

## HEADLINES FROM THE 2008 ANNUAL INDICATORS

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### ACADEMIC QUALITY

*The Top American Research Universities (TheCenter)* identifies seven performance indicators which reflect academic quality for evaluating the comparative performance of research universities. These public and private doctoral institutions, which include UMass Amherst, generate over \$20 million in federal research annually. The Amherst campus is comparing its progress on these measures with the 152 institutions with undergraduate programs in this group.

**Research.** Total and federal research dollars in science and engineering (R&D) are key measures of an institution's commitment to and success in research. The Amherst campus faculty has been successful in competing for these dollars. Total R&D spending increased by 25% in the past five years. The campus has retained its relative position among research universities; however it has consistently been below the median on research spending. Growth in the tenure system faculty will allow for growth in R&D spending.

**Faculty Quality.** The number of academic honors and awards bestowed on its faculty is another indicator of an institution's quality. UMass Amherst's faculty has shown considerable strength in this area and has received a wide range of awards. The campus is at the upper 22<sup>nd</sup> percentile for faculty awards and at the 45<sup>th</sup> percentile for membership in the National Academies.

**Advanced Training.** The campus has also demonstrated strength in the education and training of pre- and post-doctoral researchers. Here, too, UMass Amherst ranked in the top half on the number of degrees awarded and for the number of post-doctorates receiving training.

**Academic Quality.** The academic profile of entering students has improved in recent years, evidenced by growth in high school GPA. SAT scores have remained about the same and somewhat below the median for research universities. The high school GPA of entering students rose from 3.28 in fall 2003 to 3.48 in fall 2007, and 94% of students entered UMA with a high school GPA of 3.0 and above. Additionally, graduating seniors report high satisfaction with their undergraduate experience. Results from the UMA Senior Survey show that over 90% of graduates report satisfaction with their overall experience in the major.

### ACCESS AND AFFORDABILITY

Providing an affordable and accessible education of high quality is stated in the University's mission. The neediest students at UMA (23%) receive aid in the form of Pell grants, making their education more affordable. The campus will continue to increase institutional need-based aid.

### STUDENT SUCCESS AND SATISFACTION

UMass Amherst students have a positive educational experience. Eighty-four percent of students return for their sophomore year, and two-thirds graduate within six years. The one-year retention rate is slightly lower than other Carnegie Very High Research institutions. However, the six-year rate is comparable to this group of institutions. The expectation is that expansion of mechanisms to assess and improve the first year experience, and the undergraduate education experience in general, will result in higher retention and graduation rates.

### SERVICE TO THE COMMONWEALTH

The Amherst campus has invested in programs to promote the enrollment and graduation of undergraduate and graduate students in the sciences and mathematics. In fall 2007, 23% of baccalaureate students and 28% of graduate students were enrolled in STEM programs. These investments will continue.

### FINANCIAL HEALTH

Two measures of an institution's financial strength also used in The Center's rankings are its endowment assets and private funds raised. The campus is well below other research universities on these measures. However, the endowment has doubled in value since FY 2003. Endowment assets and private funds are expected to grow once a new Chancellor is appointed, and the campus begins the quiet phase of a comprehensive capital campaign. Investment in capital improvements and restoration of faculty are necessary if the campus is to remain nationally competitive. Through these investments, the campus will enhance its academic mission and bolster its standing as a major public university. More information can be found in the FY2008 Financial Indicators Report.

## 2008 ANNUAL INDICATORS AT A GLANCE

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### ACADEMIC QUALITY

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- Average HS GPA of Freshmen 3.48
- SAT Scores of Freshmen  
25<sup>th</sup> – 75<sup>th</sup> Percentile 1050 – 1230
- Licensure/Certification Pass Rates
  - *Massachusetts Teacher Test* 98%
  - *Registered Nurse* 85%
- Satisfaction With Major (UMA Senior Survey) 92%
- No. of Doctorates Awarded 293
- No. of Postdoctoral Appointees 195
- Total R&D Expenditures (\$000) \$141,538
- Federal R&D Expenditures (\$000) \$71,984
- Total R&D/Faculty \$146,368
- Federal R&D/Faculty \$74,441
- New Tenured/Tenure-Track Faculty Hired 68
- Change in Tenured/Tenure-Track Faculty +11
- Change in Faculty FTE +3
- Faculty Awards 19
- National Academy Members 7

