UMR

"UMR's Space & Capacity to Grow"

Winter 2005

UNIVERSITY OF MISSOURI-ROLLA

Enrollment Capacity

Total enrollment depends on several factors:

1. Financial resources and revenue from tuition;
2. Potential student availability;
3. UMR's ability to attract students;
4. Mode of delivery; and
5. Physical carrying capacity of campus – classrooms, laboratories and residential facilities

Enrollment

- **AY2004 UPDATE**
  - » Over 5400 students!
    - 16% increase over the 4670 students in Fall 2000;
    - 25% increase in new students since Fall 2000 (1551 in 2004, 1239 in 2000)
  - » Our undergraduate growth will now be due to increased retention rates. We set all time high retention (85%) and graduation rates (63%) in 2004
  - » International student visa restrictions have had a significant impact on graduate enrollment
  - » Freshman Class Capacity: 900. We have capped freshmen engineering class for two years in a row

UMR

One of the Best in the Nation

- Top 25 Campuses for Entrepreneurship, *Forbes*, 2004
- Top 50 Engineering Schools, *US News*, 2004
- Top 100 Best College Buys, *Princeton Review*, 2004

Geographical Distribution

UMR Students Geographic Backgrounds:

- 47 states
- 113 Missouri counties
- 34 foreign counties

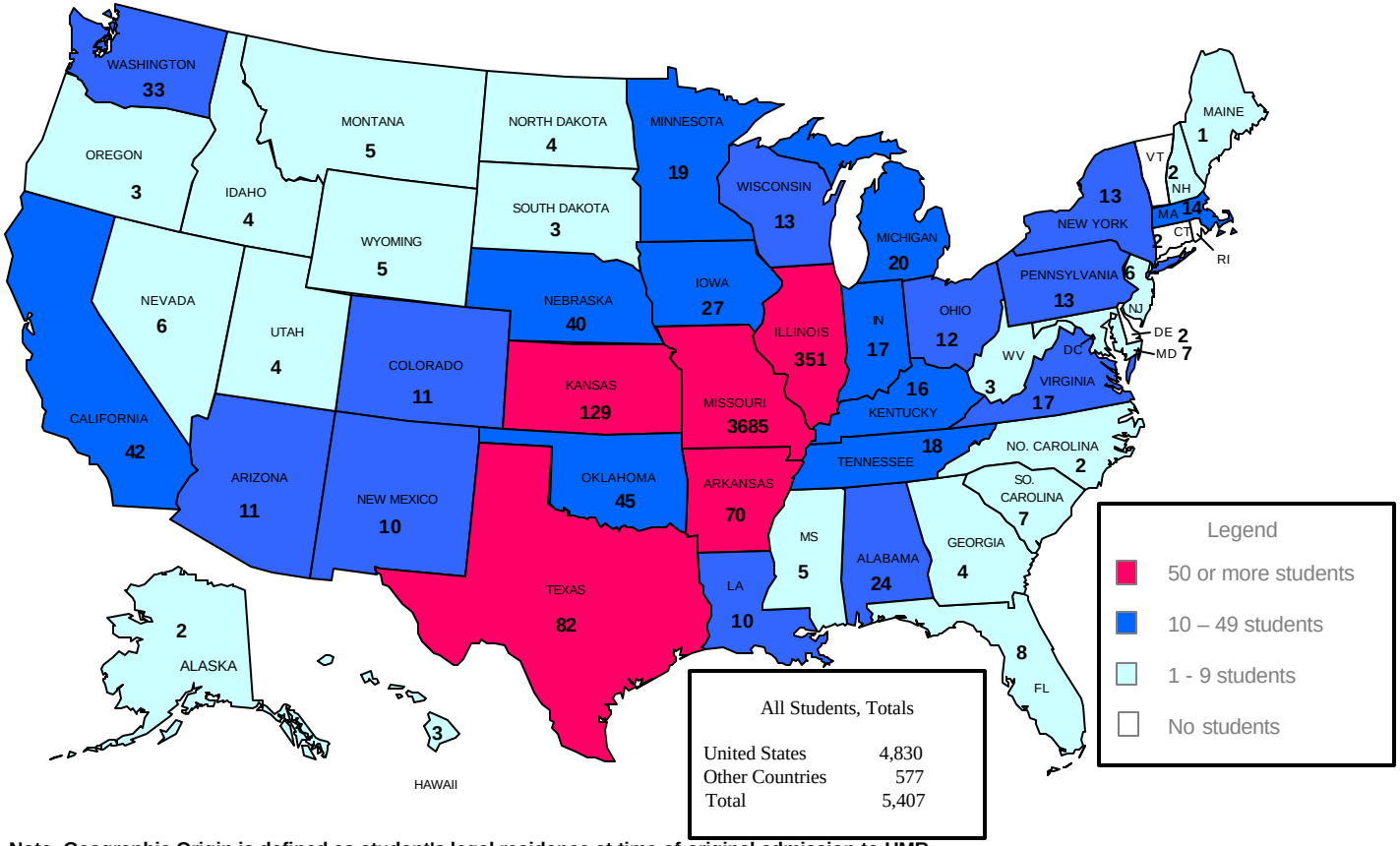
Rural/Urban Backgrounds:

- Approx. 40% from urban/suburban areas
- Approx. 60% from rural communities under 40,000 population

Students' Home States

University of Missouri - Rolla

Geographic Origin of All Students - Fall 2004

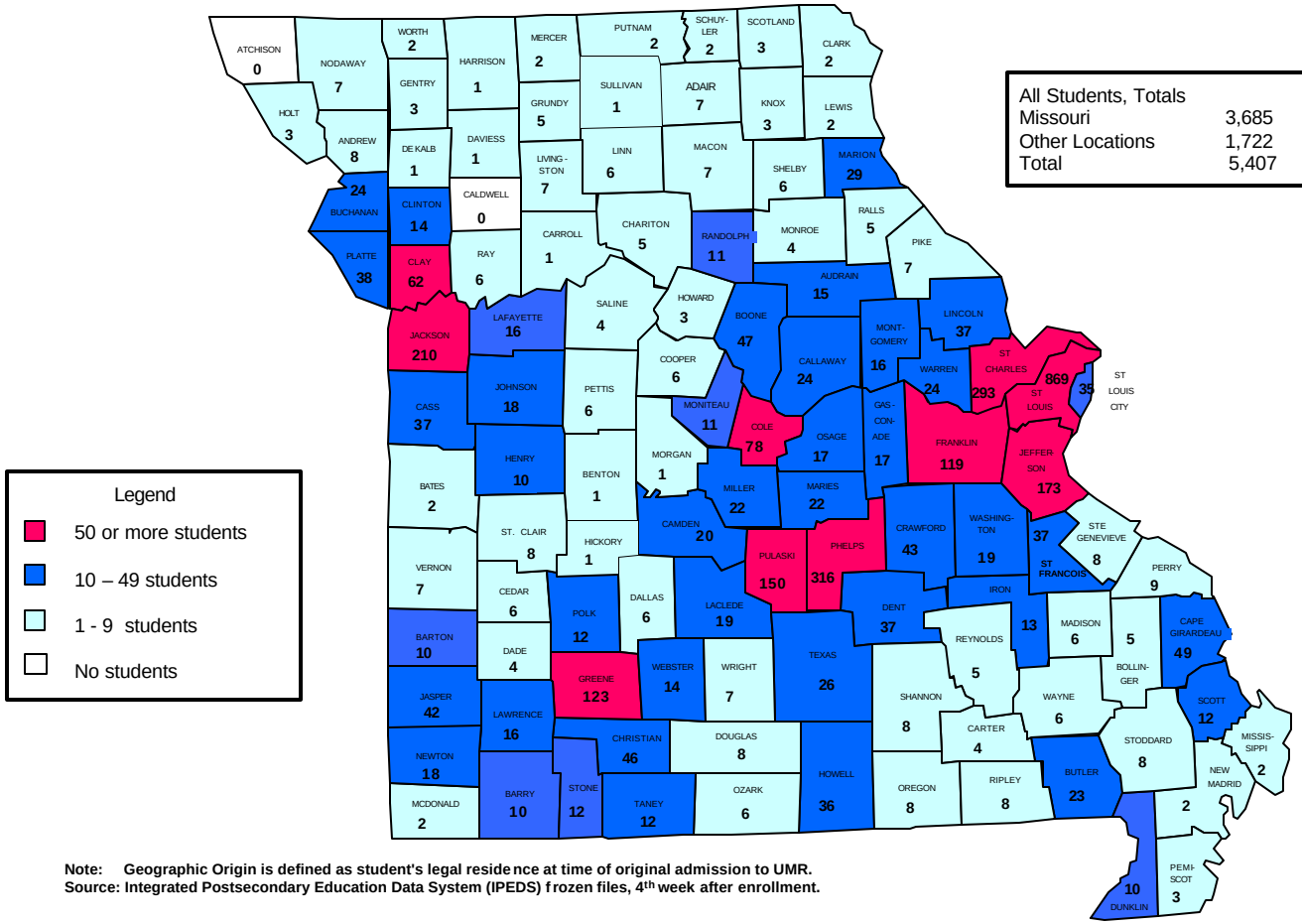


Note: Geographic Origin is defined as student's legal residence at time of original admission to UMR.
Source: Integrated Postsecondary Education Data System (IPEDS) frozen files, 4th week after enrollment.

Missouri Students Home Counties

University of Missouri - Rolla

Geographic Origin of All Students - Fall 2004



Note: Geographic Origin is defined as student's legal residence at time of original admission to UMR.
Source: Integrated Postsecondary Education Data System (IPEDS) frozen files, 4th week after enrollment.

Decision Factors

- 79% UMR: 1st choice college to attend
- 18% UMR: 2nd choice college to attend

- 71% became interested in UMR during Jr/Sr years in high school
- 87% Financial Aid/scholarships was important in deciding to attend UMR
- 78% the personalized attention they received from UMR was important in deciding to enroll

Financial Resources

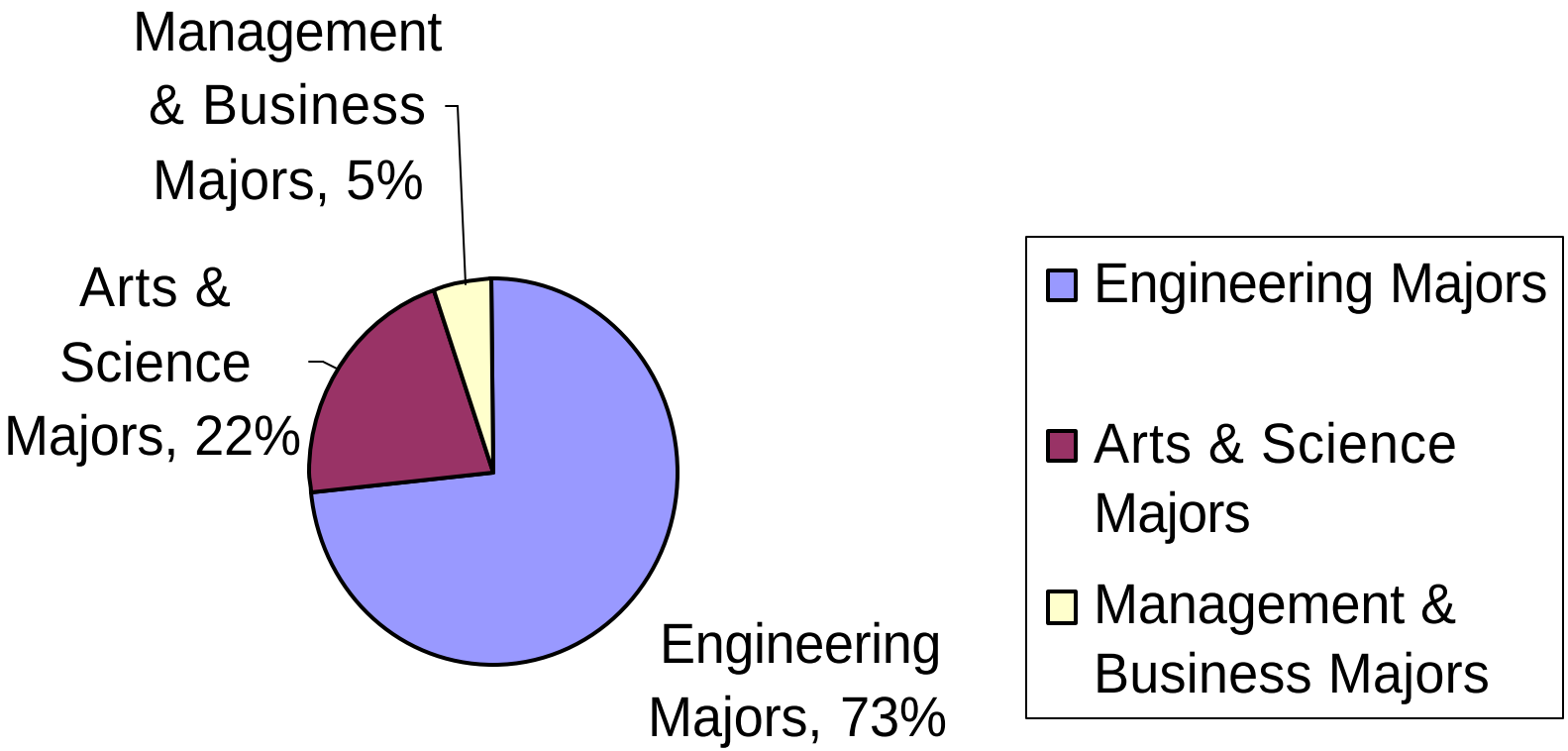
- Even with a 10% per year increase in tuition, enrollment must continue to grow by approximately 200 students per year through 2008 for the campus to be financial solvent unless state appropriations grow.
- Continued enrollment growth will result in 800 to 1,000 additional students or 7,000 students total by 2010

Net Tuition Revenue Produced by Increasing Enrollment and Lower Discount Rates

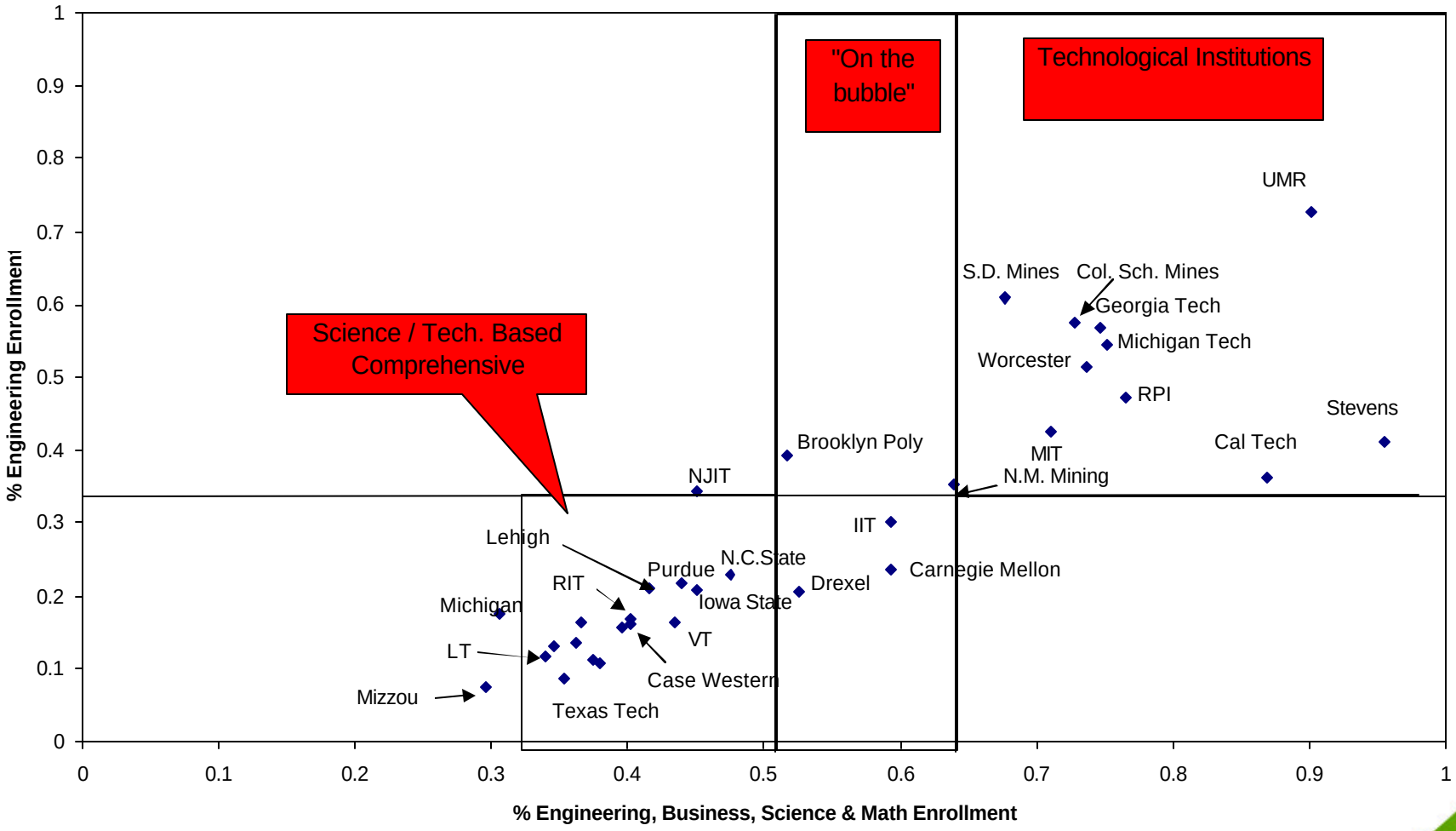
- **Over $ 8.5 Million in tuition/academic fee revenue**
- **46% increase revenue generation**

