C. Plan for the Assessment of Student Learning: Academic Programs and Courses

Planning for the assessment of student learning has been an institution-wide collaborative process focused on learning outcomes at course and program levels. Through this process, learning outcomes goals and assessment plans were developed for each undergraduate major program, many program tracks, each minor program, and each graduate program offered at the
University. Although the initiative was led by high-ranking administrators, the work was faculty-driven. This collaborative process also incorporated significant involvement at the College and University levels and included the following steps:

- In Fall 2005, faculty in each degree program met to discuss and establish course and program learning outcomes (Appendix B-141). Faculty were asked to elaborate on how these goals aligned with University and College missions and strategic plans.

- In a parallel process, program faculty defined the assessment methods (Appendix B-141) that will be used to measure the identified student learning goals.

- Once the program faculty submitted the associated learning goals and assessments to their College Coordinators, the corresponding Deans and College Assessment Committees reviewed and approved the Assessment Plans. See, for example, the Rubric used by the College of Arts and Humanities (Appendix B-142) to review the Assessment Plans for programs in the College.

- The College Assessment Coordinators acted as peer reviewers at the institutional level and used an Assessment Plan Rubric (Appendix B-143) to review and provide peer feedback on the Assessment Plans. Plans needing revision were returned to the Dean and the College Assessment Committee. Revised plans were due in the Provost’s office by September 29, 2006.

- In September 2006, faculty in the academic programs established assessment methods, an initial assessment schedule, and plans to examine results obtained from these assessments beginning in the 2006-2007 academic year.

- The results of these initial assessment activities are due in the Provost's Office by March 15, 2007. Subsequently, each year's assessment plan is to be posted on September 29 and assessments are to take place in time for results to be posted on the following March 15. Faculty in the program will submit assessment results in March 2007 and will use the results to revise student learning outcome goals or to initiate program or course changes as appropriate. All student learning goals in every program are to be assessed within four years or by March 2010.

- Deans and College Assessment Committees will review and approve the Assessment Results, and College PCC (Programs, Curricula, Courses) committees will review and approve any program and course changes submitted by the program faculty.

- Deans and the Provost will review and evaluate student learning outcome data, and data-driven program and course changes in conjunction with other assessment data generated in the Program Review Process.

The completed learning outcome goals for all academic programs are available as Appendix B-138.
• At present, course syllabi in several colleges, departments, and programs systematically list student learning goals and outcomes. While this practice is especially prevalent in academic programs in business, engineering, education, and journalism, other programs including those in the School of Languages, Literatures, and Cultures, have moved towards course-based learning goals, objectives, and outcomes.

D. Setting University-Level Learning Outcomes

1. The Five Essential Elements of an Undergraduate Education

As developed through a collaborative process by the Faculty Working Group convened for the purpose, these goals and their related objectives articulate the educational outcomes to which faculty believe that we as a University aspire for our graduates; stating and sharing these objectives are helping to move the University community toward thinking of student progress in terms of outcomes. The essential elements of the five outcome goals are summarized below. Complete goals and objectives are available as Appendix B-144.

• Critical Thinking and Research: Undergraduates should learn and develop critical reasoning and research skills that they can apply successfully within a wide range and intersection of disciplines inside and outside of academia.

• Written and Oral Communication: Using standard English, undergraduates will communicate clearly and effectively in writing and orally for different audiences and purposes.

• Scientific and Quantitative Reasoning: Undergraduates should understand and be able to apply basic scientific and mathematical reasoning to their research efforts and critical analyses.

• Information Literacy Skills: Undergraduates will learn and develop information literacy skills that they can successfully apply within a wide range and intersection of disciplines inside and outside academia.

• Technological Fluency: Undergraduates will be able to understand basic technologies and how these relate to their specific disciplines, and will be able to apply these technologies to their research and academic efforts.

2. Assessing University-Level Outcomes

Establishing these outcomes provided opportunities for two University-wide assessment projects. The Faculty Working Group planned two learning outcome assessments, both focused on critical thinking and writing skills.

The first assessment examined critical thinking as part of an on-going effort at the University of Maryland's Center for Assessment of Higher Education (CAHE) to measure undergraduate learning. In initial pilot studies at Columbia University and the University of
Maryland, instruments with analytic essay questions and a battery of multiple choice items were devised and tested. Two types of instruments were developed: those applicable across disciplines and those with discipline-specific items. Recently CAHE conducted a follow-up investigation of the first-year student cohort, whose critical thinking abilities were assessed in the initial pilot study. This follow-up assessment for students in their senior year will provide longitudinal analysis of how critical thinking changed across four years at the University. A description of the proposal for this study is included as Appendix B-145. Preliminary results from this study suggest that critical thinking skills increased across this sample group's four years of study at the University. In addition, these preliminary results suggest that these changes in critical thinking skills were not uniform across disciplines. Further analyses of the disciplinary differences in changes in critical thinking can provide information that may be useful for program improvement.

The second assessment project was designed by a subgroup of the Faculty Working Group to assess critical thinking and writing as addressed in the University-level goals and objectives. It consisted of an extra-credit writing assignment, given with the permission of the instructor, in a high-enrollment course with students at all stages of undergraduate education. The group developed a writing prompt and accompanying rubrics for scoring both the critical thinking and writing aspects of the assignment. At the same time, the rubrics were reviewed and revised by faculty attending a rubric workshop at the Center for Teaching Excellence (CTE).