### ACCESS AND AFFORDABILITY

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- Percent Pell Grant Recipients 23%

### STUDENT SUCCESS AND SATISFACTION

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- Freshman One-Year Retention Rate 84%
- Freshman Six-Year Graduation Rate 67%

### SERVICE TO THE COMMONWEALTH

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- Enrollment in STEM Programs
  - *Undergraduate* 4,455 (23%)
  - *Graduate* 1,413 (28%)
- Degrees Awarded in STEM Fields
  - *Undergraduate* 919 (22%)
  - *Graduate* 419 (29%)

### FINANCIAL HEALTH

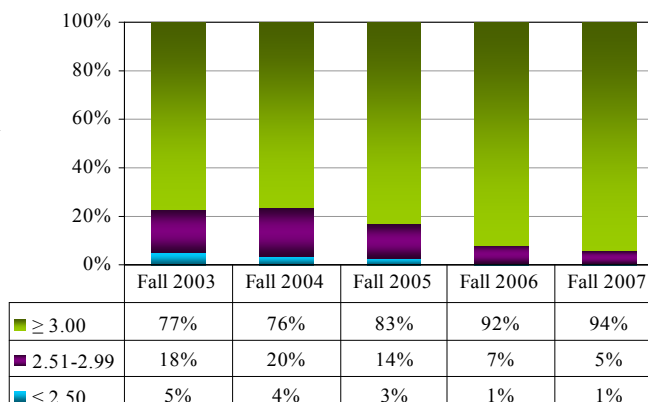
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- Endowment (\$000) \$136,954
- Endowment Per Student \$6,101
- Private Funds Raised Annually (\$000) \$28,392
- Return on Net Assets 17.2%
- Financial Cushion 18.2%
- Debt Ratio 4.2%

## ACADEMIC QUALITY

### High School GPA of Freshmen

UMass Amherst entering first-year students are strong academically with high school GPAs approaching 3.5. The Fall 2007 entering class was the strongest in the five year period with nearly 95% of students earning a GPA of 3.0 and above in high school.



<i>Mean GPA</i>	2003	2004	2005	2006	2007
<i>UMA</i>	3.28	3.29	3.38	3.46	<b>3.48</b>

### SAT Scores of Freshmen

The SAT profile of UMass Amherst students is somewhat below that of other research universities. UMA students perform slightly better at the 25th percentile than they do at the 75th percentile when compared with this group.

<i>SAT Score</i>	2003	2004	2005	2006	2007
<i>UMA</i>					
25th %ile	1050	1050	1050	1050	<b>1050</b>
75th %ile	1230	1220	1240	1240	<b>1230</b>
<i>Peer Median</i>					
25th %ile	1050	1070	1070	1070	<b>1070</b>
75th %ile	1260	1260	1260	1260	<b>1270</b>
<i>UMA Rank</i>					
25th %ile	50%	53%	53%	55%	<b>56%</b>
75th %ile	55%	61%	58%	58%	<b>60%</b>

### Licensure and Certification Test Pass Rates

Ninety-eight percent of program completers passed the Educator licensure exam in 2007. The rate has been consistently high for the campus and this year matches the state average. In 2007, the first-time pass rate for Nursing was the same as the national pass rate. The number of students taking these exams represent a small portion of the campus's graduates.

<i>Pass Rates</i>	<i>Educator Licensure</i>		<i>Registered Nurse</i>	
	2006	2007	2006	2007
<i>UMA Test Takers</i>	180	<b>199</b>	88	<b>124</b>
<i>UMA Pass Rate</i>	96%	<b>98%</b>	89%	<b>85%</b>
<i>State Pass Rate</i>	97%	<b>98%</b>	88%	<b>88%</b>
<i>National Pass Rate</i>	NA	<b>NA</b>	88%	<b>85%</b>

### Student Satisfaction with Major

Results of the Amherst campus Senior Survey administered at the time of graduation are evidence of high student satisfaction. Satisfaction with the overall experience in the major has been consistently high. Half of graduates reported being very satisfied.



### Number of Doctorates Awarded

The number of doctorates awarded at UMA has fluctuated in recent years, and is at its high for the five-year period. UMA has consistently scored well above the peer median on this measure.

