

THE HOUSE BANK SCANDAL: INCUMBENTS ON THE RUN



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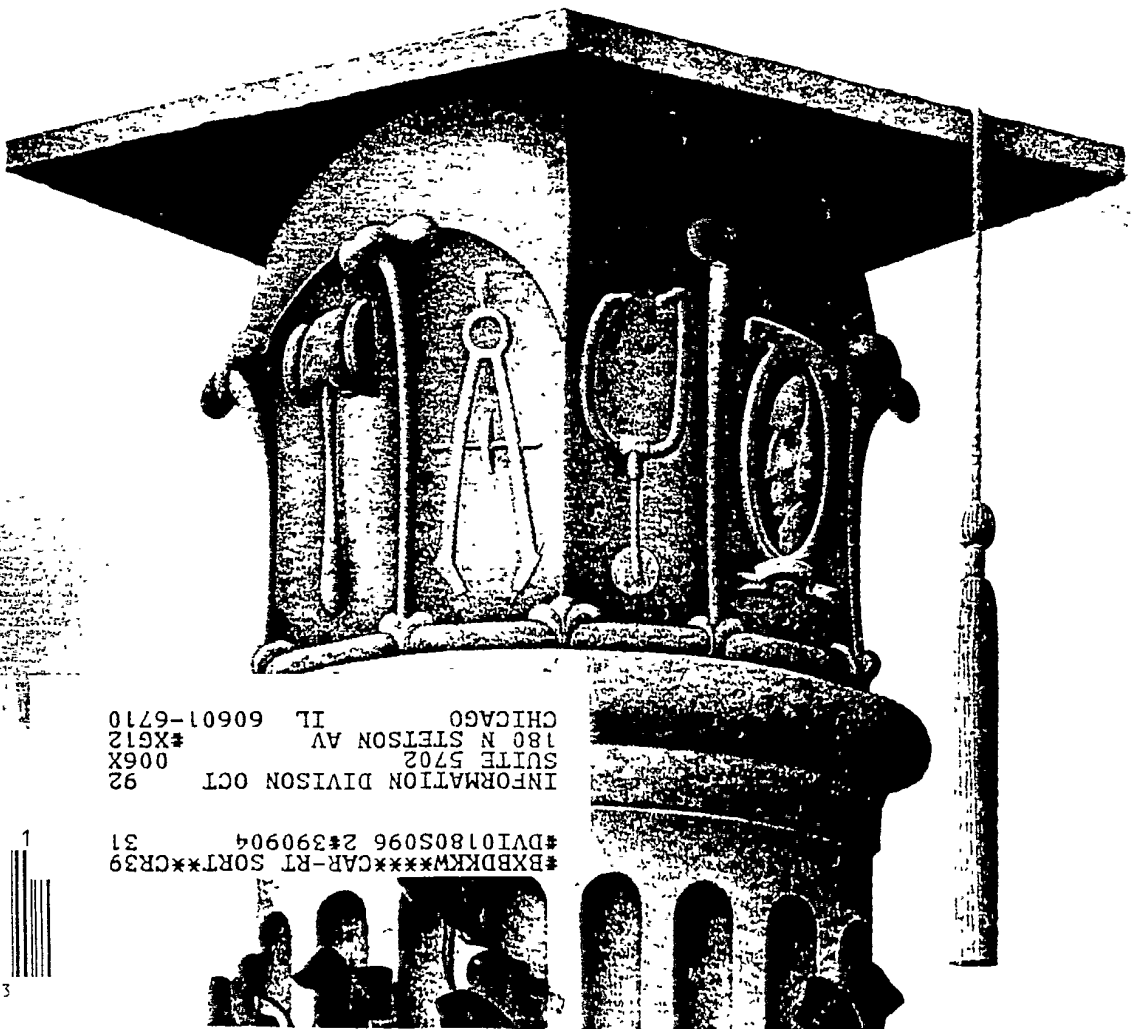
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AMERICA'S BEST

GRADUATE SCHOOLS

**BUSINESS ♦ LAW ♦ MEDICINE ♦ ENGINEERING
PLUS: SIX LIBERAL ARTS PROGRAMS**



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SPECIAL

THE BEST GRADUATE SCHOOLS

Despite this year's recession and shrinking pools of college-age students, enrollments at many top American graduate schools — especially business and law — are booming

Economists would call it "countercyclical." To philosophers, it is an "illogical" phenomenon, and for professors of English it could define "serendipitous." But to financially hard-pressed university presidents, who must spend their time these days contemplating educational triage, the fact that graduate school enrollments are booming unexpectedly in the face of shrinking pools of college-age students is nothing less than a demographic miracle.

As the 1992 edition of the *U.S. News* guide to "America's Best Graduate Schools" demonstrates, the key to the miracle is the U.S. economy, specifically, a recessionary climate that has forced many of those people worried about jobs to seek shelter in graduate school. Explains Patricia Speth, 29, of Sacramento, Calif., a first-year student at the University of Chicago Graduate School of Business: "In the back of my mind, the M.B.A. is just one more reason for an employer to keep you, one more credential to bring to the job. In a tight job market it could make the difference."

What emerges most strongly from this year's *U.S. News* surveys of graduate education is the evidence of the intimate connection between the once proudly aloof American college campus and the real world:

BUSINESS
SCHOOLS
PAGE 60

LAW
SCHOOLS
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THESE CAPS AND
GOWNS
REPRESENT THE
RESPECTIVE
SCHOOLS AND
DISCIPLINES

STANFORD
M.B.A.

YALE
J.D.

■ The emphasis in business schools is shifting away from the self-centered ethic that characterized the *zeitgeist* of the 1980s to the kind of teamwork many American educators and business leaders hope will distinguish the 1990s (story, Page 60).

■ Law schools still force students to master the abstract principles of jurisprudence, but they also are trying to show future lawyers how to deal with real clients who have real problems (story, Page 70).

■ As American industry restructures to keep up in an increasingly more competitive world, the once lowly field of manufacturing has suddenly become the fast track in graduate schools of engineering (story, Page 81).

■ Long after the women's movement swept through law and business schools, females in record numbers are beginning to change the macho culture and curricula of medical schools (story Page 86).

Unhappily for this era of graduate students, shelter from the recession comes at a high price. Four years at a top medical school can cost as much as \$100,000, and even the two years required to earn an M.B.A. from one of the elite business schools has a price tag of \$40,000. With so much at stake, now more than ever, future lawyers, doctors, engineers, businesspeople and college professors need as much comparative

information as they can get about where they should spend their hard-won educational dollars. Patricia Speth is typical: She devoted more than a year to researching what to study, where to study it and what it would cost before making up her mind about enrolling in the Chicago business school.