FY2002	FY2003	FY2004	FY2005
$18,666,021	$23,352,748	$26,021,346	$27,210,871
Per Student			
$ 4016	$ 4731	$5137	$5403

UMR's Academic Major Distribution by Headcount



Technological Institutions: Enrollment Mix



UMR Enrollment Goals

	2001	2002	2003	2004	2005	2006
Freshmen	715	755 815	790 897	825 877	865	900
Transfer	231	270 261	300 281	350 288	390	425
Graduate*	395	400 423	407 348	413 402	419	425
Total Enrollment	4987	5200 5304	5400 5504	5600 5459	5800	6000

RED: Actual Enrollment *BLACK: Enrollment Goals*
Graduate targets include MS, PhD, and certificate programs
**Does not include final enrollment in off-schedule courses*

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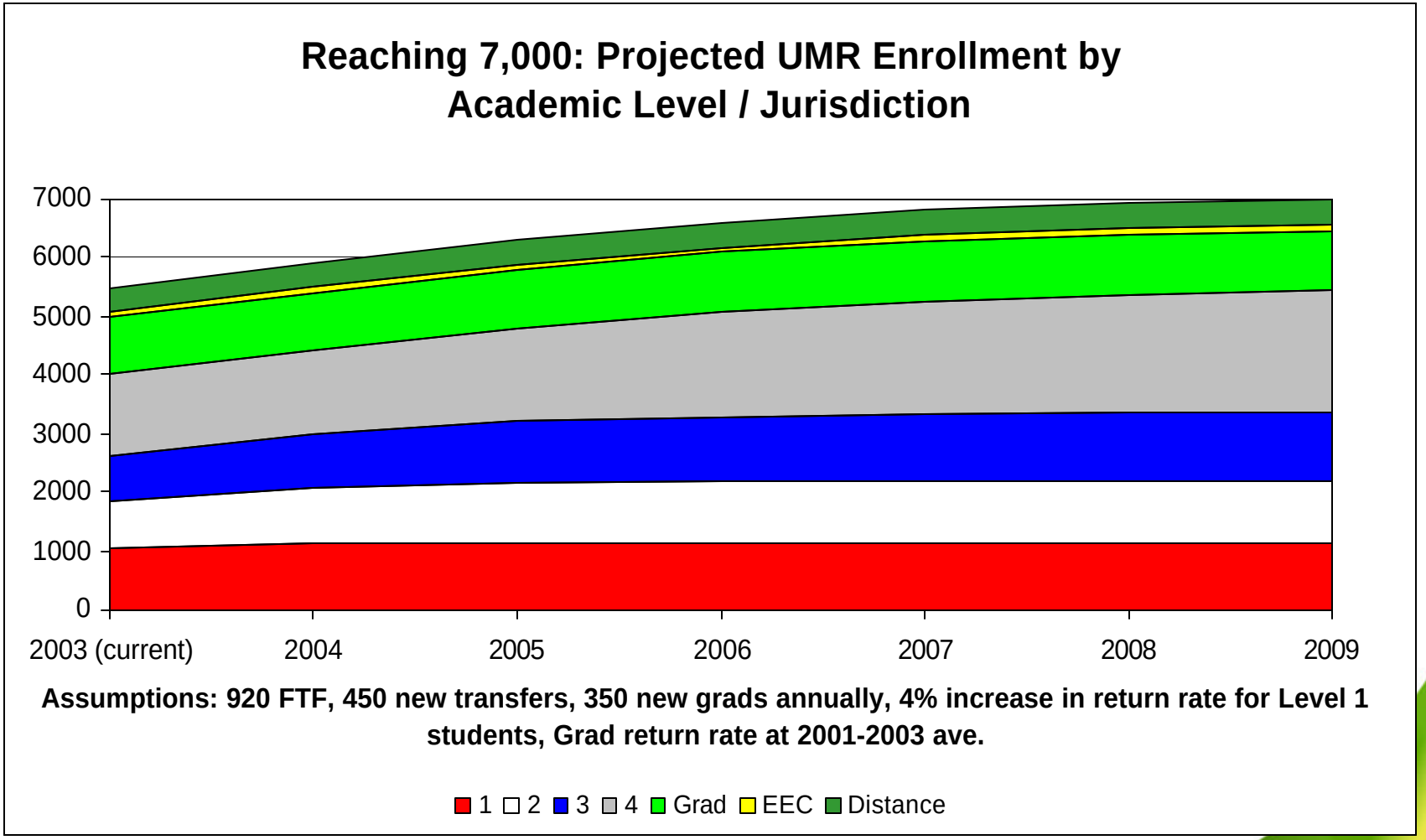
Does UMR Have the Capacity to Properly Serve 7,000 Students?

Needed Goal Changes to Achieve an Enrollment of 7000

- Increase Freshman Class: 900 to 920
- Increase Transfer Class: 425 to 450
- Decrease New Graduates: 425 to 350
- Increase the Rolla campus enrollment: 5000 to 5500
- Increase the Distance Education enrollment: 500 to 1500

Achieve Current Enrollment Goals & 4% Increased Retention Rate



Key Factors

- Achieve Overall Growth while Controlling Size and Quality of Engineering Programs
- Grow Enrollments in Mines and Metallurgy, Arts & Sciences, Management & Information Systems
- Expanding Extended Learning Enrollment to 1500 students
- Increasing the Number of Female Students
- Increasing the Number of Minority Students
- Building a Stronger UMR Brand and Campus Presence

Capacity for Enrollment Growth

- Academic Space Assessment
- Student Housing Capacity
- Parking Capacity
- Student Market Assessment
- Enhancing the UMR Product / Academic Portfolio

Keys to Planning for 7000 Students

- Achieve Retention Goal of 88% - 1st to 2nd year.
- Enhance the New Student Marketing Efforts and Embrace the UMR Branding Strategy.
- Start department and faculty discussions on strategic course scheduling.
- Goal of 1500 distance education students is possible: Need enthusiasm for distance learning to continue to grow among faculty.
- Conduct a thorough parking study.
- Refine and adjust non-engineering recruitment/marketing programs.
- Scholarships will be vital to our success.

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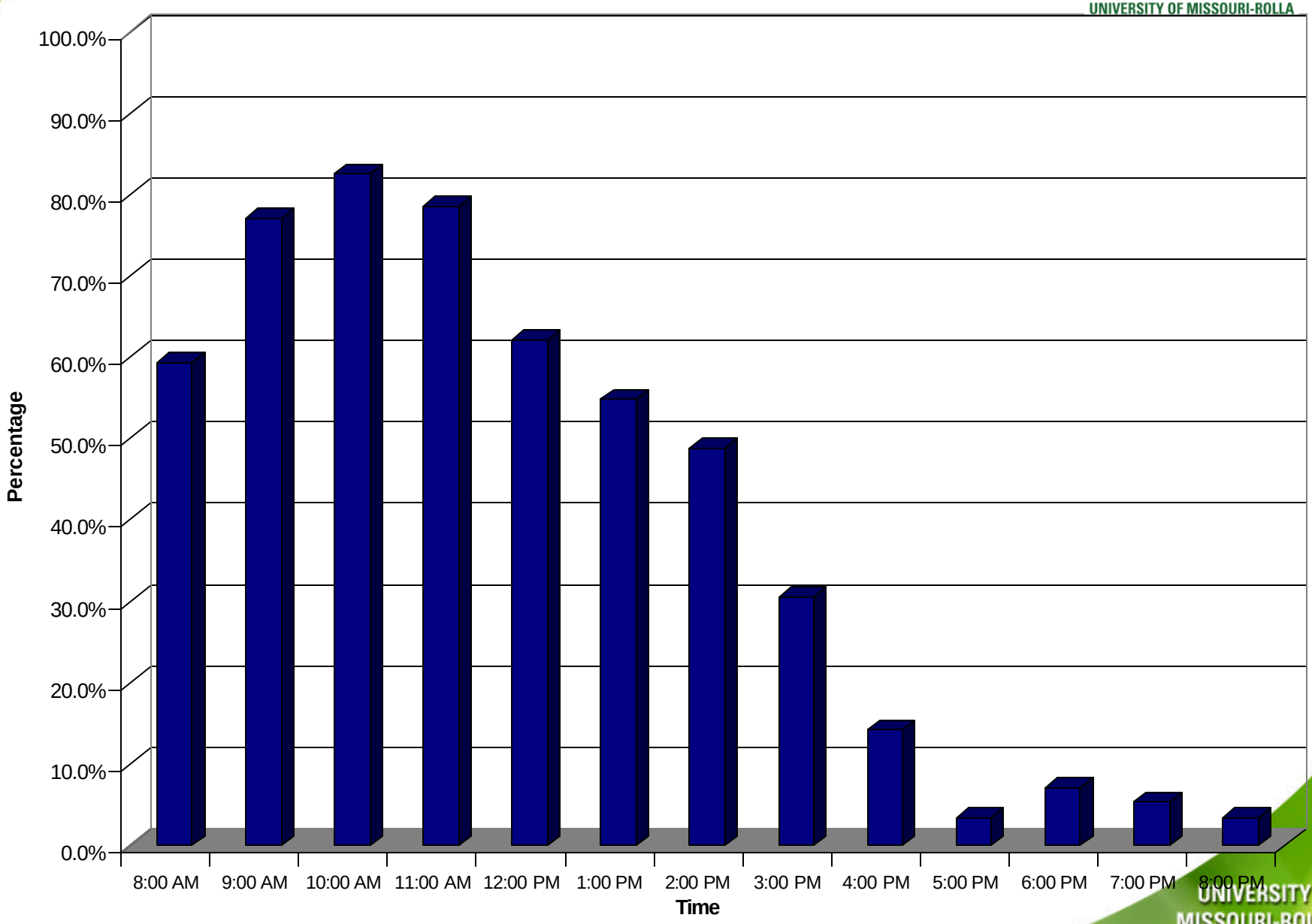
Academic Space Assessment

UNIVERSITY OF
MISSOURI-ROLLA

Relative Classroom Size Net Gain/Loss

Room Size	Number of Rooms 1982	Number of Rooms 2002	Net Gain/Loss (1982-2002)	Number of Rooms 2003	Net Gain/Loss (2002-2003)
1-19	4	5	-1	4	-1
20-29	13	10	-3	10	0
30-44	52	40	-12	38	-2
45-59	4	12	8	14	2
60-74	3	7	4	7	0
75-99	2	1	-1	1	0
100-199	4	6	2	6	0
200-299	1	1	0	1	0
300+	1	1	0	1	0
Total	84	83	-1	82	-1

Classroom Utilization by Hour



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Seat Utilization by Hour

(Indicates percent of time each station is occupied when the classroom is in use.)

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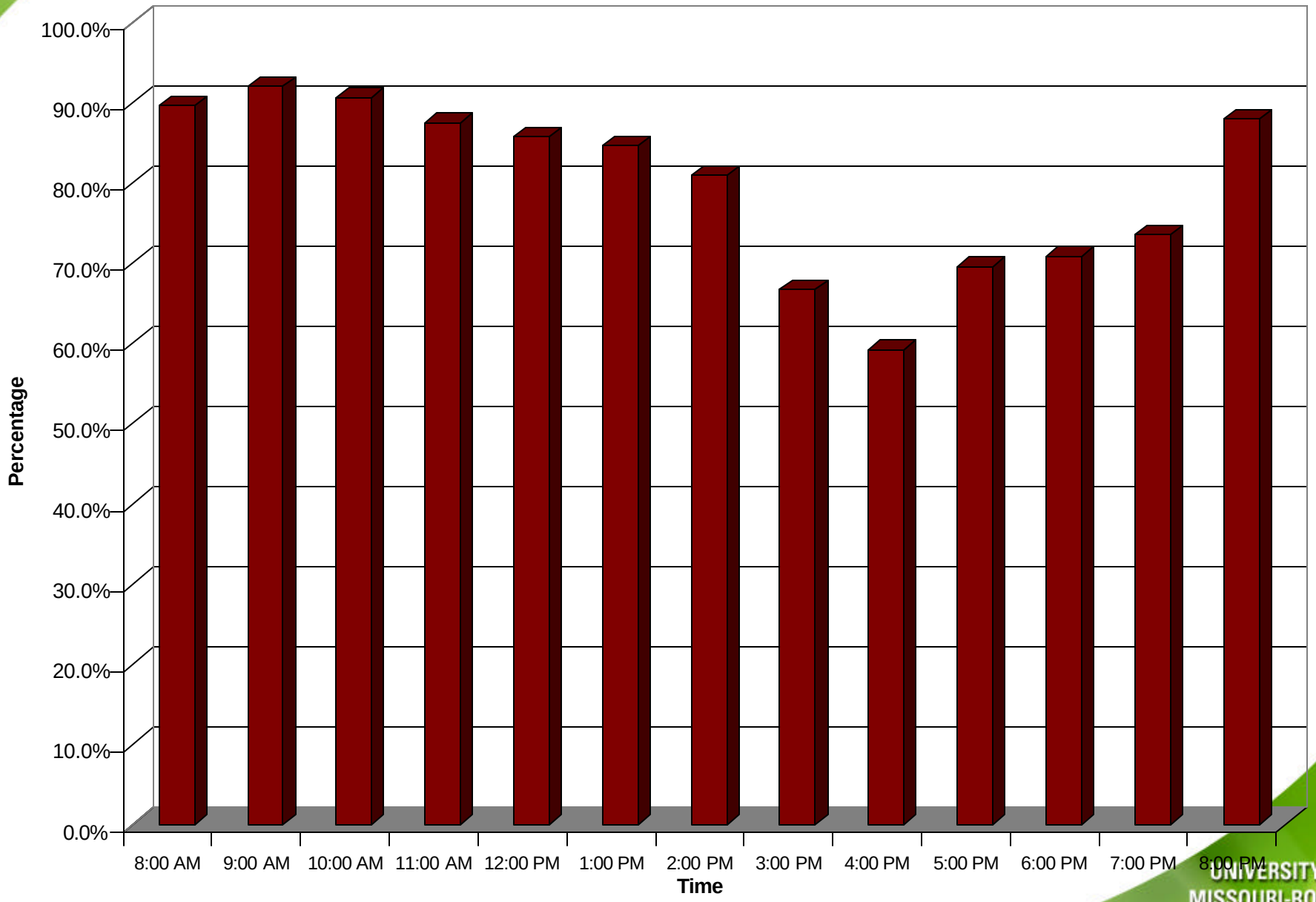
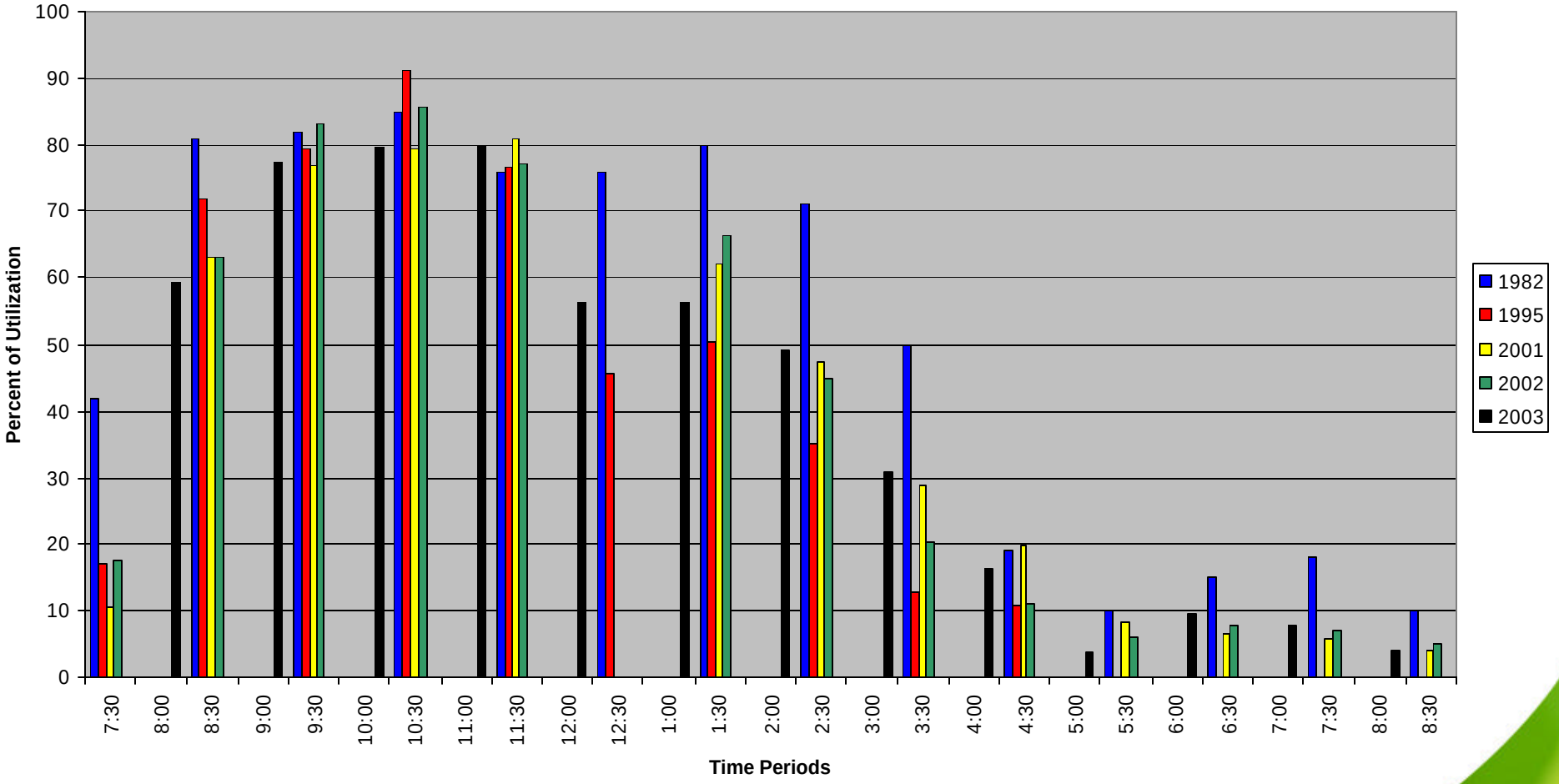