<i>Doctorates</i>	2003	2004	2005	2006	2007
<i>UMA</i>	213	274	267	253	<b>293</b>
<i>Peer Median</i>	164	174	187	195	<b>206</b>
<i>Percentile Rank</i>	40%	32%	37%	41%	<b>38%</b>

### Postdoctoral Appointees

UMass Amherst senior faculty mentor recent PhDs with science and engineering degrees who wish to receive advanced research training. The number of post-doctoral scholars is at a five-year high. UMass's rank is above the peer median, evidence of strong research programs.

<i>Post-Docs</i>	2003	2004	2005	2006	2007
<i>UMA</i>	161	173	166	182	<b>195</b>
<i>Peer Median</i>	127	133	140	NA	<b>NA</b>
<i>%ile Rank</i>	41%	43%	47%	NA	<b>NA</b>

## Research Expenditures

Total R&D spending in FY07 was \$146 million, of which nearly \$142 million was in science and engineering (S&E). S&E expenditures increased by 25% in total dollars and 18% in federal dollars since FY2003. The total S&E dollars per faculty increased by 20% in that same period. The campus's relative position among those institutions with \$20 million or more in Federal R&D has been fairly stable with respect to total dollars but declined slightly for federal dollars.

<b>Total S&amp;E Research (\$000's)</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<i>UMA</i>	\$113,512	\$120,788	\$127,487	\$136,057	<b>\$141,538</b>
<i>Peer Median</i>	\$152,986	\$168,132	\$179,094	NA	NA
<i>%ile Rank</i>	59%	61%	59%	NA	NA

<b>Federal S&amp;E Research (\$000's)</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<i>UMA</i>	\$60,839	\$65,452	\$66,921	\$69,642	<b>\$71,984</b>
<i>Peer Median</i>	\$82,208	\$92,290	\$97,664	NA	NA
<i>%ile Rank</i>	61%	62%	63%	NA	NA

<b>Per Tenure System Faculty FTE</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<i>Total</i>	\$122,317	\$135,064	\$138,049	\$142,468	<b>\$146,368</b>
<i>Federal</i>	\$66,900	\$73,188	\$72,386	\$72,847	<b>\$74,441</b>

## New Tenured/Tenure-Track Faculty Hired

The campus is in the process of rebuilding the tenure-system faculty. Of the 129 new hires in the past two years, 53 were new positions, and the remaining were replacements for faculty who left. As of March 2008, 108 tenure-system faculty positions have been allocated as part of the Amherst 250 Plan.

	<b>AY 2005-06</b>	<b>AY 2006-07</b>	<b>AY 2007-08</b>
<i>UMA</i>	64	61	<b>68</b>

## Change in Tenured/Tenure-Track Faculty

Fall 2007 saw a net gain of eleven in the tenure-system faculty. Investment in faculty is required to maintain the campus as a nationally competitive public research university. Continued growth is expected for 2008-09 with over 100 searches underway. Some of these positions will be replacements for faculty who left.

	<b>Fall 2004</b>	<b>Fall 2005</b>	<b>Fall 2006</b>	<b>Fall 2007</b>	<b>1-year Change</b>
<i>UMA</i>	917	954	961	<b>972</b>	11

## Change in Faculty FTE

Faculty full-time equivalent has grown by 62 since fall 2004, with most of the growth in the tenure system faculty.

	Fall 2004	Fall 2005	Fall 2006	Fall 2007	1-year Change
<i>UMA</i>	1,180	1,221	1,239	<b>1,242</b>	3

## Faculty Awards

UMass Amherst faculty members are recipients of many prominent awards in the arts, humanities, science, engineering and health fields. There was a spike in the number of faculty awards in 2006, raising the campus to the top quarter among other research universities.

Awards	2002	2003	2004	2005	2006
<i>UMA</i>	10	15	10	13	<b>19</b>
<i>Peer Median</i>	7	7	8	8	<b>8</b>
<i>Percentile Rank</i>	38%	25%	42%	34%	<b>22%</b>

## National Academy Members

Several UMass faculty members have been elected to some of the most prestigious disciplinary organizations: the National Academy of Science, the National Academy of Engineering, or the Institute of Medicine. These are some of the highest honors academic faculty can receive. The campus ranks above its peers on this measure.