To help prospective students like Speth cut through the gushing prose of the glossy marketing brochures, this year's expanded edition of the guide to "America's Best Graduate Schools" includes three new features:

■ A reputational survey of executive education programs offered by business schools—one of the fastest-growing areas in all of higher education (Page 54).

■ A listing by quartile of the relative merits of all 175 accredited law schools (Page 80). Previous editions of "America's Best Graduate Schools" listed only the top 25 law schools.

■ Exclusive reputational surveys of graduate programs in six major liberal arts disciplines—economics, English, history, political science, psychology and sociology (Page 92).

Many schools that clamor for freedom of information when it involves other institutions of society evidently prefer privacy when it comes to their own educational statistics. Forty law schools, including 14 supported by taxpayers, refused to provide *U.S. News* with such

basic data as students' scores on the Law School Admission Test. But, perhaps as a result of our annual requests, a special panel of the American Bar Association recently proposed that law schools be required to make public such "basic consumer information."

Comparing merit. As these surveys show, American graduate education offers prospective students a wide variety of academic choices. The best school for any individual is not necessarily one that ranks at or near the top of the *U.S. News* surveys but one that best suits the student's goals, intellect and resources. The surveys offered in the following pages do not, of course, provide all the answers to questions of comparative educational merit.

Our goal is simple. By moving the often rancorous professorial debates about the relative quality of different institutions from the privacy of faculty-club luncheon tables to a more public forum—such as the pages of this magazine—*U.S. News* hopes to be of service to those who—either as students, parents or taxpayers—end up footing most of the bills for graduate school. ■

RANKINGS RESEARCHED AND PREPARED
BY ROBERT J. MORSE WITH PRISCILLA
TOTTEN, ELIZABETH DOWNES, TERRI
RAPATAN, AMY CRANDALL, JENNIFER I.
SETER AND JOHN T. SELLERS

ENGINEERING SCHOOLS

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MEDICAL SCHOOLS

PAGE 86

LIBERAL ARTS SCHOOLS

PAGE 91

MIT
MASTER'S IN
ENGINEERING

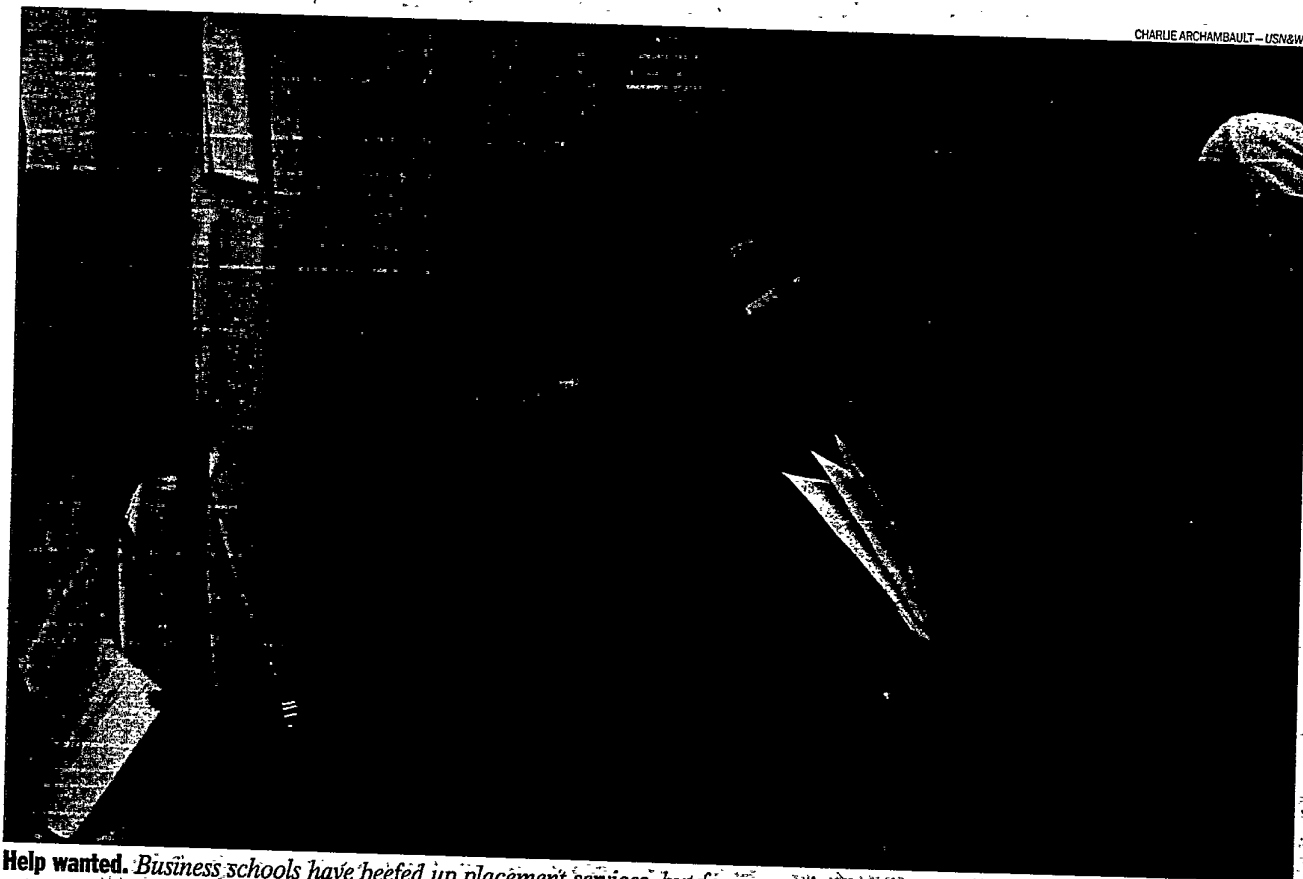
HARVARD
M.D.

BERKELEY
Ph.D.

PHOTO—
JEFFREY MACMILLAN
—USN&WR

BUSINESS SCHOOLS

CHARLIE ARCHAMBAULT—USN&WR



Help wanted. Business schools have beefed up placement services, but fewer recruiters mean students must hustle harder for jobs.

A HARDER SELL FOR M.B.A.'S

A bleak job market forces B-schools to change the way they do business

Welcome to Chicago! Now, let us help you find a job." That chipper note, mailed last August to the entering class at the University of Chicago's Graduate School of Business along with orders to have a résumé ready by October, speaks volumes about the priorities of M.B.A. programs in the worst economic downturn in a decade. For many B-school students, the search for work starts even before they arrive on campus.

What a change from only a few years ago. Then, finance majors from highly regarded programs had their pick of six-figure offers on Wall Street. Now, 1 M.B.A. in 4 is without a job at graduation. And with firms from autos to banking continuing to downsize, prospects may not rebound when the recession ends. "We're not going back to business as usual," warns John Rosenblum, dean of the University of Virgin-

ia's Darden Graduate School of Business Administration.