To date, more than 150 essays have been completed and are being scored with the revised rubrics by some twenty graduate assistants from various fields who are enrolled in CTE’s University Teaching and Learning Program to develop teaching assistants as college teachers. This project has also become part of the training for these graduate assistants, teaching them how to use rubrics to conduct learning outcomes assessment. This effort is expected to continue with 150 more essays in the Fall 2006 semester. Results will be available in Spring 2007 (Appendix B-146), and a decision made on whether to continue this type of assessment or instead to devote campus-wide efforts to the assessment of learning outcomes in the CORE (General Education) program, where the feedback loop for curricular improvements would be more direct.

In conducting the review for this self-study, the Standard 14 working group found that outcomes assessment is well on its way to becoming an integral part of our academic programs and that there is growing understanding of ways to use assessment results to enhance undergraduate and graduate education programs, down to the levels of individual courses.

**E. Learning Outcomes in Enrichment Programs**

Several UM enrichment programs discussed earlier have developed student learning goals and outcomes as a collaborative process among the programs’ faculty and staff. In all instances, these goals and outcomes build upon those developed at the University-wide level. Examples include the following:
• Faculty and staff associated with the Coalition for Civic Engagement and Leadership, as described in Section VII.E of the second part of the self-study, has articulated learning outcomes and currently is engagement in an outcomes based project with faculty in English 101: Introduction to Writing.

• College Park Scholars faculty and staff have identified “Big Questions” (Appendix B-147) that define the student learning goals and outcomes for each of the twelve programs. The assessment plan addresses how the outcomes for each of the programs are measured within flexible narrative instrument and other materials that will allow for comparative data to be collected from among the various programs. Faculty and staff also have developed a sample rubric (Appendix B-148) for scoring the narrative assessment instrument as well as comprehensive guidelines (Appendix B-149).

• Beyond the Classroom, an upper-level living-learning program under new directorship since July, has retooled its focus toward student engagement in civil society and social organizations. The program faculty and staff have developed learning outcomes along with portfolio based assessment guidelines (Appendix B-150) that measure problem-solving competencies, written and oral communication skills, and a working understanding of civic engagement and leadership capabilities.

F. Division of Student Affairs Learning Outcomes

In a parallel process, the division of Student Affairs defined and articulated student learning outcomes in the following areas:

• **Oral communication assessment plan** - includes a plan and rubric for assessing the learning outcomes associated with oral presentation skills learned in training programs for volunteers in the University Health Center and the Office of Student Conduct. Also included is a rating sheet to be used by observers of the participants to rate the items in the rubric.

• **Time management assessment plan** - includes a plan and rubric for assessing the learning outcomes associated with time management skills learned in training programs offered by the Learning Assistance Center in the Counseling Center.

• **Ethical development assessment plan** - includes a plan and rubric for assessing ethical and principled reasoning, decision making, and actions as influenced by participation in an Academic Integrity Seminar offered by the Office of Student Conduct for students with XF on their transcripts.
• **Lifesaving skills CPR-AED assessment plan** - includes a plan for assessing the learning outcomes associated with Cardio-Pulmonary Resuscitation (CPR) skills and use of an Automated External Defibrillator (AED) learned in training programs for staff in the Institution Recreation Center. The rubric is not included but is determined by seven skill areas identified by the American Red Cross: conscious choking, checking the unconscious victim, removing gloves, rescue breathing, adult CPR, unconscious choking, and using an AED.

• **Resume writing assessment plan** - includes a plan and rubric for assessing the learning outcomes associated with resume writing skills learned in three 50-minute sessions with a counselor in the University Career Center.

• **Group process assessment plan** - includes a plan and a rubric for assessing the learning outcomes associated with group process skills needed to advance the interests and purposes of a group as taught by Maryland Leadership Development Program staff in introductory leadership classes in conjunction with the Department of Counseling and Personnel Services (EDCP 317 and 318I).

• **Dialogue skills for common ground assessment plan** - includes a plan for assessing the learning outcomes associated with the Peer Dialogue Leader training program in the Common Ground Multicultural Dialogue Program in the Department of Resident Life.

A Students Affairs group, parallel to the College Coordinators, acted as peer reviewers for the Student Affairs student learning outcomes plans. The submitted plans and peer review assessment rubrics can be found in Appendix B-151. As seen in this appendix, programs received detailed feedback about their learning goals and proposed assessment plans. For each of the assessment plans, the feedback rubric indicates that the plan is acceptable but would improve with modification as noted on the feedback form. The staff members who developed the original assessment plans are in the process of editing the plans for a resubmission by incorporating the feedback provided in the rubrics.

• **Despite University-wide efforts and participation, student learning outcomes assessment is nevertheless at an early stage of development and will expand and change as it becomes more mature. It is essential that the ambitious plan for accomplishing a full round of assessments within four years be vigorously pursued and completed.**

• **Although the process of developing goals and assessment plans has had strong faculty participation across the institution, the existence and significance of the process is not yet fully institutionalized. While programmatic learning outcomes goals are publicly available on an institutional website, it is important that they be more widely disseminated, through departmental web sites and through links in the undergraduate catalog description of each academic program. Similarly, the entire University community—as well as potential students, their parents and counselors—needs to be fully informed of the nature and purpose of the ongoing assessments.**
• **Course outcomes are not yet fully articulated with programmatic outcomes.** We recommend that online course syllabi, in many cases already available and accessible through Testudo, be given a standard format in which learning outcomes are shown and related to academic program, general education, and/or university-level learning goals.

• **The assessment of learning outcomes for general education and university-level goals has not yet reached the same level of development as for programmatic goals.** We recommend that the establishment of these assessment plans continue to receive a high priority.