Classroom Utilization Comparison
1982, 1995, 2001, 2002, 2003



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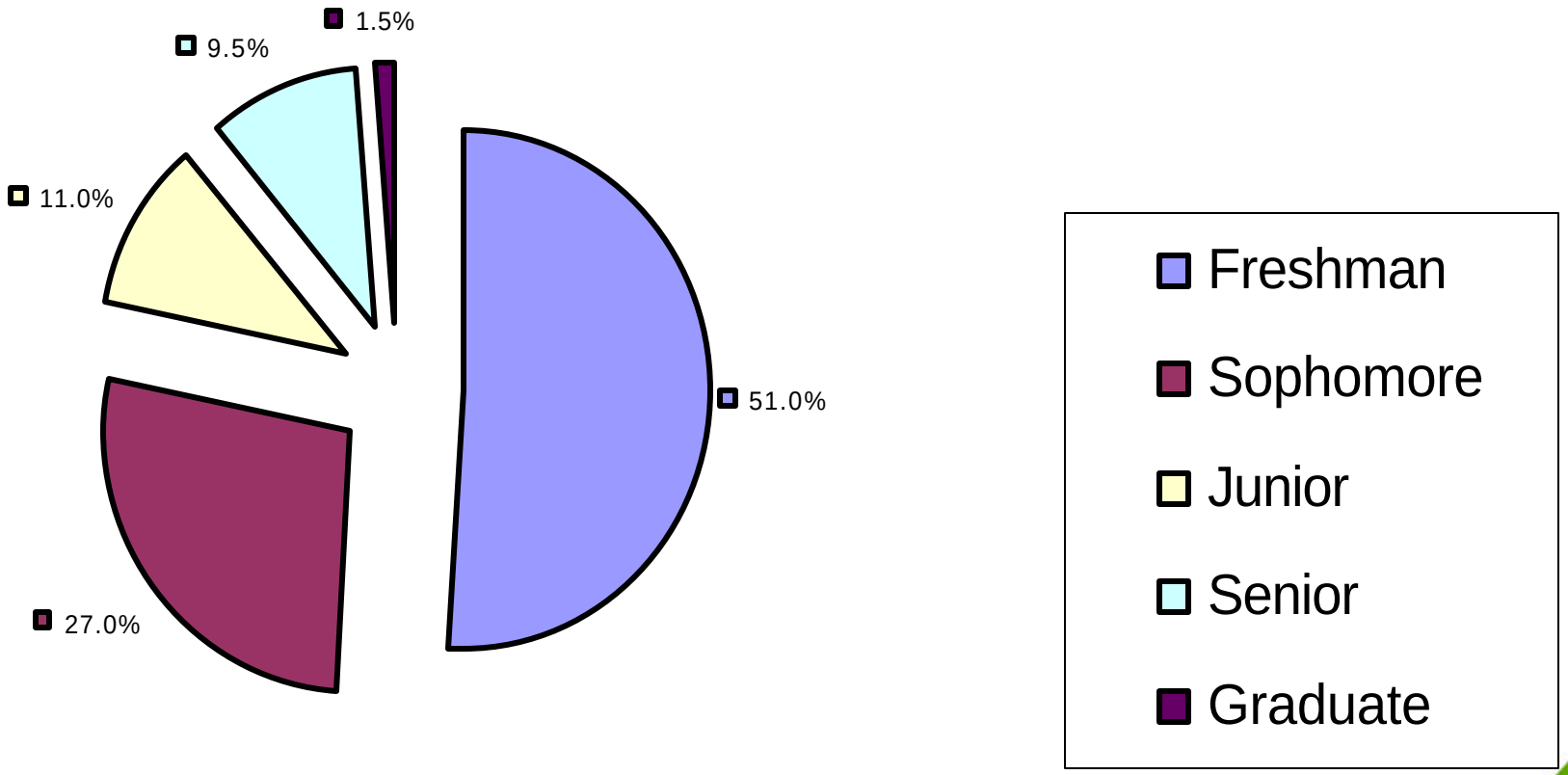
Student Housing Capacity

UNIVERSITY OF
MISSOURI-ROLLA

Student Housing Capacity

	2003-04	2004-05	2005-06
Residence Halls:	1270	1500	1640
Greek Houses:	1100	1100	1100
Apartments & Approved Housing:	150	150	150
Total:	**2,520**	**2,750**	**2,890**

Students Living On Campus



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Parking Capacity

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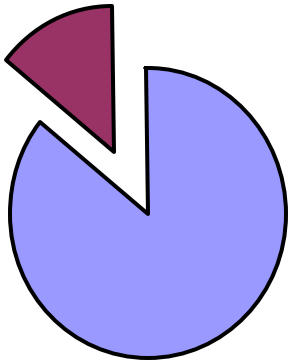
Current Parking Spaces

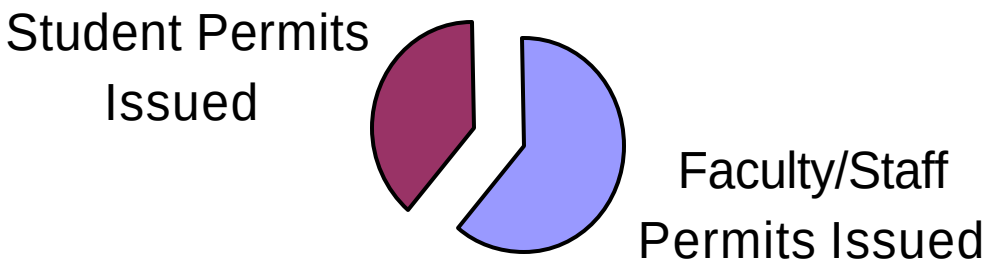
Residential
Parking Spaces



Non-Residential
Parking Spaces

Stickered Spaces	1939
Metered Spaces	110
Residential (TJ Hall)	349
Total Spaces	2398

Current Parking Permits Issued



Fac/Staff Permits	878
Student Permits	271
Student Residential Permits	313
Staff Residential Permits	20
Total Permits	1482

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Student Market Assessment

UNIVERSITY OF
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Midwest High School Seniors Relative to FY99

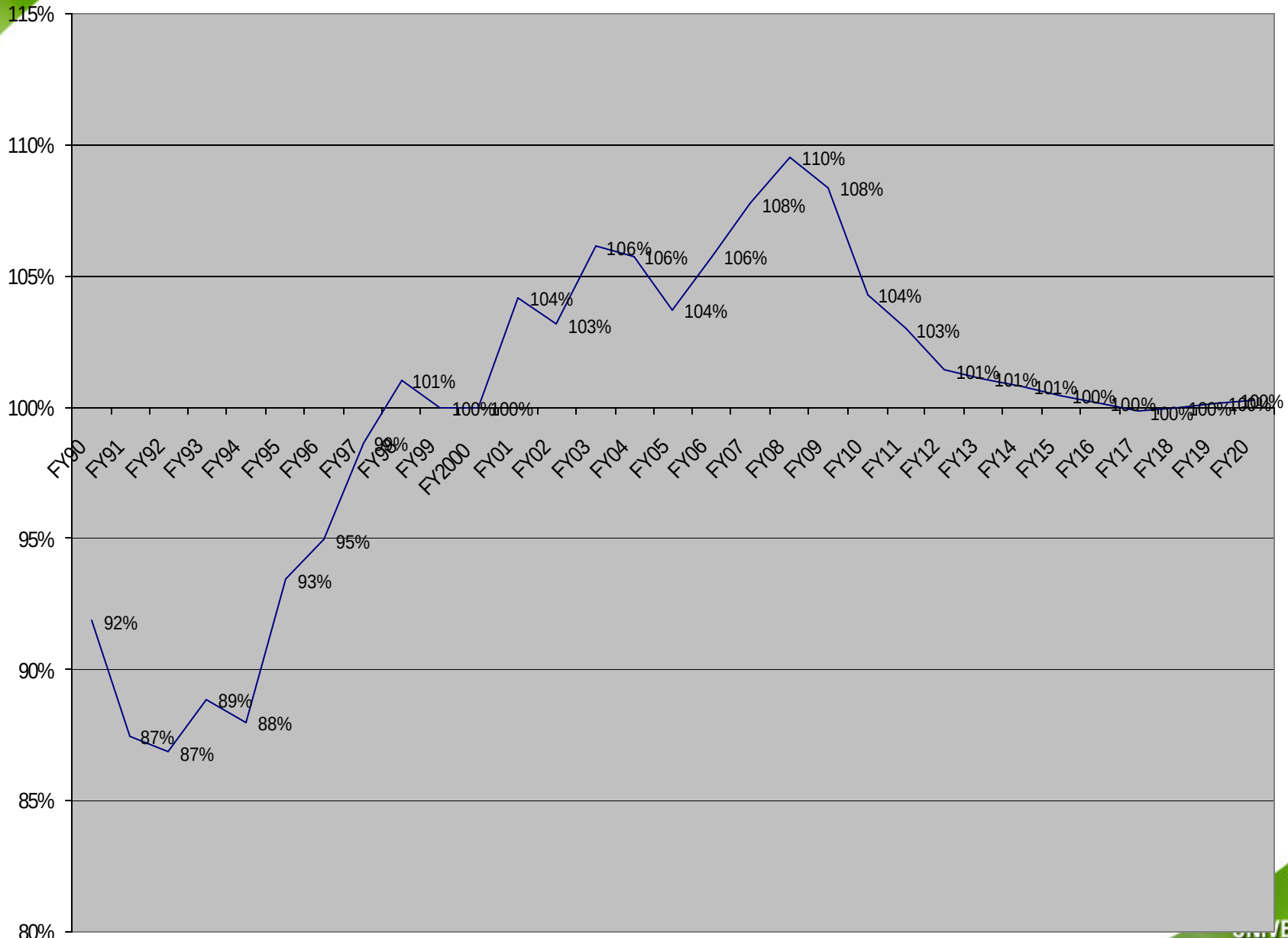
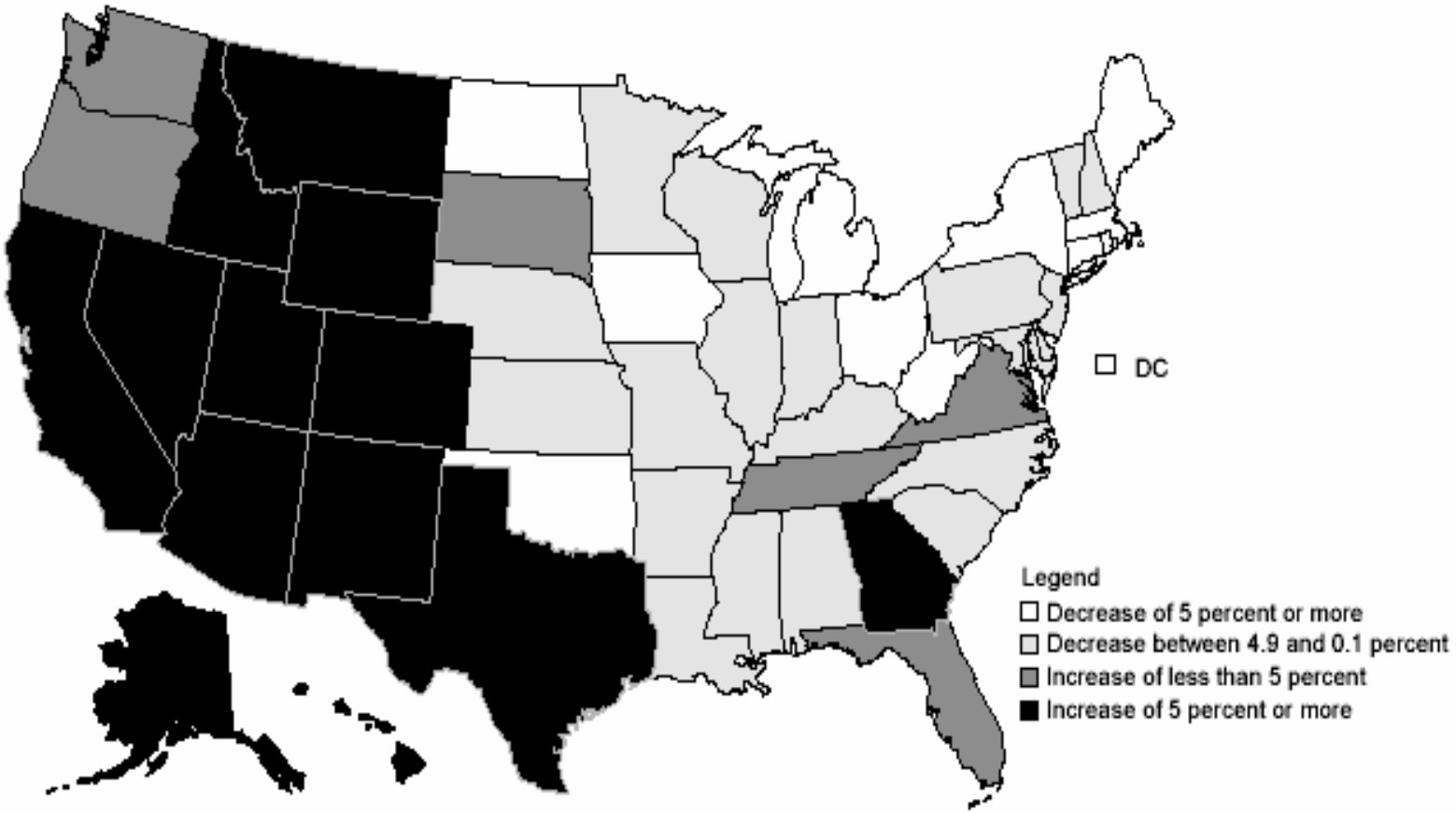