To meet the changing needs of their clients—students and employers—most of the nation's 263 accredited M.B.A. programs are scrambling to retool their

curricula and expand career services. On some campuses, corporate recruitment has plunged by as much as 25 percent. At the University of North Carolina's Kenan-Flagler Business School, the number of real-estate-industry recruiters fell from 25 in 1991 to two this year.

Ford Motor Co., once a major recruiter at the University of Pittsburgh, didn't show up at all last winter. "The first thing prospective students used to ask about was starting salary," observes Elizabeth Nasar, manager of the full-time M.B.A. program at Northeastern University. "Now, it's placement rates."

Gimme shelter. Despite the recession, applications are still soaring, at least at the prestigious schools. Duke University's Fuqua School of Business reported an astonishing 83 percent jump this year; at the University of Pennsylvania's Wharton



New wave. Stanford has redesigned its core.

BEST GRADUATE SCHOOLS

School, inquiries zoomed from 35,000 in 1990 to a record 50,000 last year. Explains Bruce Nelson, 26, a former IBM employee now in his second year at Columbia Business School: "I thought two years in school would be worth more than two years on the job."

The surge may prove short-lived. Since June, the number of people signing up for the Graduate Management Admission Test (GMAT) has dipped slightly, although part-time programs have suffered most. Applications from women also have slipped. Females now constitute about a quarter of the first-year class at many schools, off marginally from the percentage two years ago, though no one knows why. "I don't believe the talent is distributed 25-75," muses B. Joseph White, dean of the University of Michigan Business School, who suspects that the corporate "glass ceiling," plus broadened opportunities for women in law and medicine (story, Page 86), may be a factor. In any case, all programs face a shrinking pool of applicants as the "baby bust" generation comes of age.

Foreign cachet. Some experts suggest that enrollments would have sagged earlier, save for an uptick in international applicants. Foreign students accounted for 30 percent of some 305,000 registrations for last year's GMAT—up from 20 percent of a smaller total a decade ago.

Despite that boost, B-schools will compete for a dwindling pool of customers over the next decade. Meanwhile, foreign M.B.A. programs are attracting Americans with their multinational faculties and interdisciplinary curricula. Three—the London Business School, France's INSEAD and the International Institute for Management Development in Switzerland—scored among the top 15 in the *U.S. News* executive education program rankings. "We're interested in creating international excellence," says Catherine Hastings, LBS's public-information director. By contrast, corporate critics continue to decry the narrowly focused specialists that both accredited and nonaccredited programs churn out—at a pace of 75,000 a year.

Like any industry confronting stiffer competition, business schools have had to restructure. As Russell Roberts, director of the Management Center at Washington University in St. Louis, puts it, "With more sharks chasing fewer minnows, we sharks have got to learn to swim faster." For a few big fish, that means completely overhauling the core curriculum to give students the global perspective and skills needed in the business world. Wharton spent two years polling



Action learning. Students at the Darden School get a lesson in managing change.

executives and alumni to develop a \$2 million program aimed at producing 21st-century managers. Now being tested on 135 students from this year's entering class of 830, the new course scraps the usual two semesters of requirements in favor of six-week, interdisciplinary "modules" that force students to apply finance or statistics to marketing cases. The year culminates in a study tour of Japan or Europe, where students will visit factories and study local culture.

Other schools are sprucing up programs with ideas borrowed from executive education (story, Page 64). At the Indiana University School of Business, graded group projects have replaced individual term papers. "The Lone Ranger is not able to accomplish something in a large organization," adds Meyer Feldberg, dean of the Columbia Business School. The University of Chicago, long a bastion of free-market theory, now drills first-year students in teamwork at Outward Bound retreats as part of a required three-year-old leadership course redesigned each year by participants.

Real-world lessons. And "action" learning is not limited to wilderness forays. At Virginia's Darden School, first-year students learn the art of persuasion through "stock pitches"—sales talks to mock investors. Washington University students work on corporate-sponsored case studies called "practicums." One group last year conducted market research and hosted focus

groups to identify new customers in St. Louis for Apple computers. University of Chicago students start high-tech businesses through a tie-in with the nearby Argonne National Laboratories: in five years, the program has produced eight start-ups and 160 patents.

Many curriculum changes simply reflect where the jobs are. Last year, 34 percent of Harvard's graduates took jobs with manufacturing firms (story, Page 81), compared with 26 percent in 1990. As a result, operations management has undergone a stunning transformation: from a field for nerds to a hot specialty integrating new technology with product design and marketing. Harvard's extracurricular technology and operations club now boasts 250 members. "Everyone is getting on the bandwagon," says Prof. Steven Wheelwright, who had 130 students show up on a Friday afternoon for a talk on summer jobs in manufacturing.

Many programs encourage ties to the local community. One student club at New York University's Leonard N. Stern School of Business draws up business plans for minority firms. Students at Dartmouth's Tuck School developed marketing strategies for a gay greeting-card company. And about 15 percent of graduates from Yale's School of Organization and Management take jobs in government or with nonprofit organizations.

Since even the most sweeping reforms mean little if they don't translate into jobs, many schools are bolstering career

EXECUTIVE EDUCATION

The pause that refreshes

It's a winter morning in Boston, but in a U-shaped classroom overlooking the icy Charles River, some 125 vice presidents representing companies as diverse as shoe and software makers are in their shirtsleeves, sweating out global strategy at Harvard's top-ranked Advanced Management Program. Seven hundred miles away, high in the trees of a 48-acre North Carolina forest, 60 participants in the leadership course at Duke University's Fuqua School of Business are absorbing the principles of teamwork through a series of group rope-climbing exercises. And up the Hudson River, the Columbia Business School is drilling hundreds of corporate officers in marketing management on a panoramic estate replete with tennis courts and indoor gym.

Part boot camp, part Club Med, executive education is the hottest thing to hit business schools since the case study. For decades, only a handful of blue-chip universities offered courses for senior managers. Today, executives can pick from more than 100 programs in the United States and overseas. The increase has been so rapid that this year, for the first time, *U.S. News* added executive-education programs to its annual survey of graduate education.

No loss. The growth of management development programs has been inspired as much by the profit motive as by educational need. With fees of up to \$40,000 per student, "there are no universities running these things at a loss," notes Prof. Fred Maidment, an executive-education specialist at Kean College of New Jersey. The University of Pennsylvania's Wharton School, for instance, has seen its revenues more than triple since 1986.