Members	2002	2003	2004	2005	2006
<i>UMA</i>	9	7	7	9	<b>7</b>
<i>Peer Median</i>	6	5	6	6	<b>6</b>
<i>Percentile Rank</i>	39%	45%	44%	41%	<b>45%</b>

## ACCESS AND AFFORDABILITY

### Percent Pell Grant Recipients

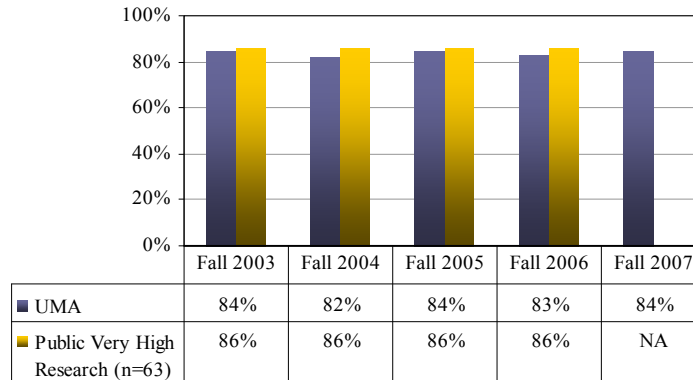
Nearly one-quarter of UMA undergraduate students receive support in the form of Pell grants. This number is quite favorable as compared with the other National Universities (as defined by US News & World Report) where the Amherst campus ranks 93 of 215 universities.

	Fall 2005	Fall 2006	Fall 2007
<i>UMA</i>	23%	22%	<b>23%</b>

## STUDENT SUCCESS AND SATISFACTION

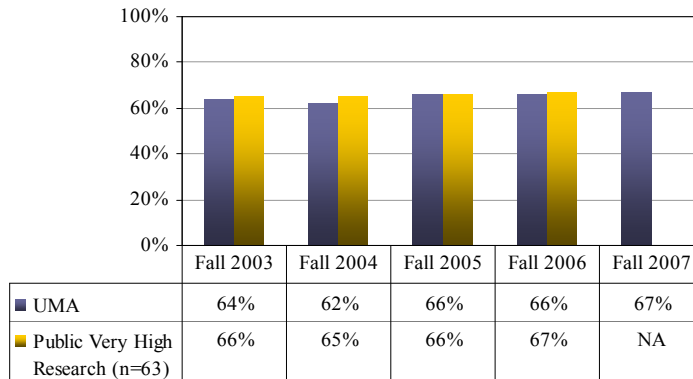
### Freshman One-Year Retention Rate

The one-year retention rate is somewhat below the average for other public Carnegie Very High Research institutions. Improving student retention is a campus priority, and new strategies are being developed to enhance the first-year experience.



### Freshman Six-Year Graduation Rate

Two-thirds of full-time Amherst campus students graduate within six years of entrance. The 2006 rate is comparable to that of other public institutions classified as Carnegie Very High Research. The six-year graduation rate is a lagging indicator in that it tends to reflect the academic profile of students entering six years earlier.



## SERVICE TO THE COMMONWEALTH

### Enrollment in STEM Programs

There are several initiatives on the Amherst campus to promote the enrollment and graduation of students in science, technology, engineering and mathematics (STEM) fields. Presently, 23% of baccalaureate students and 28% of graduate students are enrolled in such programs.

#### Undergraduate

UMA	Fall 2004	Fall 2005	Fall 2006	Fall 2007
<i>Total</i>	18,378	18,812	19,299	<b>19,621</b>
<i>STEM</i>	4,096	3,961	4,157	<b>4,455</b>
<i>Percent STEM</i>	22%	21%	22%	<b>23%</b>

#### Graduate

UMA	Fall 2004	Fall 2005	Fall 2006	Fall 2007
<i>Total</i>	4,898	4,890	5,067	<b>5,077</b>
<i>STEM</i>	1,522	1,474	1,453	<b>1,413</b>
<i>Percent STEM</i>	31%	30%	29%	<b>28%</b>

## Degrees Awarded in STEM Fields

The proportion of undergraduate and graduate students receiving degrees in STEM disciplines tends to mirror the enrollment in these programs. In 2006-2007, 22% of undergraduate and 29% of graduate degrees awarded were in STEM fields.

### Undergraduate

UMA	2003-04	2004-05	2005-06	2006-07
<i>Total Degrees</i>	3,919	4,262	4,038	<b>4,235</b>
<i>STEM</i>	876	952	953	<b>919</b>
<i>Percent STEM</i>	22%	22%	24%	<b>22%</b>

### Graduate

UMA	2003-04	2004-05	2005-06	2006-07
<i>Total Degrees</i>	1,332	1,411	1,402	<b>1,448</b>
<i>STEM</i>	412	393	369	<b>419</b>
<i>% STEM</i>	31%	28%	26%	<b>29%</b>

## FINANCIAL HEALTH

### Endowment per Student

The campus endowment is one of the lowest in the country for a public flagship campus. The total endowment increased by 20% over the last year, and will continue to show improvement over the next several years.