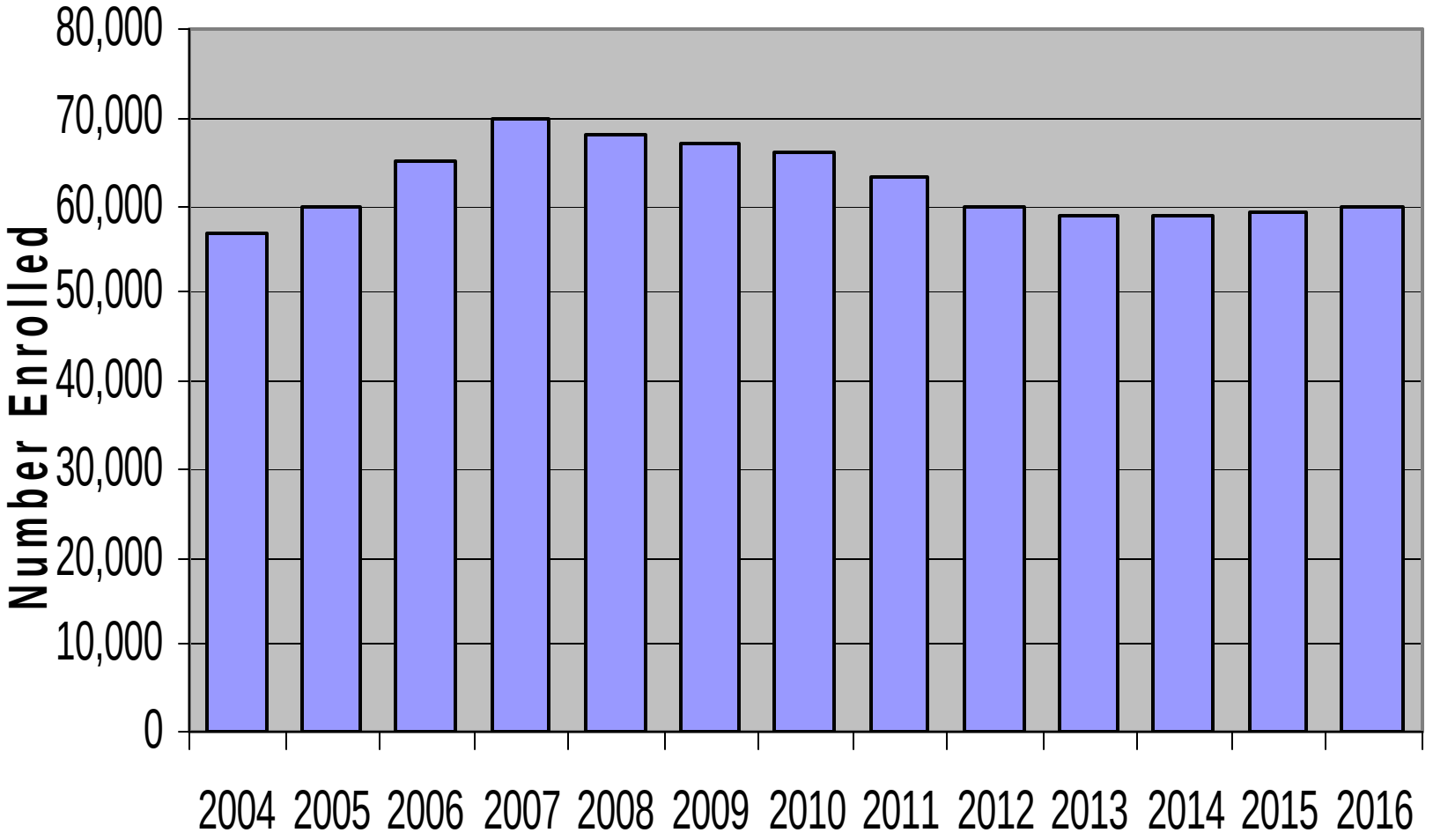
Figure 7.—Percent change in grades K-12 enrollment in public schools, by state: Fall 2000 to fall 2012



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys; and State Public Elementary and Secondary Enrollment Model.

Enrollment by Graduation Year: Missouri Public Schools

Total



Expected Graduation Year - NOTE: This is not a graduation projection chart, there are no adjustments for regular drop-out, migration, etc

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Due to Low Market Interest, UMR Embraced a System to Increase Enrollment by Improving the Yield of Admitted Undergraduate Applicants who Enroll, Not by Increasing the # of Applicants

		FS2000	FS2001	FS2002	FS2003
4TH WEEK CENSUS	Beginning	41.9%	43.5%	46.4%	51.4%
	Freshmen	696	715	815	897
w/ Admit to Enroll Yield %	New	60.7%	62.2%	68.9%	73.0%
	Transfers	195	231	261	281
		43.0%	32.7%	28.1%	25.5%
	Graduates	348	395	423	348
	TOTAL	1,239	1,341	1,499	1526

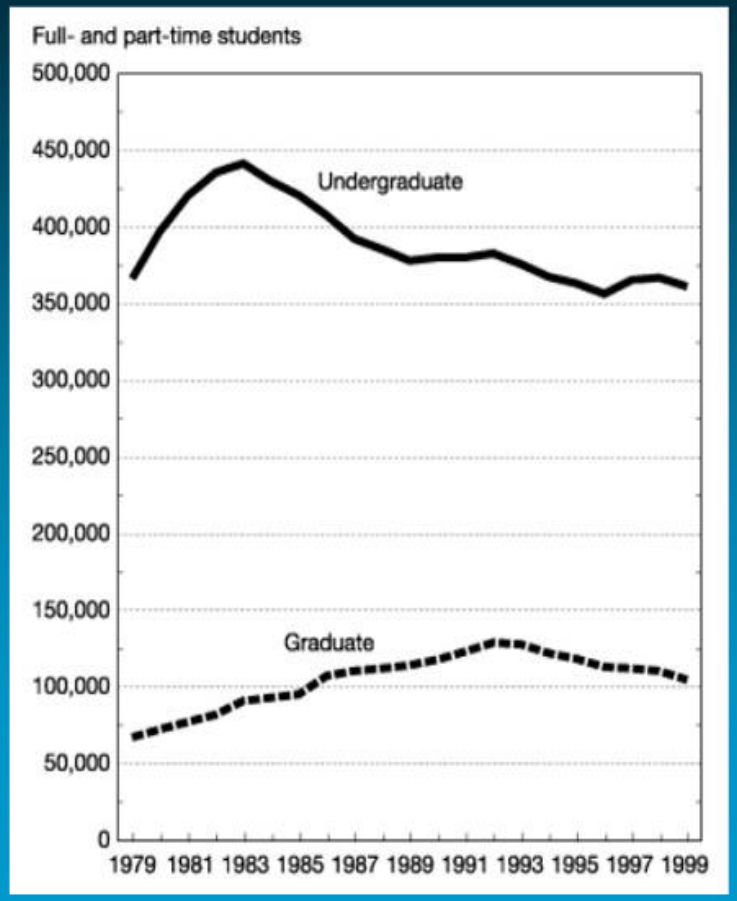
Missouri's 2004 Student Funnel for All Engineering Fields

- High School Seniors: 61,378
- High School Graduates: 57,573
- ACT Testers/College Bound: 42,862
- Any Engineering Interest, all scores: 1,599
- Engineering Interest, +21 comp. score: 1,102
  (21 = MO average score / 50%)
- Engineering Interest, +24 comp. score: 807
  (24 = Trig/Calc prepared)

Missouri's 2004 African-American Student Funnel for Engineering

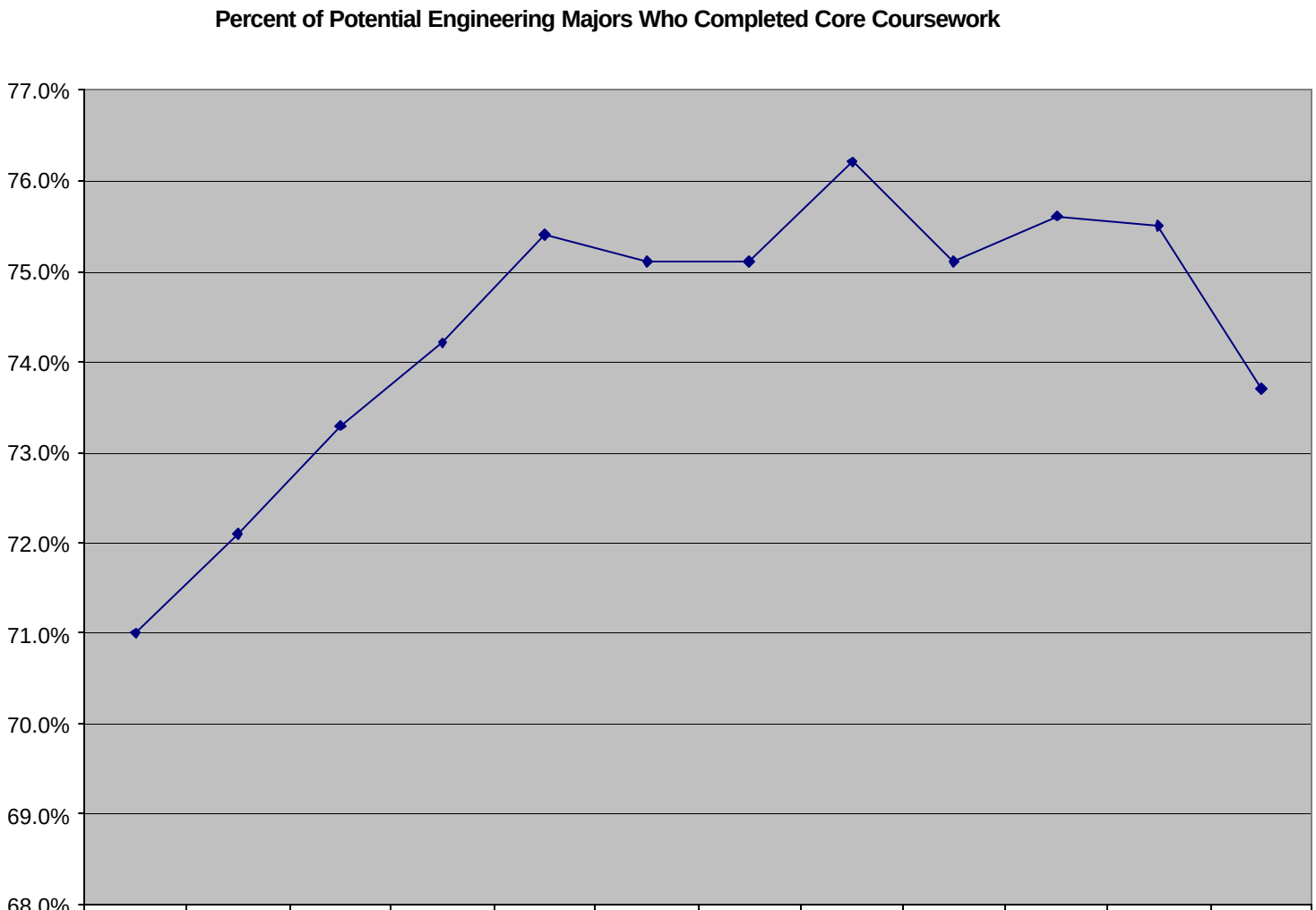
- High School Seniors: 8561
- High School Graduates: 7536
- ACT Testers/College Bound: 3850
- Any Engineering Interest, all scores: 167
- Engineering Interest, +21 comp. score: 36
  (21 = MO average score / 50%)
- Engineering Interest, +24 comp. score: 15
  (24 = Trig/Calc prepared)

U.S. engineering enrollment, by level: 1979–99



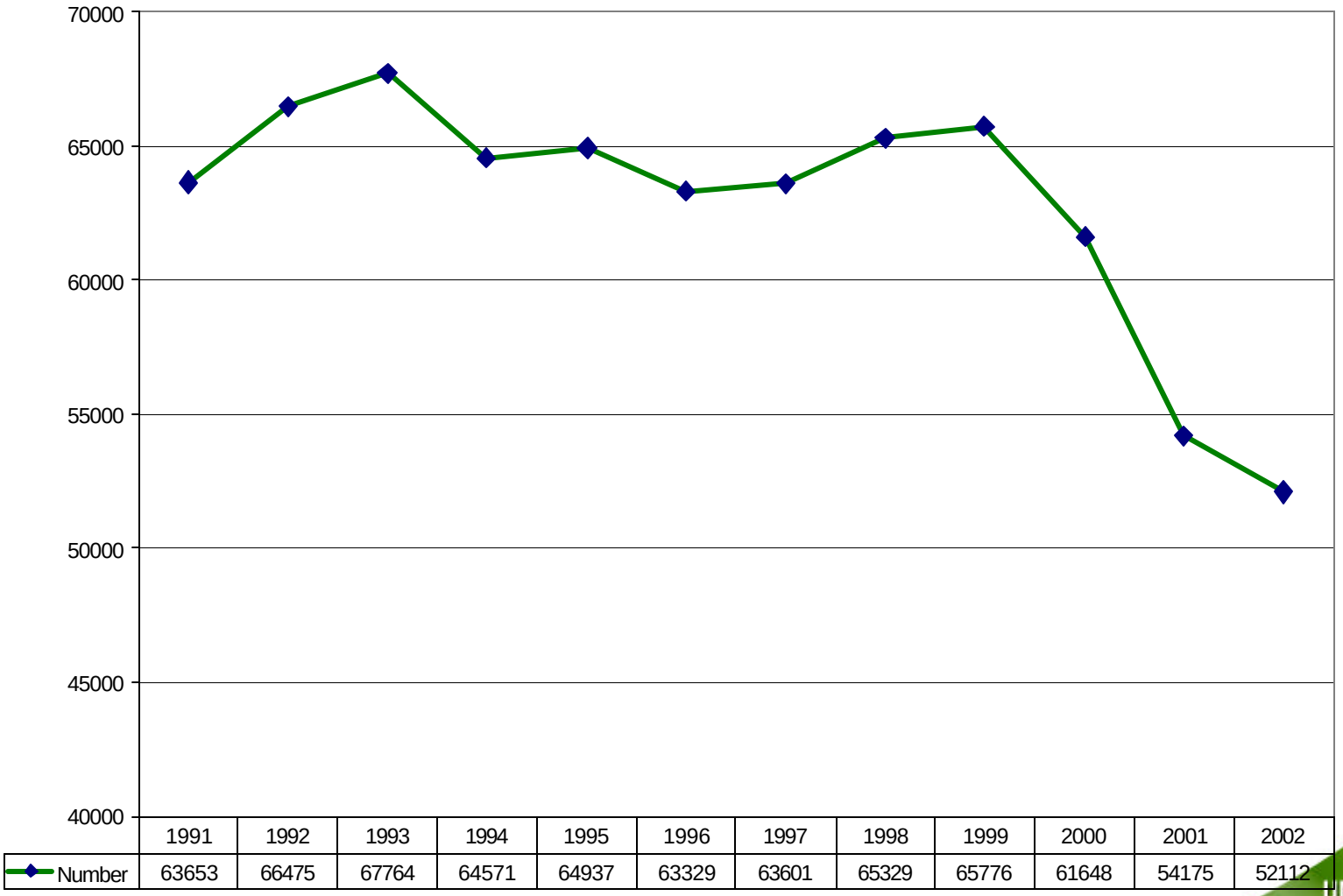
SOURCE: National Science Board, *Science and Engineering Indicators-2002*