Climbing the wall. An outdoor drill in teamwork at Duke

Whether these programs benefit the customers as much as the schools is another matter. Proponents assert that they give busy managers a chance to update skills and absorb the latest research. Douglas Ready, head of the year-old International Consortium

for Executive Development Research, a multischool think tank in Lexington, Mass., observes, "The half-life of a business education is shrinking dramatically." And the best executive programs allow managers to test-drive theories that would prove too cost-

ly or difficult for on-the-job experiments. One example: how to foster teamwork in a far-flung transnational.

As in the ubiquitous M.B.A. programs that sprang up to meet market demand in the last decade, quality varies. "It's a wide-open industry," says Kean College's Maidment. "There's no regulation—zero, zip, nada." Some courses consist of little more than condensed versions of the regular M.B.A. program's "greatest hits." For female and minority executives, classes can seem distressingly male and white.

But as the recession crimps corporate budgets, companies are demanding better returns on their investments. The Massachusetts Institute of Technology has responded by customizing courses for individual companies—a move unthinkable five years ago, and as time-consuming as it is costly. To design a program on competitive strategies for Johnson & Johnson in Latin America, several senior professors from Duke's Fuqua School spent eight months interviewing key executives and visiting plants. Columbia sends out 150 company polls a year on its four-week general management program. Other schools are eyeing alliances; Fordham University in New York City, for example, recently teamed up with MCI Communications. A few schools see niches as the only way to survive. Dartmouth's Tuck School has won rave reviews for its one-week course for minority entrepreneurs.

Ultimately, however, executive education is only as valuable as a manager's ability to apply the lessons. General Electric, which runs its own management development center, encourages senior officers to use their learning by tying their compensation to how well they cultivate future talent. Few firms go so far, but an increasing number view executive education as a way to upgrade their human capital.

THE TOP OF THE LINE

Rankings are based on a survey of academic reputations

Rank	School name	Average score
1.	HARVARD UNIVERSITY	4.7
2.	STANFORD UNIVERSITY	4.6
2.	NORTHWESTERN UNIVERSITY (Kellogg)	4.6
4.	UNIV. OF MICHIGAN AT ANN ARBOR	4.5
5.	MASSACHUSETTS INST. OF TECH. (Sloan)	4.4
6.	EUROPEAN INST. OF BUSINESS ADMIN.	4.2
6.	UNIVERSITY OF PENNSYLVANIA (Wharton)	4.2
6.	UNIVERSITY OF VIRGINIA (Darden)	4.2
9.	COLUMBIA UNIVERSITY	4.1
10.	DUKE UNIVERSITY (Fuqua)	4.0
11.	INTL. INST. FOR MANAGEMENT DEVELOPMENT	3.9
12.	DARTMOUTH COLLEGE (Tuck)	3.8
13.	PENNSYLVANIA STATE UNIV. (Smeal)	3.7
14.	LONDON BUSINESS SCHOOL	3.6
14.	CORNELL UNIVERSITY (Johnson)	3.6

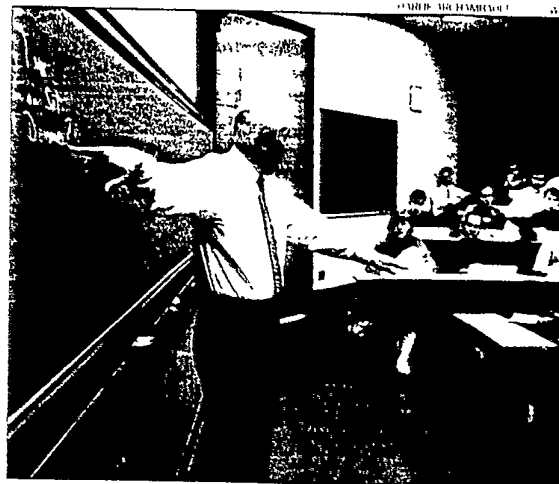
METHODOLOGY: Rankings are based on a U.S. News reputational survey conducted this winter among deans and directors at 60 university-based executive education programs in the United States and overseas. Respondents were asked to rank each school's reputation on a 5-point scale, ranging from those considered "marginal" to "distinguished."

■ BEST GRADUATE SCHOOLS

services. In four years, the University of North Carolina has doubled the size of its placement office to six full-time staffers and quadrupled the annual budget to \$80,000. The tactic appears to be working: Last June, 85 percent of the students had jobs at graduation, up from 80 percent in 1990, and prospects look even brighter for this year's graduates.

No sale. But UNC's experience may be the exception that proves the rule. Patricia Speth, 29, a former political aide in the California Statehouse, delayed going to business school for nine months because she was not sure the degree was worth \$40,000 and two years of lost income. Halfway through her first year at Chicago, she has yet to line up a summer internship in marketing or finance.

To facilitate the job search, placement offices like Duke's now offer computer databases to help ferret out potential employers in nascent fields like environmental engineering. Columbia's revamped career center—formerly a broom closet—includes information on some 22,000 New York-based alumni. Vanderbilt coped with the drop in campus recruiters this year by participating in a 70-firm jobs fair in Atlanta with 10 other



Future indicators. More schools require manufacturing.

Southern B-schools. Placement officers from Dartmouth and six other top schools convened in Belgium last year to entice more foreign employers.

For many programs, however, reform may prove too little, too late. "It's easy to get caught up in faddism," cautions NYU Dean Richard West, a big proponent of change. "There's going to be a shakeout," agrees Columbia's Feldberg. "The strong schools will get stronger, and the weak will get wiped out."

Experts like Darden's Rosenblum pre-

dict that the survivors will be programs that blur the boundaries now separating business schools from other disciplines. Collaborations with engineering, law and other faculties have become increasingly common. So have partnerships among different graduate programs. Dartmouth recently joined Tufts University's Fletcher School of Law and Diplomacy to offer a degree in business and international affairs, while Northwestern's Kellogg School and four others are teaching free enterprise to 120 scholars and businessmen from Eastern Europe.

The line between degree and non-degree programs may fade, too, as shifts in the corporate world propel M.B.A.'s back to campus for intensely focused refresher sessions throughout their careers. Given these uncertain economic times, such "management literacy" programs undoubtedly will include a crash course in staying employed. ■

BY MARY LORD

LSAT GMAT GRE MCAT



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NUMBER ONE

STANFORD

The Bay Area campus is undergoing major reforms. Among them.

KEVIN HORAN FOR US&WR



At \$66,000, last year's graduates received the highest median starting salaries.

■ **Hard core.** M.B.A.s here spend more time in class than do students from comparable programs—864 hours, versus 800 hours at Northwestern and 560 at Chicago. A new core curriculum in 1993 will boost workloads further, though the number of required courses drops from 13 to 12.

■ **Soft touch.** The redesigned core emphasizes leadership and other "soft skills." Starting next year, students must take a course in human-resources management along with a class on data analysis.