<i>Endowment per FTE</i>	FY 2004	FY 2005	FY 2006	FY 2007
UMA	\$3,830	\$4,232	\$5,164	<b>\$6,101</b>
Peers	\$16,426	\$18,529	\$19,769	<b>\$21,304</b>

<i>Endowment (\$000's)</i>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
UMA	\$65,951	\$81,880	\$91,193	\$113,724	<b>\$136,954</b>
<i>Annual % change</i>	10%	24%	11%	25%	<b>20%</b>

### Private Funds Raised Annually

Issues surrounding campus leadership led to fewer commitments from major donors and a decline in private funds raised in FY07. Once a new Chancellor is appointed, the quiet phase of the campus's comprehensive fundraising campaign is expected to see renewed growth in major gifts and increases in private fundraising.

<i>Private Funds (\$000's)</i>	FY 2004	FY 2005	FY 2006	FY 2007
UMA	\$26,326	\$27,027	\$33,401	<b>\$28,392</b>

### Return on Net Assets

Return on net assets for the campus is above the peer average. However, this ratio will decline sharply in future years as a result of higher depreciation and interest costs and more moderate investment income gains.

	FY 2005	FY 2006	FY 2007
UMA	5.42%	8.4%	<b>17.2%</b>
Peers	-	3.0%	<b>7.8%</b>

### Financial Cushion

Financial cushion represents an institution's capacity to sustain itself during difficult financial times. Although lower than its peers, the ratio for the Amherst campus still compares favorably. The financial cushion will decline over the next five years as accumulated unrestricted funds which have been designated for capital improvements are spent on these projects.

	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2006</i>	<i>FY 2007</i>
<i>UMA</i>	16.8%	15.2%	16.7%	<b>18.2%</b>
<i>Peers</i>	21.5%	22.4%	22.5%	<b>25.6%</b>

### Debt Service to Operations

The debt service ratio for the campus is slightly below its peers but will escalate over the next five years to over 6% of operations to cover the cost of new construction and major renovations to existing space.

	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2006</i>	<i>FY 2007</i>
<i>UMA</i>	3.2%	3.7%	4.8%	<b>4.2%</b>
<i>Peers</i>	6.2%	5.9%	4.9%	<b>5.3%</b>

## DEFINITIONS AND SOURCES

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### ACADEMIC QUALITY INDICATORS

**High school GPA of first-year students.** Cumulative GPA for college prep courses with additional weight to honors and AP courses, according to BHE admissions policy, reported on all first-year students.

**SAT scores of first-year students.** The 25<sup>th</sup> and 75<sup>th</sup> percentile (middle range) of all first-year students. ACT scores are converted to SAT scores for those institutions using the ACT. Peer data are from IPEDS.

**Licensure and certification test pass rates.** Pass rates on Massachusetts Tests for Educator Licensure (undergraduate and graduate) and Registered Nurse Licensure Exam. Registered Nurse pass rates are reported for first-time test takers only.

**Satisfaction with major.** Percent of seniors who responded “somewhat satisfied” or “very satisfied” to the question, “Please rate your satisfaction with your overall experience in your major” on the Amherst campus’s annual Senior Survey administered at the time of graduation.

**Doctorates awarded.** The number of doctorates awarded as reported in the IPEDS Completions survey. Peer data are from *The Top American Research Universities* as reported to IPEDS.

**Postdoctoral appointees.** The number of postdoctoral appointees as reported to NSF. Peer data are from *The Top American Research Universities*.

**Research expenditures.** R&D expenditures in all sciences and engineering fields, from all sources (federal, state, local governments, industry, private and institutional) as reported to NSF. Peer data are from *The Top American Research Universities* and adjusted for some institutions to exclude other campuses in a multi-campus system. **Total** and **Federal** dollars are reported.

**Sponsored research per faculty.** Total and Federal R&D expenditures in all science and engineering fields, divided by total tenure system faculty.

**New Tenured/Tenure-Track Faculty Hired.** The number of new tenured/tenure-track faculty members hired to start their new positions in the academic year.