% of Potential Engineering Majors Who Completed College Prep Curriculum

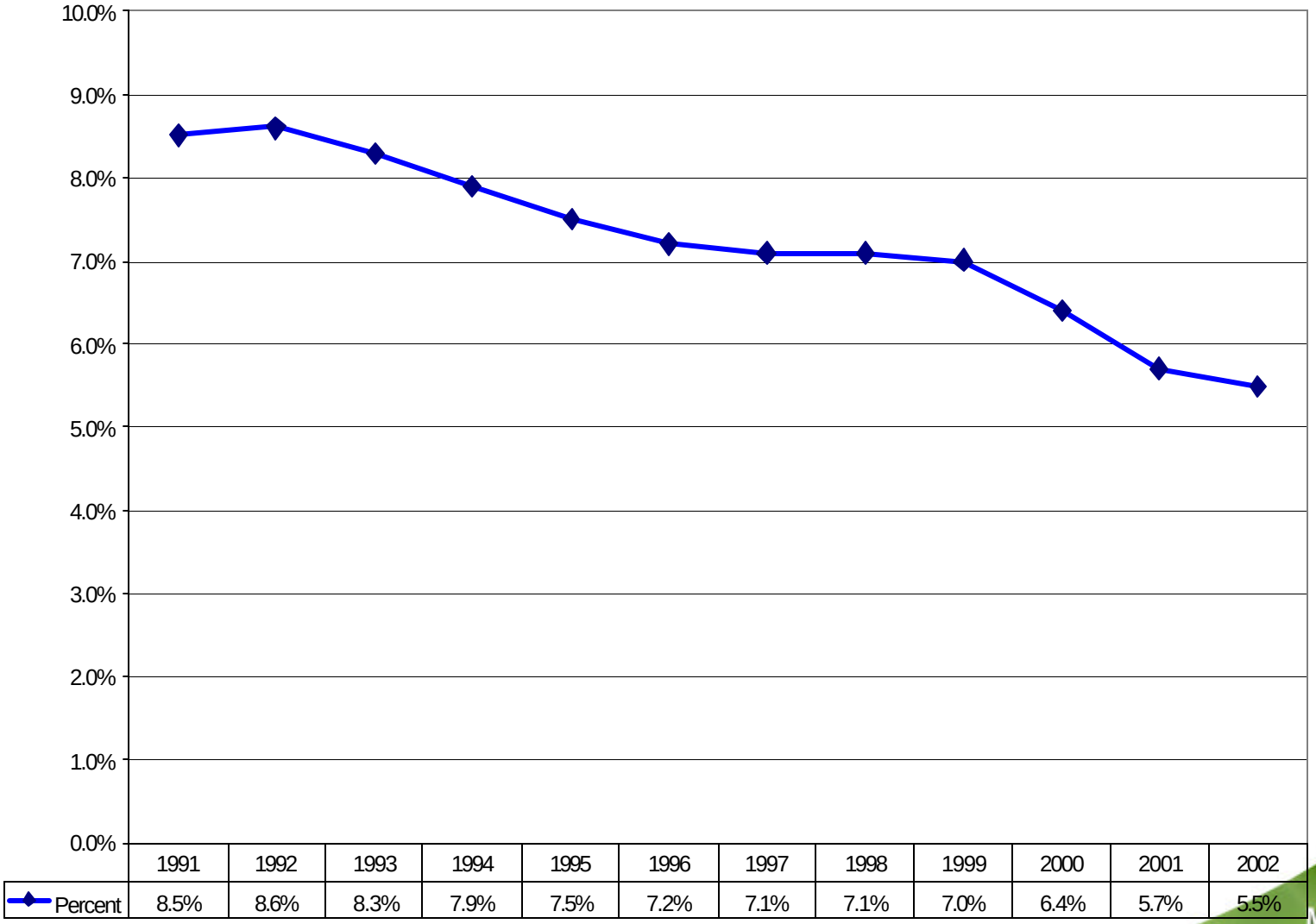


	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Female/Male	71.0%	72.1%	73.3%	74.2%	75.4%	75.1%	75.1%	76.2%	75.1%	75.6%	75.5%	73.7%

High Graduates Interested in Engineering Majors

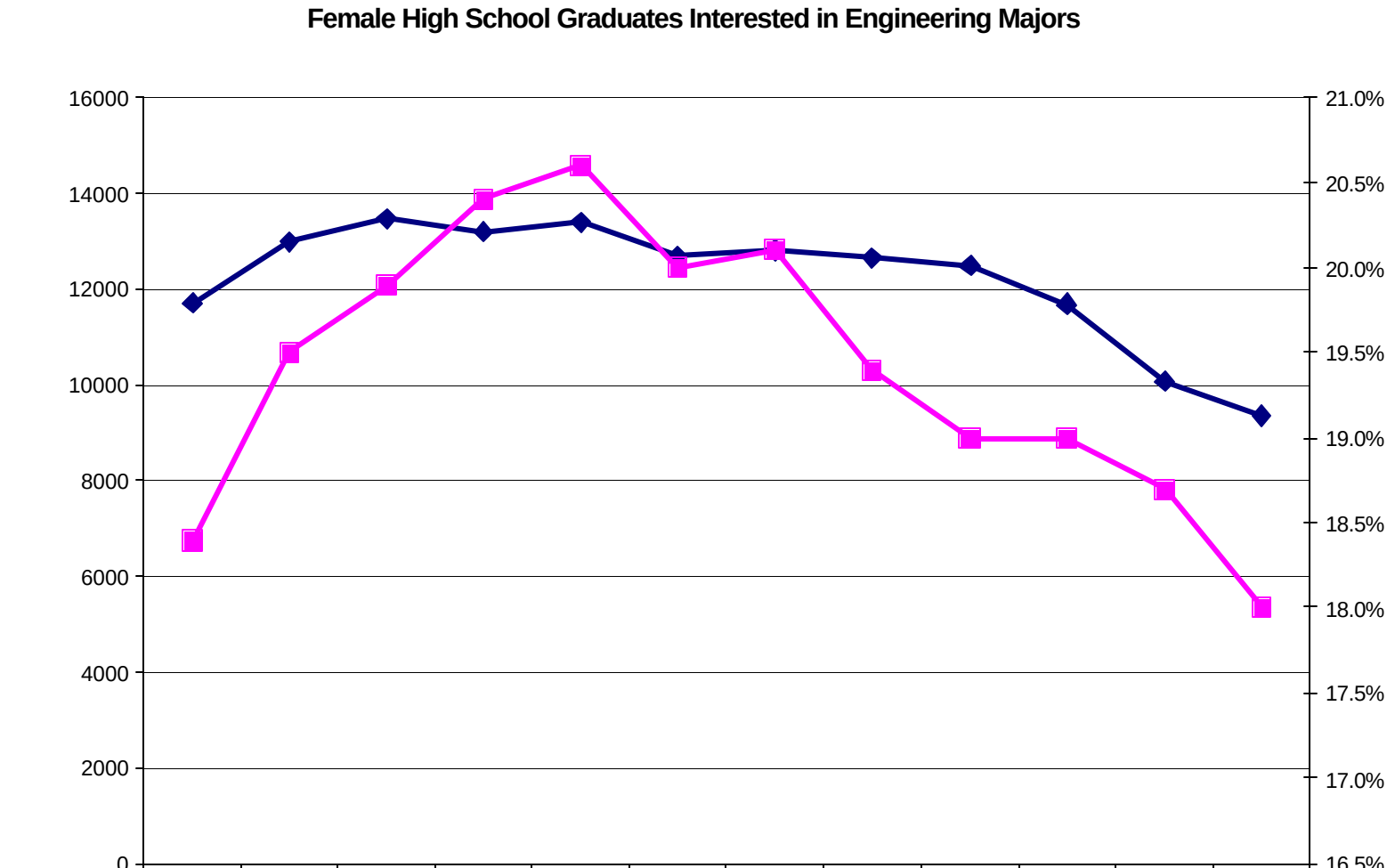


% of College Bound Students Selecting an Engineering Major



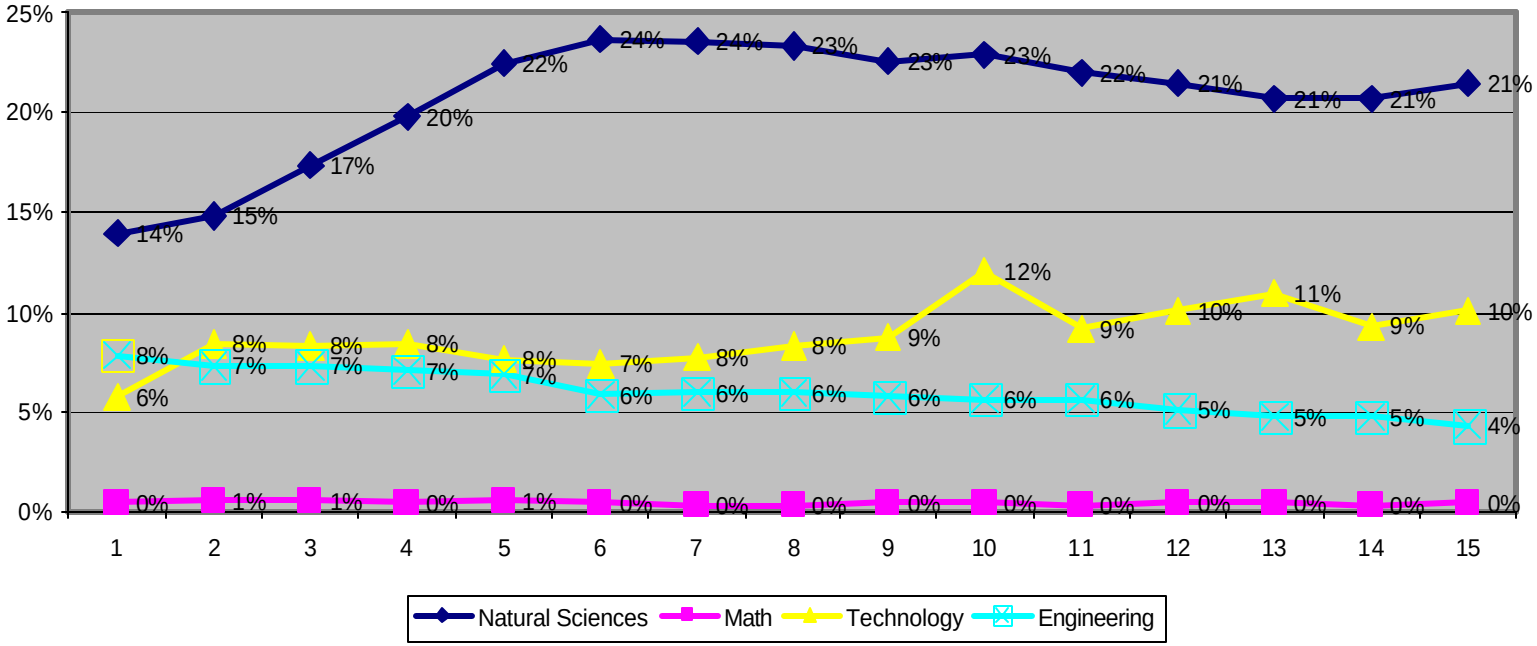
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Percent	8.5%	8.6%	8.3%	7.9%	7.5%	7.2%	7.1%	7.1%	7.0%	6.4%	5.7%	5.5%

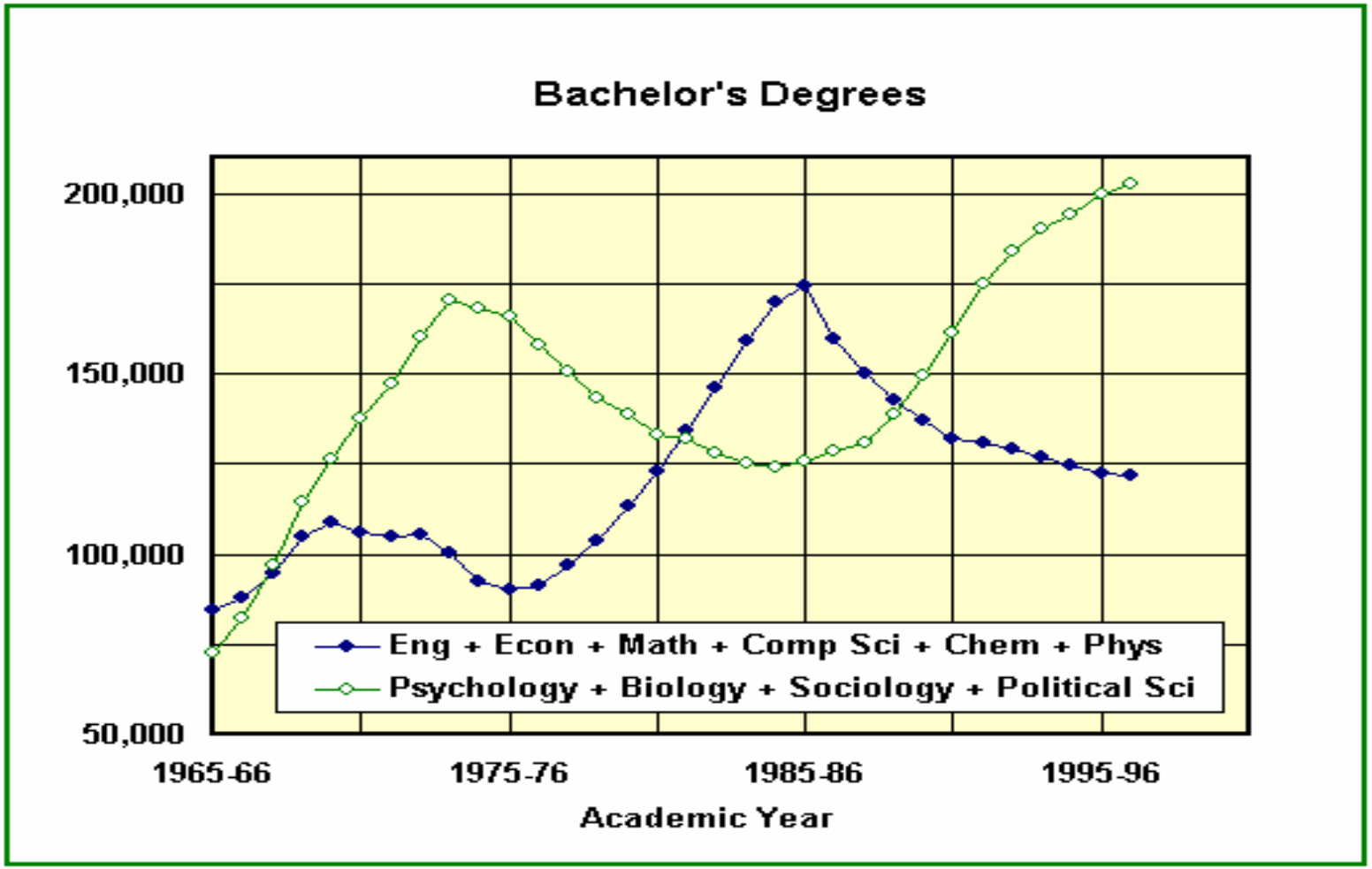
Female High School Graduates Interested in Engineering Majors



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Number	11710	12974	13483	13180	13389	12681	12803	12648	12480	11689	10073	9345
Percent	18.4%	19.5%	19.9%	20.4%	20.6%	20.0%	20.1%	19.4%	19.0%	19.0%	18.7%	18.0%

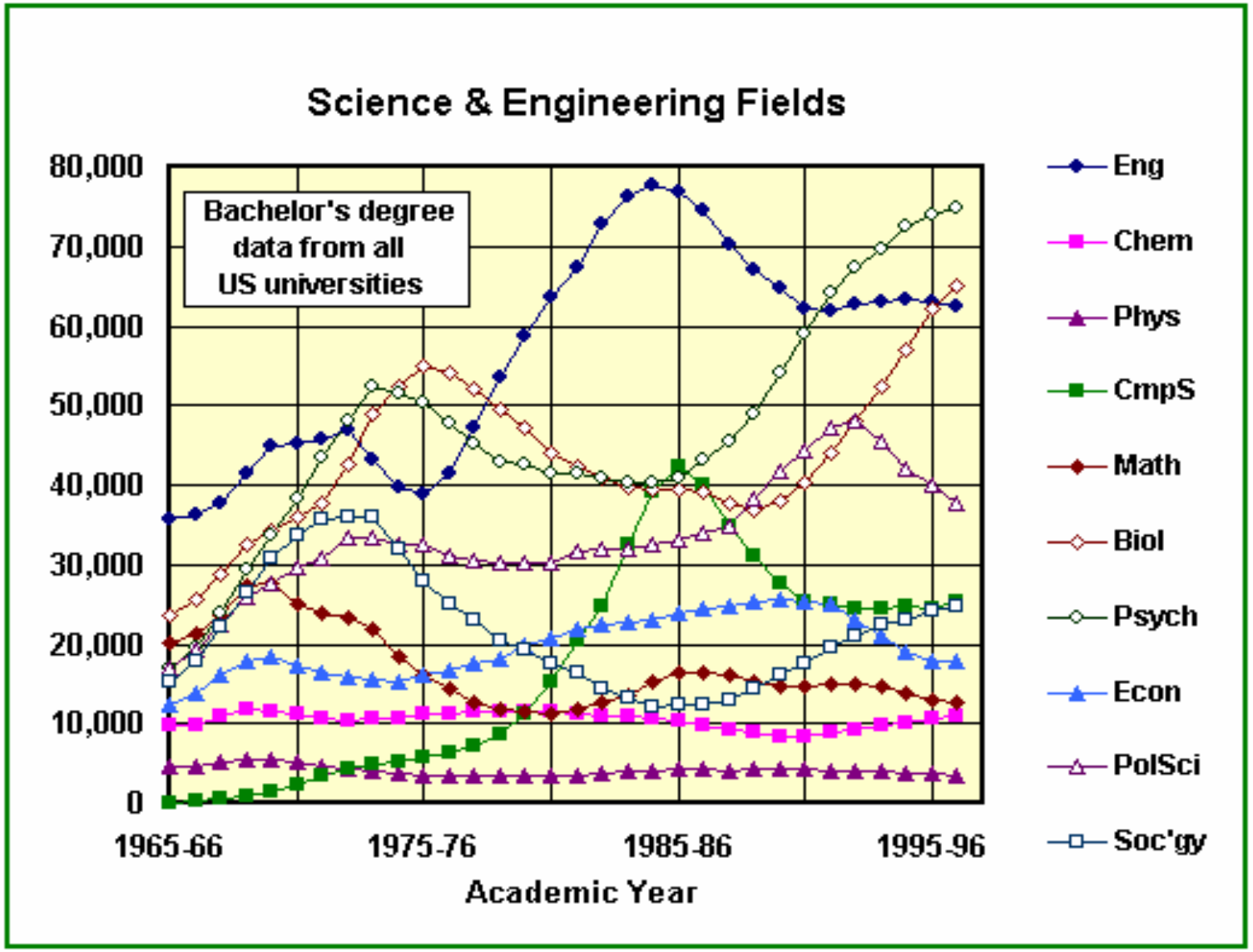
Planned Academic Majors of Admissable, ACT Tested College Bound Missouri Students, 1989-2003





The top graph is dominated by Psychology & Biology. The lower graph is dominated by Engineering & Computer Sciences. Taken together they illustrate a growing trend of student interest in programs that are perceived to have a greater human interaction.