■ **Public spirit.** The Public Management Program comprises 15 percent of 102 electives, including a course by Common Cause founder John Gardner on organizational renewal. This year's philanthropy class used \$10,000 from a local group to fund student projects like tutoring inner-city youths.

■ **Hands on.** Teams of students in the new Integrated Design Manufacturing and Marketability course competed to create a prototype can crusher for home recycling.

■ **Assembly line.** To improve manufacturing, the B-school has joined the engineering department in a \$20 million program to train 50 new professors over the next decade. The recruits culled from plants and academic will fan out to schools nationwide.

BUSINESS SCHOOLS

THE TOP 25

Here are the graduate schools of business with the highest scores in the U.S. News survey:

Rank/School	Overall score	Reputation rank by academics	Reputation rank by CEOs	Student selectivity rank
1. STANFORD UNIVERSITY	100.0	1	1	1
2. HARVARD UNIVERSITY	99.6	2	2	2
3. UNIVERSITY OF PENNSYLVANIA (Wharton)	94.2	2	3	6
4. NORTHWESTERN UNIVERSITY (Kellogg)	93.6	2	4	7
5. MASSACHUSETTS INSTITUTE OF TECH. (Sloan)	90.5	2	9	3
6. UNIVERSITY OF CHICAGO	90.0	2	6	10
7. UNIVERSITY OF MICHIGAN	89.1	7	5	17
8. COLUMBIA UNIVERSITY	86.2	8	7	13
9. DUKE UNIVERSITY (Fuqua)	86.1	11	8	11
10. DARTMOUTH COLLEGE (Tuck)	85.0	8	10	7
11. UNIVERSITY OF VIRGINIA (Darden)	83.2	11	11	23
12. CORNELL UNIVERSITY (Johnson)	80.4	11	1	14
13. UNIVERSITY OF CALIFORNIA AT BERKELEY (Haas)	79.7	8	14	9
14. UNIV. OF CALIFORNIA AT LOS ANGELES (Anderson)	78.5	11	17	4
15. CARNEGIE MELLON UNIVERSITY	77.8	11	16	27
16. YALE UNIVERSITY	76.2	22	12	5
17. U. OF N. CAROLINA, CHAPEL HILL (Kenan/Flagler)	75.1	16	24	15
18. NEW YORK UNIVERSITY (Stern)	74.8	16	18	35
19. INDIANA UNIVERSITY AT BLOOMINGTON	74.5	18	15	20
20. UNIVERSITY OF TEXAS AT AUSTIN	72.9	18	1	16
21. UNIVERSITY OF SOUTHERN CALIFORNIA	72.5	22	2	22
22. UNIVERSITY OF ROCHESTER (Simon)	69.9	22	39	31
23. PURDUE UNIVERSITY (Krannert)	69.2	21	22	38
24. UNIVERSITY OF PITTSBURGH (Katz)	68.9	29	32	42
25. VANDERBILT UNIVERSITY (Owen)	67.5	29	25	47

US&WR—Basic data: Educational statistics from College Research Group and the colleges. Reputational surveys by Market Facts Inc. Numbers with * are U.S. News estimates.

METHODOLOGY ■ Here's how U.S. News devised these rankings:

■ **STUDENT SELECTIVITY** was based on three indicators for full-time M.B.A.'s entering in the fall of 1991: average Graduate Management Admission Test scores, undergraduate grade-point averages and the overall acceptance rate.

■ **PLACEMENT SUCCESS** was based on four indicators for the full-time M.B.A. class of 1991: the percentage employed at graduation, the percentage employed three months after graduation, their median starting salaries (excluding sign-up or other bonuses) and the ratio of the number of last year's on-campus M.B.A. recruiters to the number of 1991 graduates.

■ **GRADUATION RATE** represents the combined percentage of students in the classes of 1990 and 1991 earning M.B.A.'s within two years of their enrollment.

■ **REPUTATION** was determined by two U.S. News surveys conducted this winter. The first survey asked business school deans and M.B.A. program directors to place each M.B.A. program into quartiles representing levels of academic quality. The second asked 2,000 chief executive officers representing a cross section of the largest U.S. corporations to select the 15 top business schools based

est score

Reputation rank by deans	Reputation rank by CEOs	Student selectivity rank	Placement success rank	Graduation rate rank	'91 Out- of-state tuition	Average '91 GMAT score	1991 Acceptance rate	'91 Median starting salary
1	1	1	2	2	\$17,757	675*	10.0%*	\$66,000
2	2	2	1	5	\$17,500	644*	15.6%*	\$62,500*
2	6	6	5	4	\$17,750	644	26.3%	\$57,000
2	4	7	4	3	\$17,802	642	20.1%	\$54,000*
2	3	3	3	1	\$18,700	650	19.4%	\$60,000
2	6	10	6	11	\$18,000	635*	30.0%*	\$54,000*
7	7	17	10	11	\$16,950	630	29.1%	\$53,000
8	7	13	15	20	\$17,700	635*	36.1%	\$54,500
11	8	11	12	15	\$17,300	630	25.1%	\$52,530
8	10	7	14	5	\$17,655	643	14.7%	\$53,000
11	11	23	13	20	\$13,129	617	20.6%	\$53,000
11	13	14	7	34	\$17,300	640	27.3%	\$53,000
8	14	9	17	20	\$10,418	635	17.9%	\$52,000
11	17	4	8	15	\$10,696	640	20.4%	\$53,000
11	16	27	11	9	\$17,600	620	35.3%	\$51,150
22	12	5	29	20	\$17,745	657	35.7%	\$52,000
16	24	15	9	9	\$6,642	620	13.4%	\$50,000
16	18	35	16	34	\$16,000	609	35.0%*	\$53,000
8	15	20	23	20	\$16,229	610	34.0%	\$46,800
8	19	16	24	57	\$4,792	631	23.6%	\$42,000
2	21	22	19	15	\$15,020	606	30.7%	\$48,500
2	39	31	18	5	\$16,020	608	34.1%	\$46,100
21	22	38	34	44	\$7,440	601	39.3%	\$48,000
9	32	42	21	11	\$18,570	597	44.1%	\$44,000
9	25	47	32	30	\$16,300	602	51.7%	\$43,100

upon their judgments of the quality of recent M.B.A. graduates.