**Change in Tenured/Tenure-Track Faculty.** The difference in the number of tenured/tenure-track faculty from one fall semester to the next. Includes faculty members who are on paid leave. Does not include individuals whose primary responsibility is administrative.

**Change in Faculty FTE.** The difference in the total FTE, from one fall semester to the next, for all full-time and part-time instructional faculty teaching state-supported courses. The FTE for part-time faculty is based on the FTE as recorded on the Human Resources system. Includes faculty members who are on paid leave. Does not include individuals whose primary responsibility is administrative.

**Faculty awards.** Number of faculty with awards from a list of 24 prominent grant and fellowship programs in the arts, humanities, science, engineering and health fields (e.g., Fulbright American Scholars, Guggenheim Fellows, MacArthur Foundation Fellow, National Endowment for the Humanities Fellows, NSF Career Awards, Sloan Research Fellows). Data reported in *The Top American Research Universities* and were obtained from directories or web-based listings.

**National academy members.** Number of faculty with active or emeritus status who have been elected to membership in the National Academy of Sciences, the National Academy of Engineering, or the Institute of Medicine. Data reported in *The Top American Research Universities*.

### ACCESS AND AFFORDABILITY INDICATORS

**Percent of undergraduates who receive Federal Pell Grants.** Federal Pell Grants are awarded to low-income undergraduates based on their expected family contribution. Data as reported by campuses to the UMass President’s Office in the Financial Aid Template.

### STUDENT SUCCESS AND SATISFACTION INDICATORS

**Freshman one-year retention rate.** Percent of first-time, full-time freshmen who entered in the previous fall and were still enrolled as of the next fall. Peer data are from IPEDS and represent 63 universities classified as Carnegie Very High Research.

**Freshman six-year graduation rate.** Percent of first-time, full-time freshmen who entered in a given fall and had graduated within six years. Peer data are from IPEDS and represent 63 universities classified as Carnegie Very High Research.

**SERVICE TO THE COMMONWEALTH INDICATORS**

**Enrollment in Science, Technology, Engineering, and Mathematics (STEM) programs.** Total number of students enrolled in STEM programs. STEM programs are those fields of study defined in the National Science & Mathematics Access to Retain Talent (SMART) Grant with the exclusion of foreign languages. Enrollment count includes degree-seeking undergraduate and graduate students.

**Degrees awarded in STEM fields.** Number of undergraduate and graduate degrees and certificates awarded in STEM fields. STEM fields are those defined in the National Science & Mathematics Access to Retain Talent (SMART) Grant with the exclusion of foreign languages.

**FINANCIAL HEALTH INDICATORS**

**Endowment per student.** True and quasi-endowment per annualized FTE student, where FTE of peer institutions is standardized to UMass formula. Peer data from financial statements and IPEDS.

**Private funds raised annually.** Private funds raised include restricted and unrestricted revenues from individuals, foundations, corporations and other organizations. Includes private grant revenues but not private contract revenues. Totals for each year include cash donations, pledges, and gifts in kind made in that year.

**Return on net assets.** Increase/decrease in net assets divided by total net assets at beginning of the year. Peer data are from published financial statements.

**Financial cushion.** Unrestricted net assets as a percentage of operating expenditures and interest expense. Peer data are from published financial statements.

**Debt service to operations.** Debt service payments as a percentage of operating expenditures and interest expense. Peer data are from published financial statements.

**PEER INSTITUTIONS FOR UMASS AMHERST****Academic Quality Indicators**

The peer group for the University of Massachusetts Amherst is comprised of the top American Research Universities, both public and private institutions, with at least \$20 million in federal research expenditures in fiscal year 2005. Excluded from this reference group of 152 universities are 43 institutions that do not have an undergraduate program (e.g., medical schools). These institutions are listed in *The Top American Research Universities, 2007 Annual Report from The Center for Measuring University Performance* at Arizona State University. The percentile rank of UMass is shown with respect to these institutions. The *percentile rank* shows the relative standing of the campus. Percentiles range from 1 (high) to 99 with a percentile rank of 50 representing the median.

*The Top American Research Universities* does not report retention and graduation rates. An alternate source, IPEDS, was used. Retention and graduation rates for UMass students are compared with those of 63 other universities with very high research activity that participated in the data exchange.

**Financial Peers**

Iowa State University  
Rutgers University  
University of California, Santa Barbara  
University of Colorado, Boulder  
University of Connecticut  
University of Maryland College Park