Source: http://engtrends.com/IEE/0901C.php



For the final year shown, Engineering has the 3rd largest number of graduates, Chemistry has the 9th, Physics the 10th, Computer Science the 5th, Math the 8th, Biological Science 2nd, Psychology has the largest number of graduates, Economics the 7th, Political Science the 4th, and Sociology the 6th largest number of graduates.

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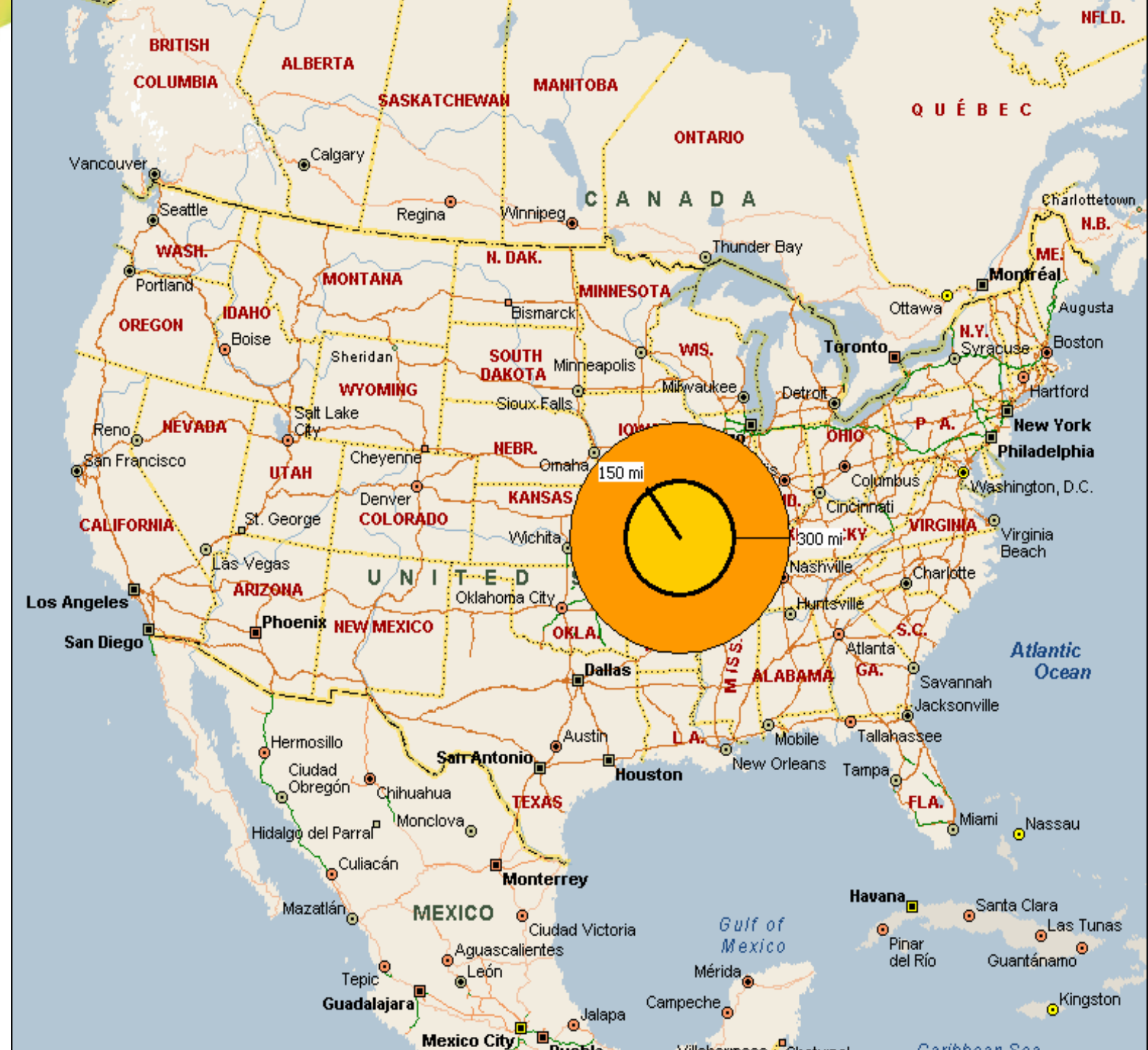
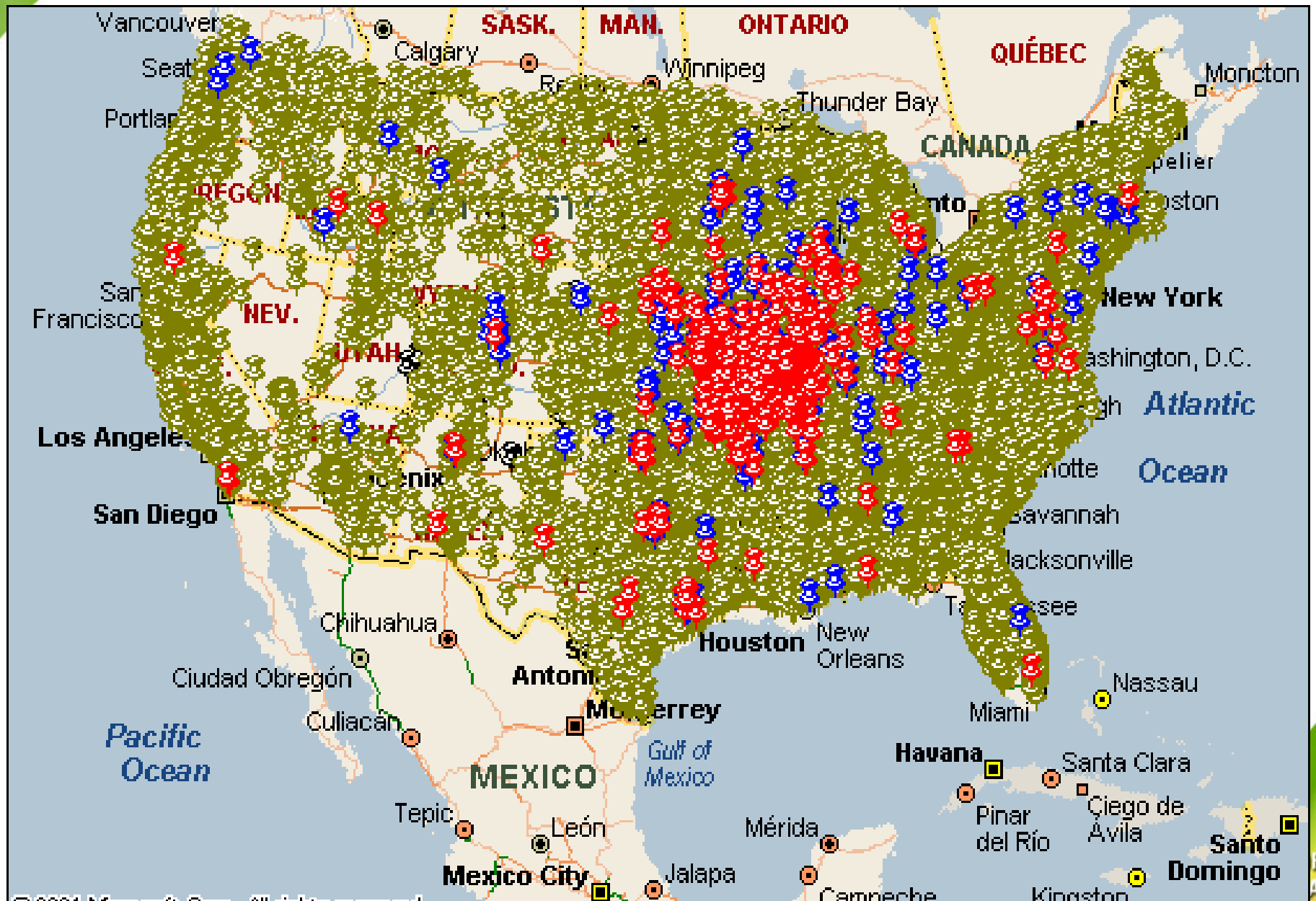
The Golden Circle for Recruitment

+70% enroll within 140 miles of home

+80% enroll in home state



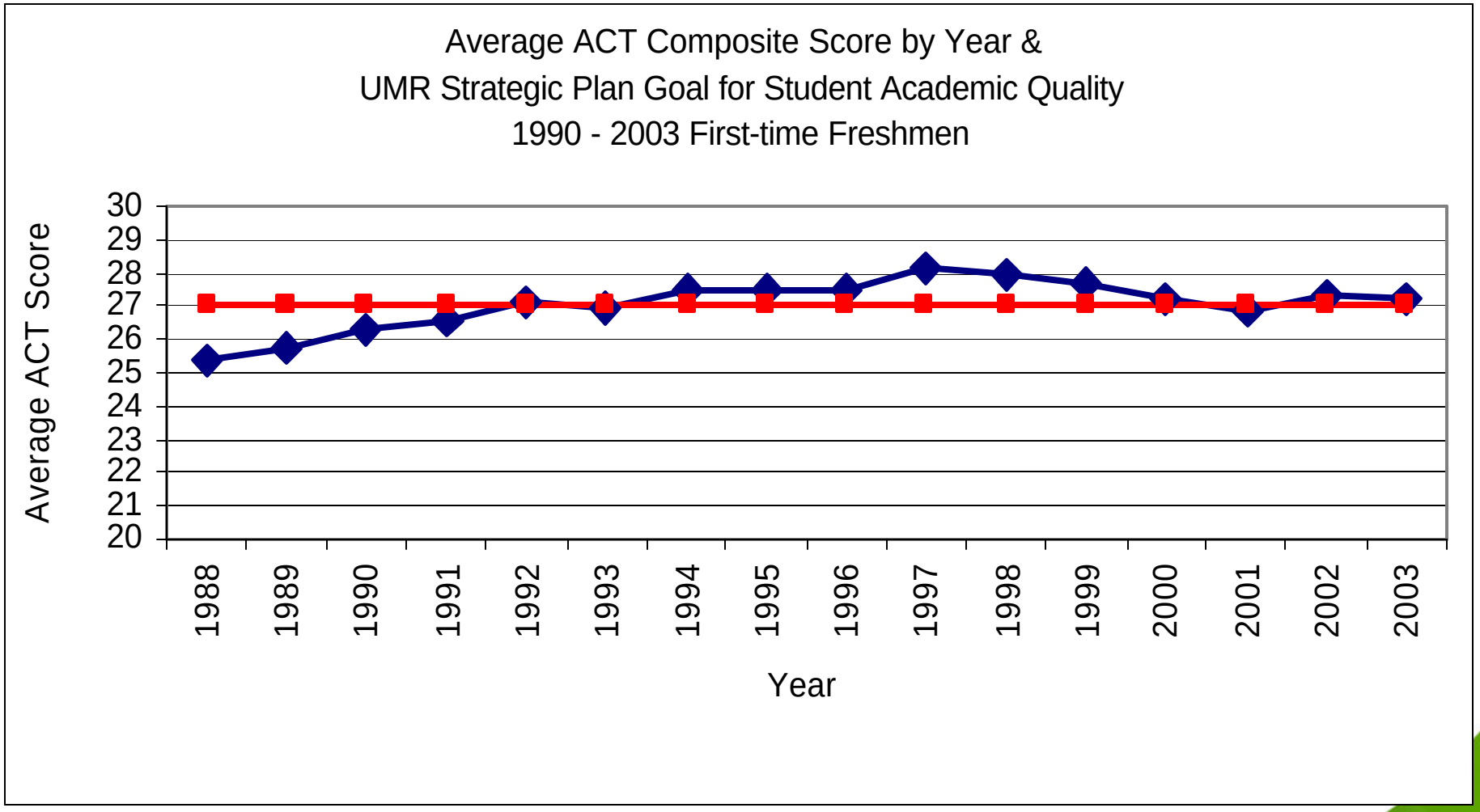
Total Recruit Class



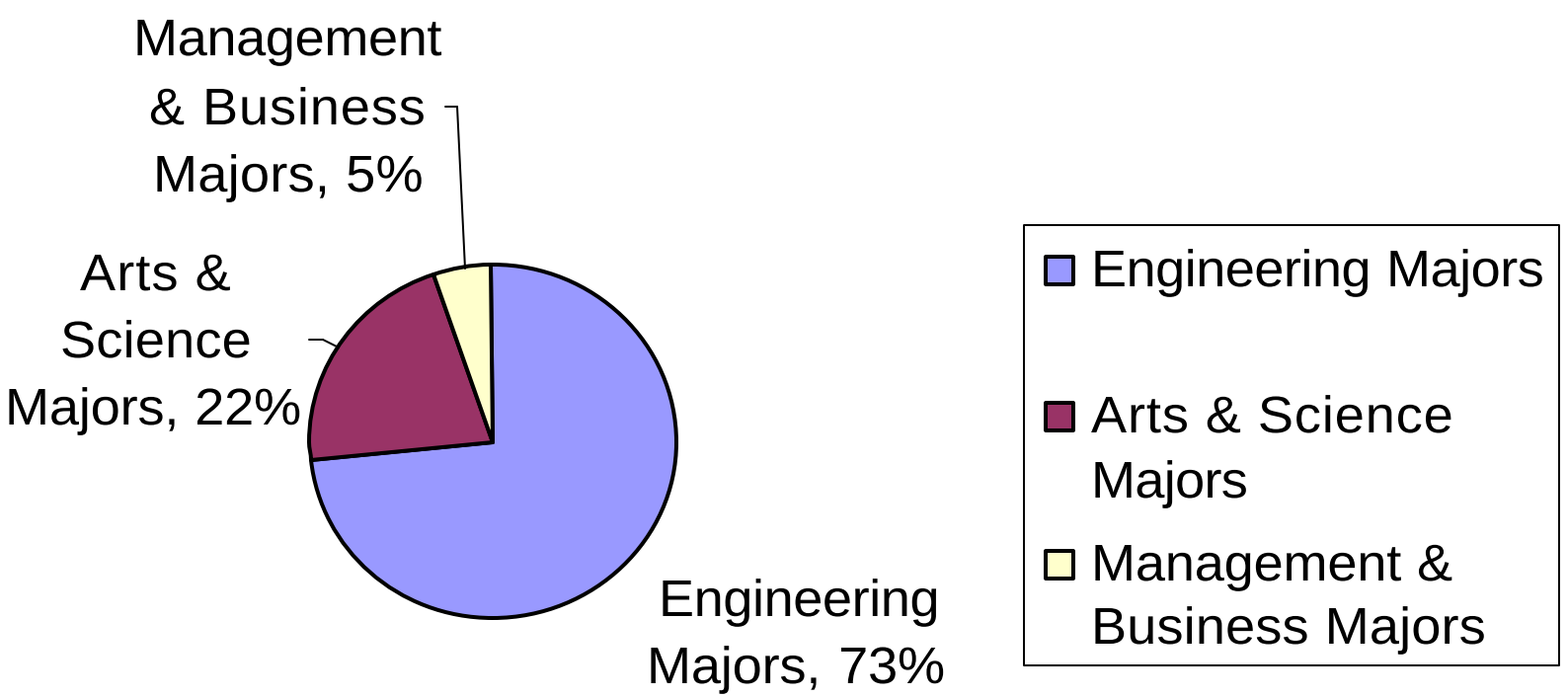
Changing Student Markets

- We must offer the engineering specializations needed and wanted by students. Essential for the future of engineering in America.
- The culture of engineering and cross-disciplinary studies in a tech environment is fast in development. This student interest shift can benefit our non-engineering degree programs.