OVERALL RANK was based upon five major indicators of academic quality: a school's reputation as determined by deans and M.B.A. program directors; its reputation as seen by CEOs; its student selectivity, placement success and graduation rate. First, data for each of these indicators were converted into percentiles. A value of 100 percent was assigned to the highest score achieved by the top school in each indicator. U.S. News then determined scores for other schools as a percentage of the total achieved by the top school. (For the indicators of selectivity, placement success and graduation rate—made up of the variables as listed above—scores were determined by totaling the percentiles of these variables.) Next, the percentile scores achieved by each school in the five major indicators were weighted. The academic and CEO reputational surveys each represented 20 percent of the final overall score, placement success 30 percent, student selectivity 25 percent and graduation rate 5 percent. These weighted scores were then added and final rankings were determined. In a standard procedure, the weighted score of the top school was scaled at 100 percent. Finally, scores for all others were determined by converting their weighted totals into a percentage of the score of No. 1.

PEER APPROVAL

SPECIALTIES

Deans and directors of M.B.A. programs ranked the following departments highest in the U.S. News reputational survey

ACCOUNTING

1. Univ. of Illinois at Urbana-Champaign
2. Stanford University
3. University of Texas at Austin
4. University of Chicago
5. University of Pennsylvania (Wharton)

FINANCE

1. University of Pennsylvania (Wharton)
2. University of Chicago
3. Stanford University
4. New York University (Stern)
5. MIT (Sloan)

BUSINESS ETHICS

1. Harvard University
2. Stanford University
3. University of Virginia (Darden)
4. University of Pennsylvania (Wharton)
5. Georgetown University

MGMT/INFORMATION SYSTEMS

1. MIT (Sloan)
2. University of Minnesota at Twin Cities
3. Carnegie Mellon University
4. University of Arizona (Eller)
5. New York University (Stern)

INTERNATIONAL BUSINESS

1. University of South Carolina
2. New York University (Stern)
3. University of Pennsylvania (Wharton)
4. Columbia University**
4. Harvard University**

MANAGEMENT

1. Harvard University
2. Stanford University
3. Northwestern University (Kellogg)
4. Dartmouth College (Tuck)
5. University of Virginia (Darden)

** indicates a tie.

MARKETING

1. Northwestern University (Kellogg)
2. Harvard University
3. University of Pennsylvania (Wharton)
4. Stanford University
5. University of Michigan

PROD./OPERATIONS MANAGEMENT

1. MIT (Sloan)
2. Carnegie Mellon University
3. Purdue University (Krannert)
4. Harvard University
5. Stanford University

REAL ESTATE

1. University of Pennsylvania (Wharton)
2. Univ. of California at Berkeley (Haas)
3. University of Wisconsin at Madison
4. Ohio State University
5. University of Georgia (Terry)

BUSINESS LAW

1. University of Pennsylvania (Wharton)
2. University of Texas at Austin
3. Harvard University
4. Indiana University at Bloomington
5. University of Michigan

ENTREPRENEURSHIP

1. Harvard University
2. University of Pennsylvania (Wharton)
3. Babson College
4. University of Southern California
5. Stanford University

NONPROFIT BUSINESS MANAGEMENT

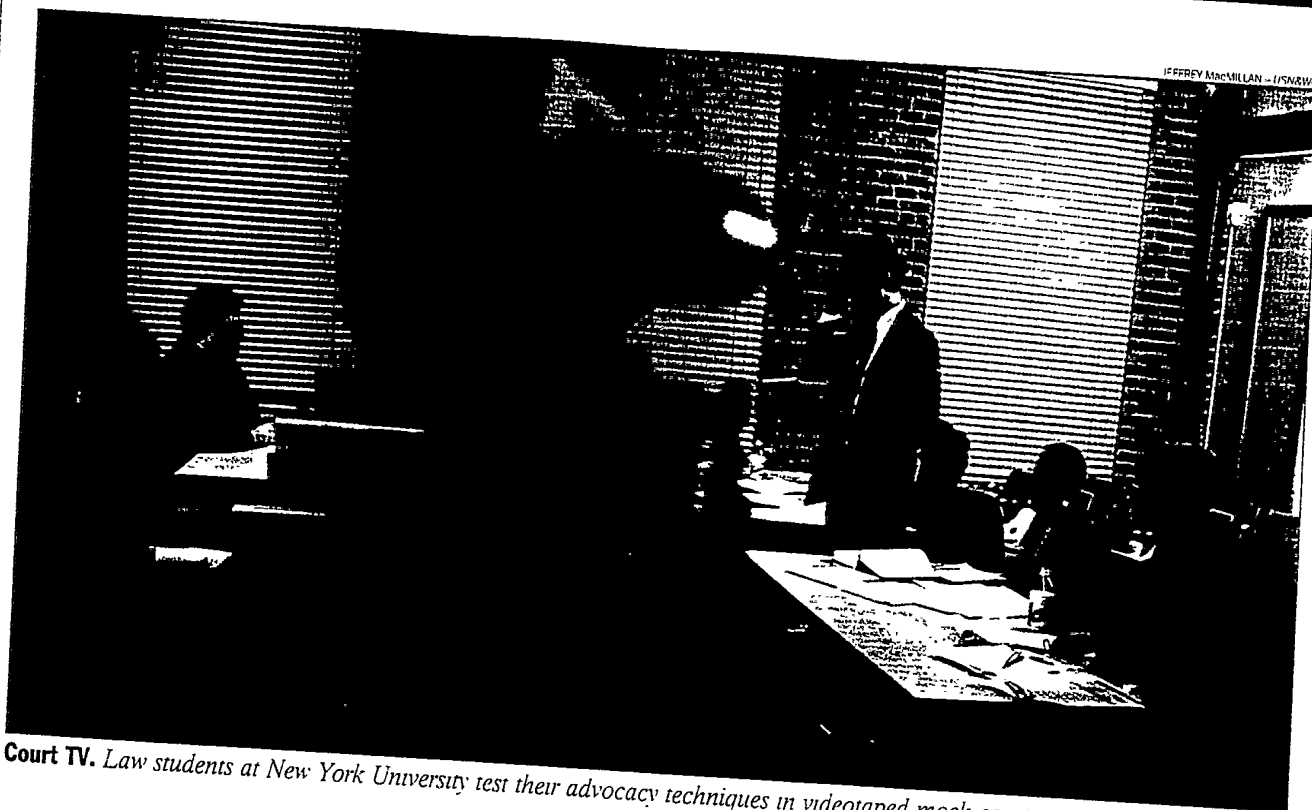
1. Stanford University
2. Yale University
3. Northwestern University (Kellogg)
4. Harvard University
5. Univ. of California at Berkeley (Haas)

THE SECOND TIER

The following 26 schools, listed alphabetically, earned the next highest overall scores in the U.S. News survey

Arizona State University; Babson College (Mass.); Brigham Young University—Marratt (Utah); Case Western Reserve University—Weatherhead (Ohio); Emory University (Ga.); Georgetown University (D.C.); Georgia Institute of Technology—Allen; Michigan State University—Broad; Ohio State University; Pennsylvania State Univ.—Smeal; Rensselaer Polytechnic Institute (N.Y.); Southern Methodist University—Cox (Texas); Texas A&M University; Tulane University—Freeman (La.); University of Florida; University of Georgia—Terry; University of Illinois at Urbana-Champaign; University of Iowa; University of Maryland; University of Minnesota, Twin Cities; University of Notre Dame (Ind.); University of Oregon; University of Tennessee at Knoxville; University of Washington; University of Wisconsin at Madison; Washington University—Olin (Mo.).

LAW SCHOOLS



Court TV. Law students at New York University test their advocacy techniques in videotaped mock-courtroom exercises.

REALISM ON THE DOCKET

Building a case for more clinical training of new lawyers

In a cramped, book-lined university study in New York's Greenwich Village not long ago, two first-year law students nervously settled down at a small, rectangular conference table. On the other side, Anthony Amsterdam, professor of law at New York University and one of the nation's eminent law professors, sat in his gray business suit with a sheaf of papers. The time had come for Amsterdam and his students to confront a matter of law. *Brown v. Board of Education*? *Roe v. Wade*? No, the case at hand was considerably more mundane: how to settle a dispute over faulty construction of a swimming pool. Should the client find a new contractor or should he demand that the first one redo his shoddy work?

Aggressively playing the role of the client stuck with a pool that would not hold water, the fast-talking Amsterdam peppered his students with questions to see if their answers would. "Give me a sense of the best and worst we can do," he pleaded. "We've got to look at the bottom line." In the end, after 30 in-

tense minutes of the professor's sharp-edged interrogations and the students' sometimes halting responses, they decided, as lawyers and clients often do in real life, to hold another meeting.

Building blocks. It was worlds away from the high principles and binding precedents of jurisprudence, but for Amsterdam's students, the half-hour of role-playing was a strikingly practical

lesson in what it is like to function as an attorney in the real world. For the 56-year-old Amsterdam, known for his expertise in death-penalty cases and his trial manual for criminal-defense attorneys, the session further justified his belief in the efficacy of NYU's required first-year course in "Lawyering."

The course is a key building block in the movement at NYU and other

schools to inject a greater sense of realism into legal studies. While even its proponents recognize that there is no guarantee the technique will produce superior lawyers, what has come to be known as clinical legal training can, in Amsterdam's words, "reduce the incredible misimpressions that movies and television have generated about law practice."

The theory behind realistic teaching is simple: Just as medical students see real patients and dissect real cadav-



Video verity. Clinical instructors summon students for critiques of their taped performances

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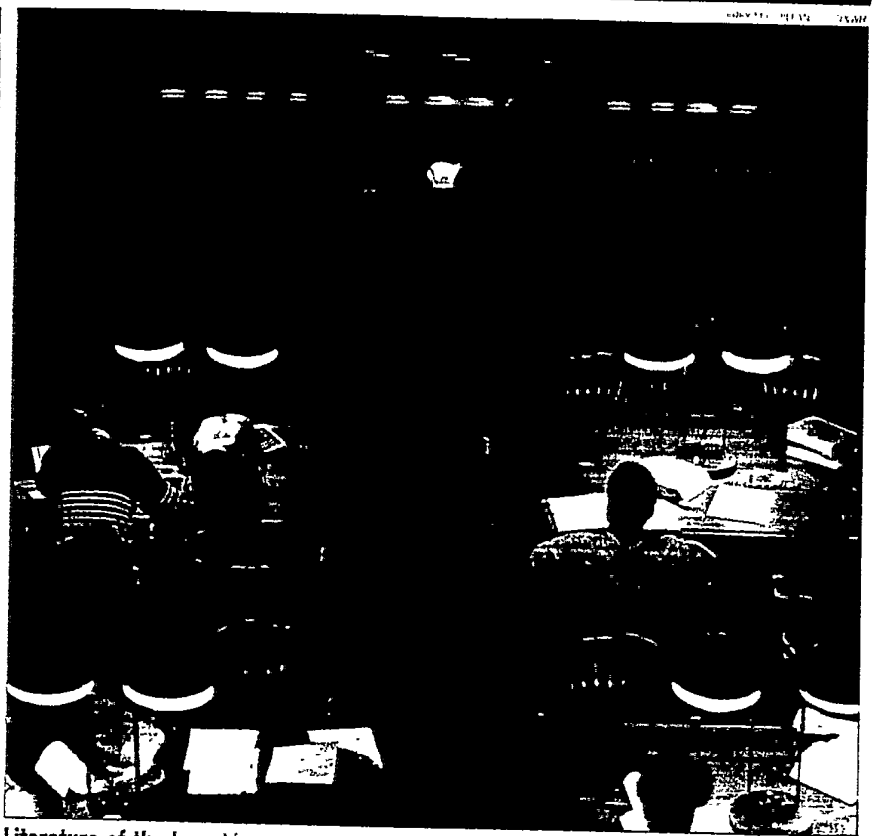
■ BEST GRADUATE SCHOOLS

ers to help them master their professional trade, so, too, do budding lawyers need to talk with real clients and dissect real modern-day lawsuits. Whether students play roles in elaborate simulated trials or negotiations or represent actual clients in the community, the purpose is to let them discover firsthand what a lawyer's work is like, supplementing what remains the central premise of legal education: the Socratic examination of great cases and judicial opinions. "It teaches us to think on our feet," says Giuliana Dunham, a third-year NYU student who says she has learned that "trial work is not all fast-paced Perry Mason."

Clinical training is already reaching a "significant portion" of students at the nation's 175 accredited law schools, says Susan Westerberg Prager, dean of the law school at the University of California at Los Angeles. Prager is surveying law curricula for a forthcoming study by the American Bar Association on the gap between legal education and the realities of practice. The ABA launched the project two years ago in response to criticism from practicing lawyers that legal academics, in their zeal to expand the law's theoretical frontiers, were shortchanging students by overlooking the nitty-gritty of dealing with clients and their most common problems.

The lawyers weigh in. Since then, a task force of attorneys and educators headed by former ABA President Robert MacCrate has been gathering expert opinions and facts to formulate a prescription for filling the gaps in legal education. Its basic principles probably will reflect those the task force put forth last year in a 100-page statement of lawyering skills and professional values. These include everything from how to plan a detailed "investigative strategy" to learning the facts about a dispute and consulting clients on the varied ways to settle the issue short of suing.