Growth While Maintaining Academic Quality



UMR's Academic Major Distribution by Headcount: Fall 2003

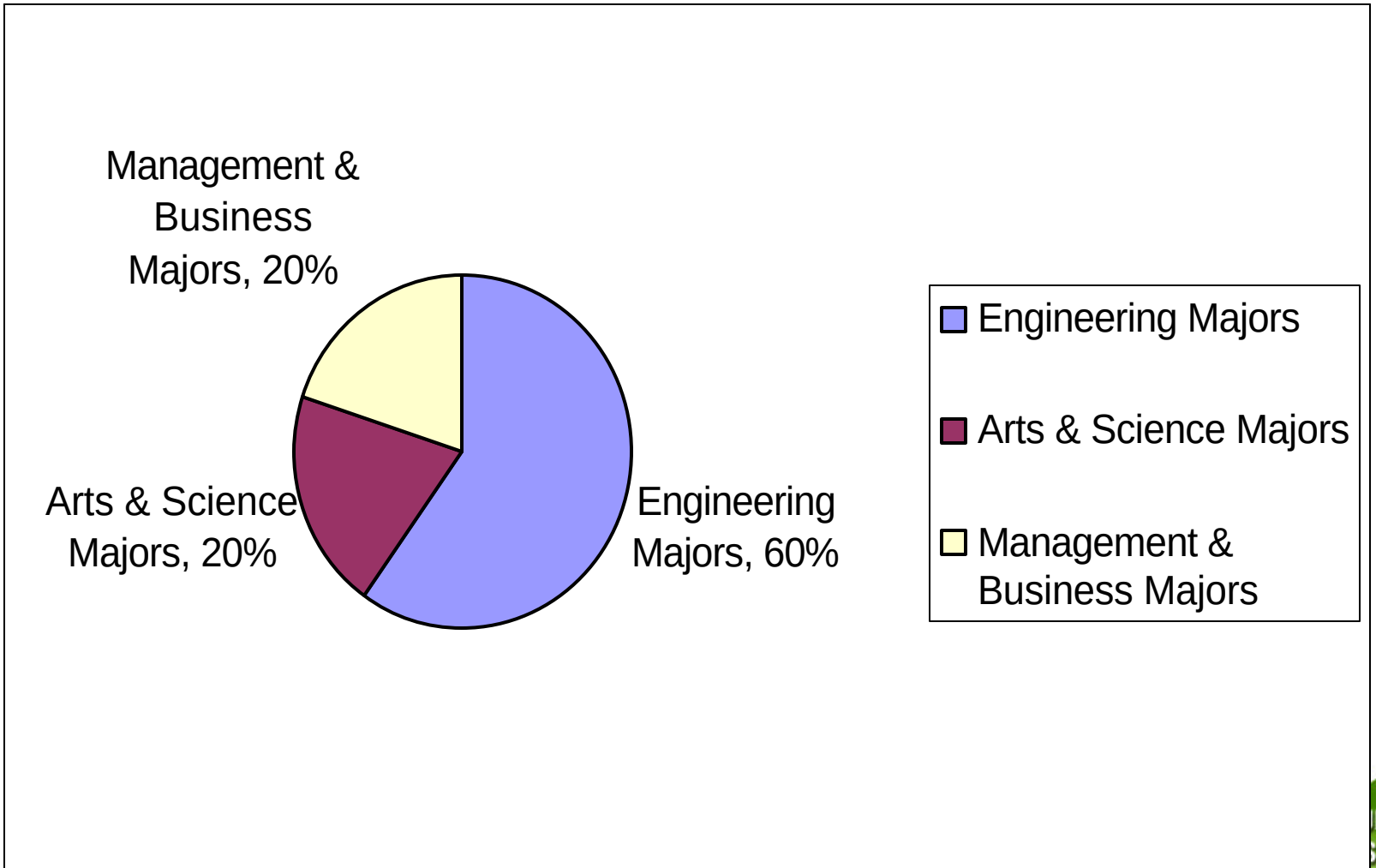


Number of Majors by School/College 2003-04

- 3950 Engineering Programs
- 1060 Arts & Sciences
- 235 Management & Info Systems

* FS2003 Enrollment included 260 Non Degree Seeking Students

UMR's Ideal Academic Major Distribution by Headcount for 7000: Goal 2013



Approximate Range of Majors by School/College

- 4200 - 4400 Engineering Programs
- 1300 - 1500 Arts & Sciences
- 1200 - 1400 Management & Info Systems

Proportion of Engineering Majors at Comparator Institutions

Institutions	Total % Engineering Majors	UG % Engineering Majors	Total Engineering Students	UG Engineering Students	All Students	All UG Students
UMR	**72.7%**	**71.4%**	**3811**	**2750**	**5240**	**3849**
GEORGIA TECH	**56.8%**	**55.1%**	**9355**	**6308**	**16481**	**11456**
ILL INST OF TECH	**30.2%**	**50.1%**	**1870**	**955**	**6199**	**1905**
MIT	**42.7%**	**36.1%**	**4408**	**1507**	**10317**	**4178**
MICHIGAN TECH	**54.6%**	**54.9%**	**3615**	**3246**	**6619**	**5909**
RPI	**47.2%**	**50.4%**	**3621**	**2590**	**7670**	**5136**
TEXAS A & M	**16.8%**	**15.6%**	**7569**	**5725**	**45083**	**36775**

Comparative Data - Faculty, Enrollment and Research Expenditures (Select Institutions)

		FS2002 Enrollment*							2002			
Institution Name	FT Faculty	Total Students	Engineering	Physical Sciences	Business	Bio Sciences	Comp Sci**	Math	% Eng/ Total Enrollment	%Eng,Bus,Sci/ Total Enrollment	R&D Exp. (NSF)	R&D Exp. / FT Faculty
STEVENS INSTITUTE OF TECHNOLOGY	161	4,527	1,865	111	1,766	97	430	58	41.2%	95.6%	$13,855,000	$86,055.90
UNIVERSITY OF MISSOURI-ROLLA	367	5,240	3,811	271	65	98	403	69	72.7%	90.0%	$32,222,000	$87,798.37
CALIFORNIA INSTITUTE OF TECHNOLOGY	368	2,120	769	662		263	29	118	36.3%	86.8%	$220,004,000	$597,836.96
RENSSELAER POLYTECHNIC INSTITUTE	412	7,670	3,621	264	876	176	796	143	47.2%	76.6%	$45,955,000	$111,541.26
MICHIGAN TECHNOLOGICAL UNIVERSITY	352	6,619	3,615	216	422	291	328	106	54.6%	75.2%	$30,005,000	$85,241.48
GEORGIA INSTITUTE OF TECHNOLOGY-MAIN CAMPUS	856	16,481	9,355	662	1,674	394		215	56.8%	74.6%	$340,347,000	$397,601.64
WORCESTER POLYTECHNIC INSTITUTE	241	3,837	1,970	114	320	315		111	51.3%	73.8%	$10,493,000	$43,539.42
COLORADO SCHOOL OF MINES	189	3,787	2,183	248				329	57.6%	72.9%	$26,515,000	$140,291.01
MASSACHUSETTS INSTITUTE OF TECHNOLOGY	1,056	10,317	4,408	891	1,215	528		298	42.7%	71.1%	$455,491,000	$431,336.17
SOUTH DAKOTA SCHOOL OF MINES & TECHNOLOGY	137	2,446	1,492	137				25	61.0%	67.6%	$9,692,000	$70,744.53
NEW MEXICO INSTITUTE OF MINING & TECHNOLOGY	127	1,683	593	317	30	98		37	35.2%	63.9%	$36,309,000	$285,897.64
CARNEGIE MELLON UNIVERSITY	1,172	9,501	2,252	262	1,558	184	1,195	189	23.7%	59.4%	$188,191,000	$160,572.53
ILLINOIS INSTITUTE OF TECHNOLOGY	358	6,199	1,870	148	594	183	848	35	30.2%	59.3%	$19,909,000	$55,611.73
DREXEL UNIVERSITY	1,044	16,345	3,361	182	3,711	507	744	86	20.6%	52.6%	$44,465,000	$42,591.00
POLYTECHNIC UNIVERSITY (BROOKLYN)	142	3,032	1,194	58	286			31	39.4%	51.7%	$10,915,000	$76,866.20
NORTH CAROLINA STATE UNIVERSITY AT RALEIGH	1,647	29,637	6,785	803	2,458	2,242	1,256	536	22.9%	47.5%	$290,018,000	$176,088.65
NEW JERSEY INSTITUTE OF TECHNOLOGY	458	8,828	3,031	103	645	90		104	34.3%	45.0%	$61,424,000	$134,113.54
IOWA STATE UNIVERSITY	1,396	27,898	5,830	589	4,209	1,608		315	20.9%	45.0%	$188,664,000	$135,146.13
PURDUE UNIVERSITY-MAIN CAMPUS	2,060	40,117	8,722	948	5,357	1,103	916	549	21.7%	43.9%	$285,778,000	$138,727.18
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIV	1,901	28,027	4,607	550	3,773	1,485	1,275	483	16.4%	43.4%	$232,560,000	$122,335.61
LEHIGH UNIVERSITY	423	6,686	1,407	207	909	206		53	21.0%	41.6%	$22,687,000	$53,633.57
ROCHESTER INSTITUTE OF TECHNOLOGY	800	14,634	2,344	292	1,380	592	1,064	205	16.0%	40.2%	$13,500,000	$16,875.00
TEXAS A & M UNIVERSITY	1,857	45,083	7,569	1,181	5,368	2,223	795	961	16.8%	40.1%	$436,681,000	$235,154.01
CASE WESTERN RESERVE UNIVERSITY	1,495	9,097	1,419	286	1,405	402		94	15.6%	39.6%	$219,042,000	$146,516.39
RICE UNIVERSITY	536	4,633	489	261	546	324		140	10.6%	38.0%	$48,169,000	$89,867.54
ARIZONA STATE UNIVERSITY-MAIN CAMPUS	1,711	47,359	5,262	584	7,939	1,976	1,687	314	11.1%	37.5%	$123,016,000	$71,897.14
STANFORD UNIVERSITY	1,639	18,297	2,987	962	895	1,043	604	215	16.3%	36.7%	$538,474,000	$328,538.13
CLEMSON UNIVERSITY	1,090	16,876	2,294	377	1,967	850	483	149	13.6%	36.3%	$134,840,000	$123,706.42
TEXAS TECH UNIVERSITY	1,023	27,569	2,414	320	5,404	803	566	242	8.8%	35.4%	$82,785,000	$80,923.75
LOUISIANA TECH UNIVERSITY	377	11,257	1,475	70	1,533	499	302	24	13.1%	34.7%	$12,110,000	$32,122.02
OKLAHOMA STATE UNIVERSITY-MAIN CAMPUS	1,155	23,220	2,693	221	3,818	1,046		125	11.6%	34.0%	$94,987,000	$82,239.83
UNIVERSITY OF MICHIGAN-ANN ARBOR	4,063	38,972	6,816	770	3,018	1,030		319	17.5%	30.7%	$673,724,000	$165,819.35
UNIVERSITY OF MISSOURI-COLUMBIA	2,405	26,124	1,992	465	3,750	1,388		164	7.6%	29.7%	$177,011,000	$73,601.25

Notes & Sources:

* - Enrollment data for all but Computer Science sourced from IPEDS.

** - Computer Science enrollments sourced from ASEE for FS2003. Some schools report Computer Science in engineering enrollments.

UMR

Proposed New Mission-based Academic Programs

ENGINEERING DEGREES

- Bio Engineering (BS, MS)
- Architectural Engineering (MS)
- Interdisciplinary Engineering (BS)

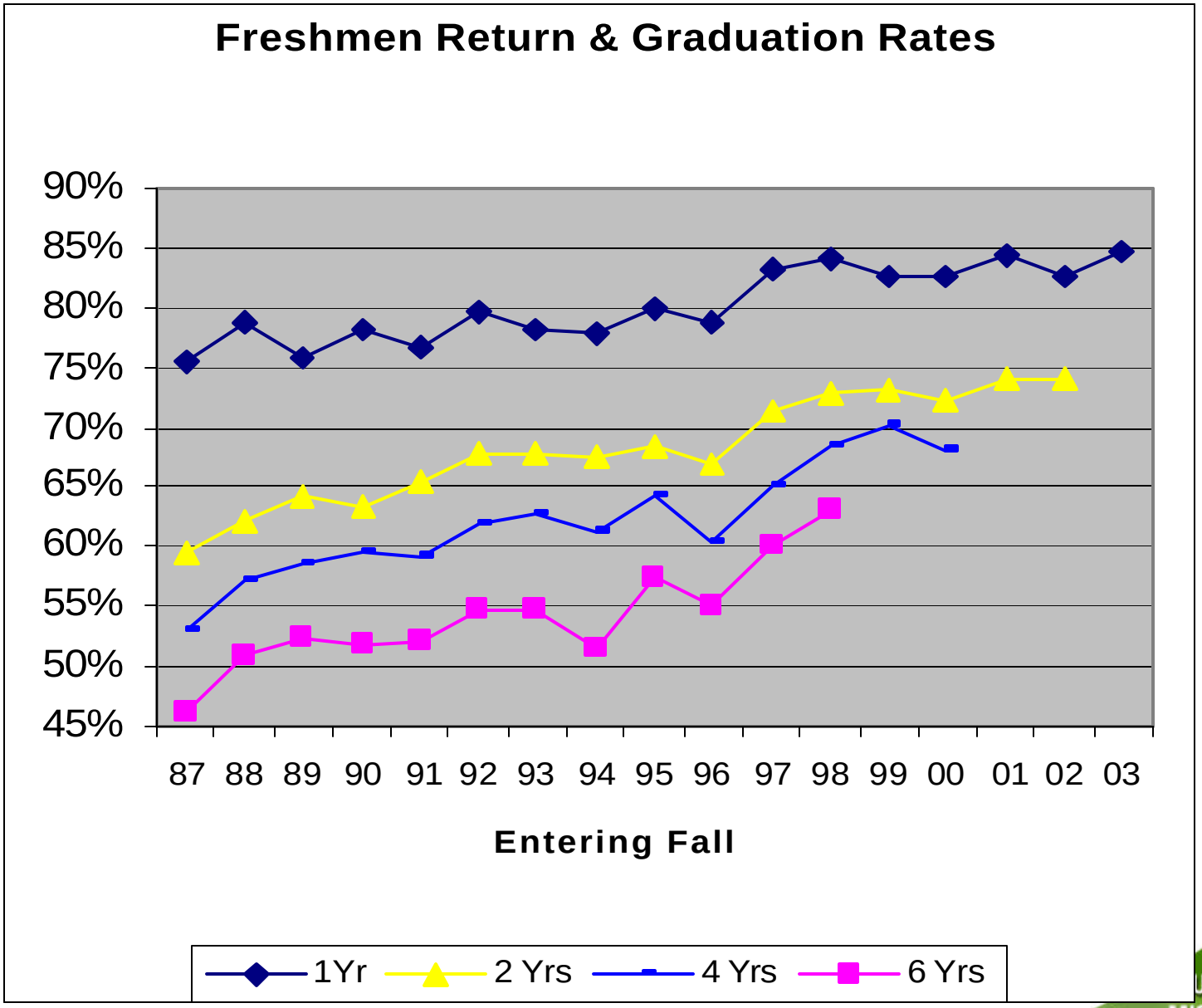
COMPLIMENTARY TECH ORIENTED DEGREES

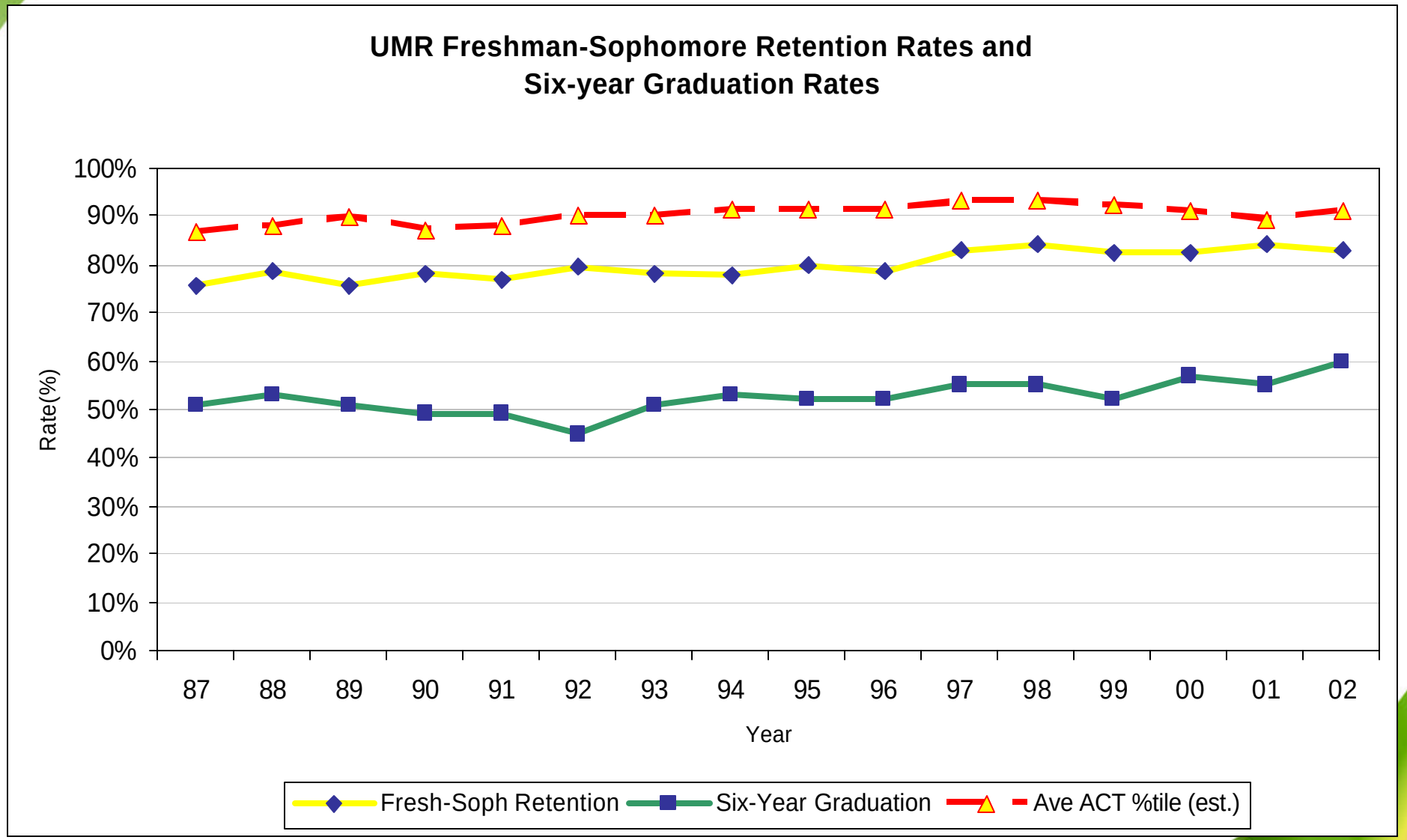
- MBA*
- Biology (PhD)
- Technical Communication (BS, MS)
- Multidisciplinary Studies (BA)
- STEM Teacher Education Programs (BS, MAT*)

* Intended as primarily executive style or evening programs

Prospective Student's Top 10 Non-Engineering Majors

1. Undecided (interested in UMR in general)
2. Computer Science
3. Biology and Medical Sciences (Pre Med)
4. Business and Information Systems
5. General Sciences: Chemistry, Physics
6. Psychology
7. Mathematics
8. Social Sciences
9. Teacher Education
10. Architecture/Arch. Design


Freshmen Return & Graduation Rates
90%
85%
80%
75%
70%
65%
60%
55%
50%
45%
87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03
Entering Fall
1Yr
2 Yrs
4 Yrs
6 Yrs


UMR Freshman-Sophomore Retention Rates and
Six-year Graduation Rates
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Rate(%)
87
88
89
90
91
92
93
94
95
96
97
98
99
00
01
02
Year
Fresh-Soph Retention
Six-Year Graduation
Ave ACT %tile (est.)

UMR Compared to National Data

- UMR: 15.3% “drop out” rate after the first year
- 23.8% “drop out” rate for public Ph.D. granting institutions *(July 2001 ACT National Collegiate Dropout and Graduation Rates report)*
- 18.6% “drop out” rate for “selective” institutions (average ACT 22-27) *(July 2001 ACT National Collegiate Dropout and Graduation Rates report)*

UMR Compared to National Data - continued

- 31% of all students enrolled in science, mathematics, engineering and technology either transferred to a non-SMET degree or dropped out of school completely. *(September 2001 Center for Institutional Data Exchange and Analysis)*
- 13.4% of students at the participating institutions ranked as highly selective (ACT>24) dropped out. This number is lower than UMR's dropout rate. *(September 2001 Center for Institutional Data Exchange and Analysis)*

Financial Issues

- $67,000: approx. average UMR family income
- 75% are receiving scholarships and financial aid
- 26% qualify for Pell Grants

- 73% plan to work while enrolled at UMR

- 24% already have/carry a credit card
  - » 45% have an existing monthly balance
  - » 10 students have 4 or more credit cards
  - » 5 have over $1000 of credit card debt before enrolling at UMR

UMR

Student Success & Affluence

- Family Income is still the best indicator of academic success and college persistence
- Need-Based Aid Is the Largest Influence on Students' Ability to Attend College

Family Income / ACT Achievement 2003

Family Income	Total	
	N	Avg
About $0 to $18,000	87983	17.9
About $18,000 to $24,000	72018	18.6
About $24,000 to $30,000	68584	19.3
About $30,000 to $36,000	68405	19.9
About $36,000 to $42,000	75454	20.3
About $42,000 to $50,000	89232	20.8
About $50,000 to $60,000	103333	21.3
About $60,000 to $80,000	142386	21.8
About $80,000 to $100,000	96504	22.4
More than $100,000	114639	23.4

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Missouri Students 2003

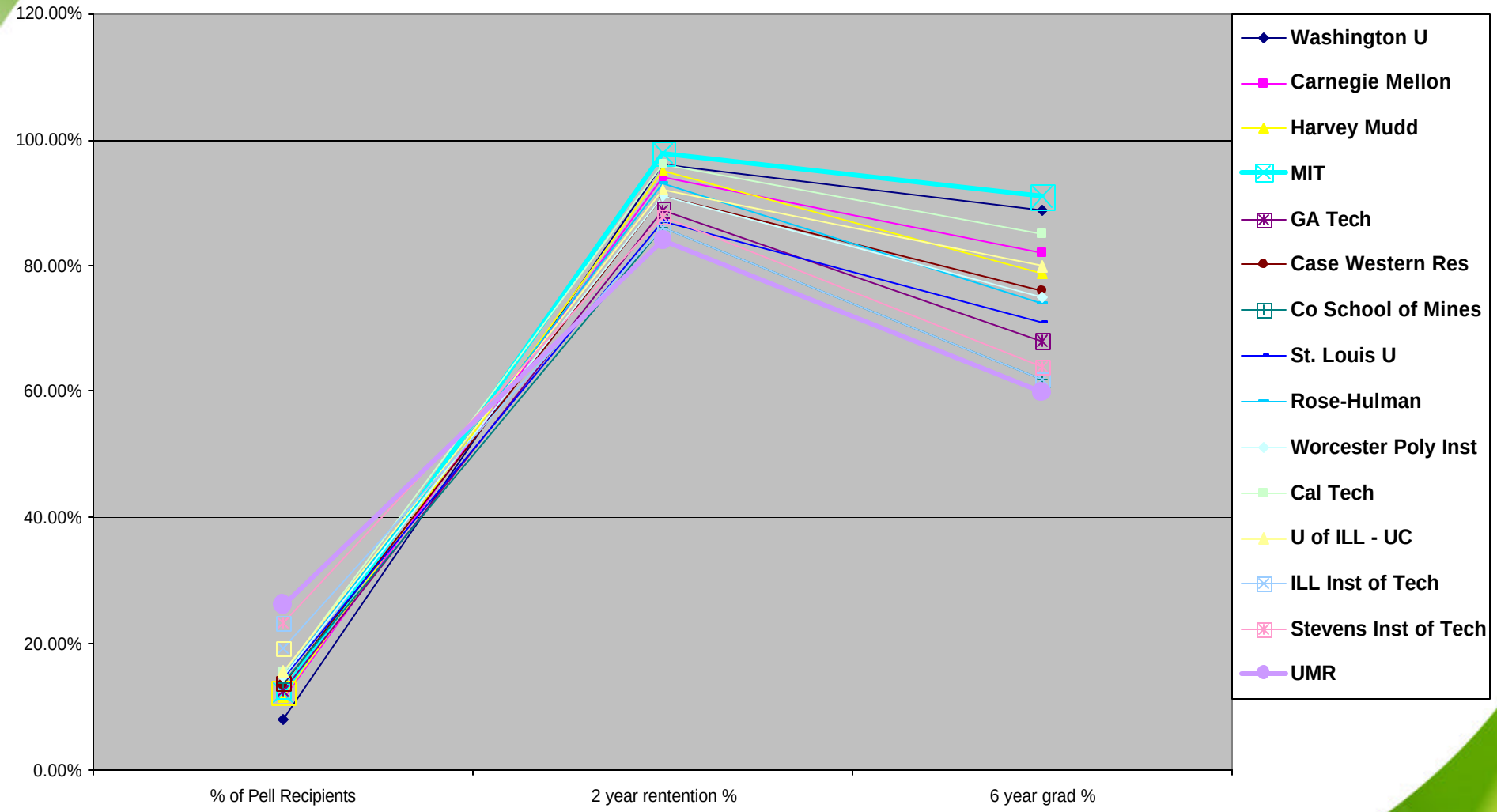
Family Income	Total	
	N	Avg
About $0 to $18,000	2847	18.8
About $18,000 to $24,000	2513	19.3
About $24,000 to $30,000	2613	20.0
About $30,000 to $36,000	2746	20.5
About $36,000 to $42,000	3089	20.8
About $42,000 to $50,000	3736	21.3
About $50,000 to $60,000	4294	21.7
About $60,000 to $80,000	5819	22.1
About $80,000 to $100,000	3721	22.6
More than $100,000	4325	23.6

Financial Need & Academic Persistence Levels Among Comparator Institutions

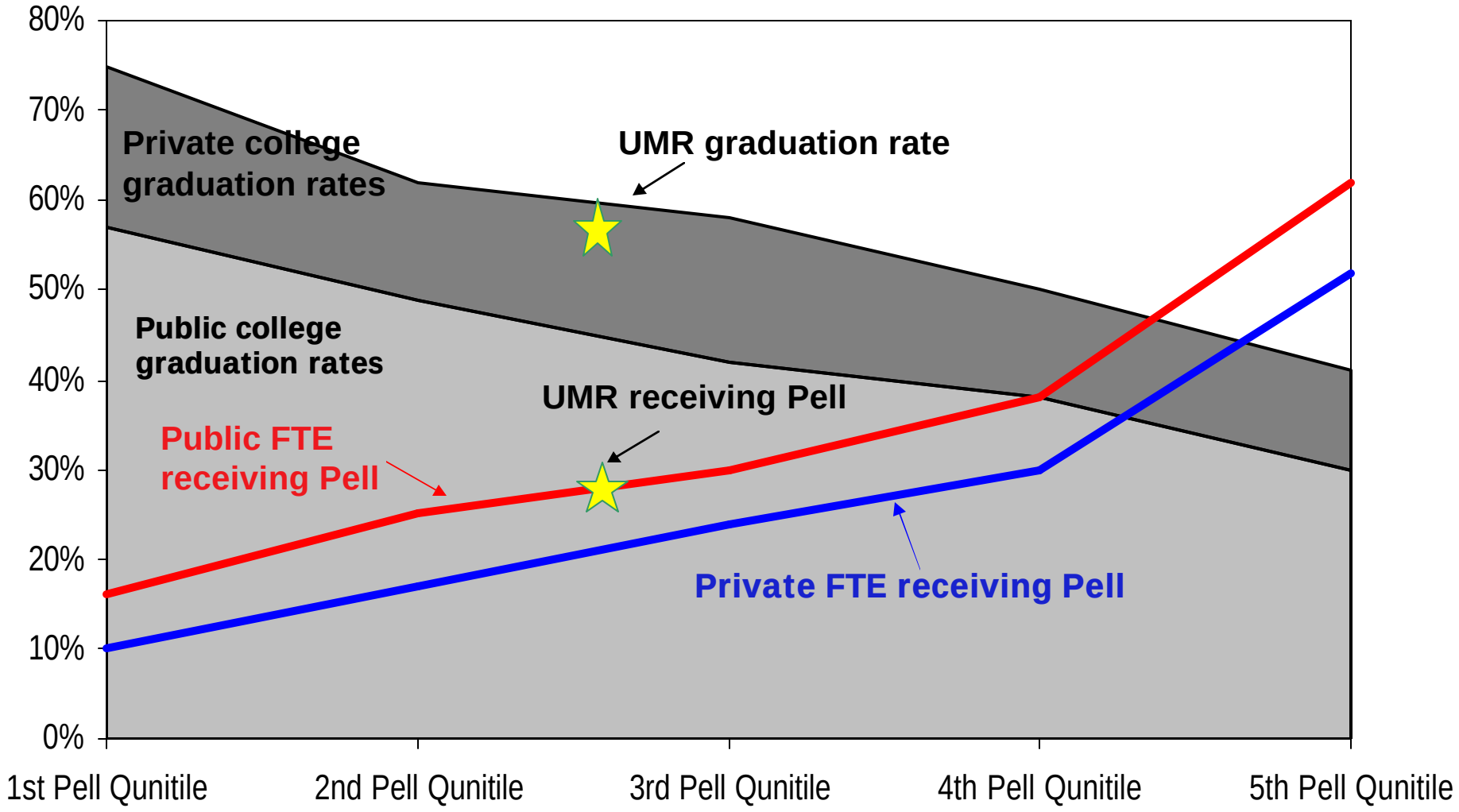
	Pell Recipients	6 year grad rate	2 year retention	Unmet Need
Washington University	**8.0%**	**89%**	**96%**	**0%**
Carnegie Mellon	**11.4%**	**82%**	**94%**	**17%**
Harvey Mudd	**11.5%**	**79%**	**95%**	**0%**
MIT	**12.4%**	**91%**	**98%**	**0%**
GA Tech	**12.5%**	**68%**	**89%**	**34%**
Case Western Reserve	**13.6%**	**76%**	**91%**	**10%**
Co School of Mines	**13.9%**	**62%**	**86%**	**0%**
St. Louis University	**14.6%**	**71%**	**87%**	**29%**
Rose-Hulman	**14.8%**	**74%**	**93%**	**17%**
Worcester Poly Institute	**14.9%**	**75%**	**91%**	**9%**
Cal Tech	**15.3%**	**85%**	**96%**	**0%**
U of ILL - UC	**15.6%**	**80%**	**92%**	**13%**
ILL Inst of Tech	**19.2%**	**62%**	**86%**	**16%**
Stevens Inst of Tech	**23.4%**	**64%**	**88%**	**22%**
UMR	**26.3%**	**60%**	**84%**	**15%**

% of High Need Students (Pell Grant Recipients)

Overall Student Persistence Levels



More Pell dollars, lower graduation rates



National average data based on NCAA 2001 Division I IPED data

UMR

"UMR's Space & Capacity to Grow"

Winter 2005

UNIVERSITY OF MISSOURI-ROLLA