The ABA report seems certain to further enhance the popularity of clinical training courses. At the University of Denver, for example, 85 percent of law students take one or more such courses, including a yearlong exercise that "roughly replicates the life of a typical dispute," says Prof. Jeffrey Hartje. While the movement hardly is on the verge of dominating legal education, it is gaining strength at many top-ranked schools. Wallace Mlyniec, clinical-education director at the Georgetown University Law Center in Washington, says that at his school, clinical training "is permeating the entire faculty." Georgetown spends \$2 million each year educating



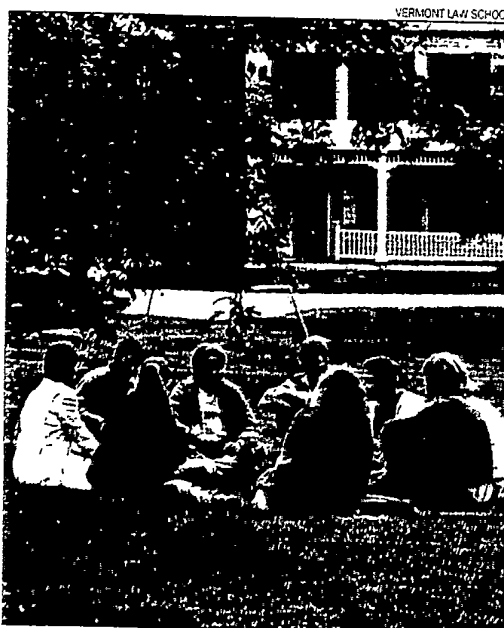
Literature of the law. New cases or not, students must bone up on precedents.

270 students in 10 clinics, allowing them to represent clients in a variety of courts and even to help write Supreme Court briefs. The enthusiasm of the Georgetown teaching staff evidently has resonated a few blocks south—on Capitol Hill. Congress has appropriated \$8 million to help keep the student-faculty ratio low in a variety of clinical legal education courses at some 80 law schools.

The new pragmatism goes beyond the structured programs at George-

town, Denver and NYU. In addition, a growing number of professors in subjects ranging from family law to environment are using current case studies rather than stale judicial rulings to enliven teaching. Even more authentic are hands-on experiences with real-life cases, which give students a feel for the human factors in dealing with judges, juries and regulators—something difficult to impart in classrooms.

Many institutions offer upper-level students, working under the supervision of instructors or practicing attorneys, the opportunity to represent needy clients who otherwise might get no expert advice at all. And a few schools even encourage beginners to get involved. The University of Maryland School of Law in downtown Baltimore dispatches first-year students to help local residents with cases in the city's housing court. Afterward, says Prof. Homer La Rue, "students bring their experiences back to the classroom to discuss how they relate to legal theories." Recently, for instance, a student told classmates about a judge's refusal to allow a woman to explain that the reason she had not paid rent was that her house lacked heat. The experience put students on



Field work. Vermont students exchange study tips.

BEST GRADUATE SCHOOLS

notice that their clients might not be allowed to speak in court.

Elsewhere, students spend anywhere from a few hours a week to entire semesters working in "externships" alongside practicing lawyers. Advocates maintain that working with a private practitioner, prosecutor or public defender is the ultimate in clinical legal education, giving students the best taste of the tensions, disappointments and excitement of real law practice. Yet critics say externships amount to piecemeal education. "Student work experiences outside of school are very uneven," says one legal educator, who adds that some institutions favor the practice because it is inexpensive.

To make up for the inconsistencies of real cases, many schools prefer devising simulations that give instructors control over a course's content. Students might spend the first part of a semester studying the facts of a complex contractual dispute or criminal charge and debating alternative strategies at each stage. Then they conduct a full-dress trial that is videotaped for later analysis by teachers, much as a football coach and the team review game films. Some programs take pains to start simulations at the very beginning of a lawyer's work: the first interview of a potential client.

Students at Case Western Reserve University in Cleveland critique videotapes of their preliminary talks with colleagues posing as clients. They learn values like self-restraint by listening to business owners invited by the school to discuss their dealings with lawyers. One executive complained that his attorneys were so concerned with "minutiae" when negotiating a contract with a bank that they "created a terrible year of putting together a really simple deal."

Even if students never set foot in a clinical program, they are increasingly likely to see lifelike settings in single courses. In his bankruptcy class at Northwestern University, Prof. Thomas Eovaldi requires students to negotiate with each other as if representing opposing clients. Although he still teaches basic legal doctrines, Eovaldi says that in bankruptcy, "the name of the game is negotiation: students should learn that skill while they are grappling with the substantive law." At the University of Pennsylvania, Prof. Elizabeth Warren's classes study the congressional process of revising bankruptcy laws while they represent needy clients filing bankruptcy petitions. "We discuss whether the legislation fits with the realities the students see," says Warren, who adds that



Courthouse reality. Maryland student (left) and teacher (right) aid poor client.

the technique "makes the theory vastly more interesting to talk about."

Still, clinical training has encountered opposition on some campuses. Given the prevailing academic ethos that rewards faculty more for publishing than for teaching, some universities look with disdain on innovations that seek to provide more courses in what they snobbishly term "vocational" training. Some argue that new lawyers should be able to master such basic skills in their first few years of practice and that unbridled expansion of clinical courses would take too much away from the intellectual foundation lawyers need. "Law schools are the last clear chance for students to be broadly and rigorously educated," says Law Dean Randall Bezanson of Washington and Lee University.

A question of costs. Moreover, in an age of increasing scarcity on campus, budgetary concerns are certain to be an even greater obstacle to implementation of the ABA report's recommendations. The reason: It is vastly cheaper for a high-ranking and highly paid law professor (senior teachers at top schools earn as much as \$145,000 a year) to instruct 150 students in a large lecture hall than to counsel two students in a simulated negotiation in his office.

But while recession forces colleges to cut corners, for students it remains a strong argument for expanding clinical teaching. Lujana Treadwell of the Na-

tional Association for Law Placement, which monitors job trends, says that law firms are particularly interested in graduates with practical experience because they need less on-the-job training. Fred Warder, a 1990 NYU graduate, says clinical training probably helped him land a position at Patterson Belknap, a top-drawer New York firm. "I had actually argued motions before a judge," he says. "That gave the firm an assurance I was not just another law graduate with practice only in writing exams."

Little wonder, then, that Georgetown's Mlyniec refers to clinical training courses as "résumé enhancers." Of course, taking a few courses in practical lawyering does not assure students that they will get good jobs, or even any jobs at all. Nevertheless, for those among 38,800 law graduates trying to enter an already saturated job market this year, résumé enhancement may prove worthwhile. While knowing how to negotiate the fate of a porous swimming pool will never be the intellectual equivalent of arguing the esoterica of constitutional law, at a time when law firms are reducing their hiring and are firing many of those already on staff, it could make the difference between earning a starting salary and finding a place on an unemployment line. And that, after all, is why most students go to law school in the first place. ■

BY TED GEST



LAW

NUMBER ONE

YALE

Women make up 42 percent of the current enrollment



Training ground for Democratic candidates Bill Clinton, Paul Tsongas, Jerry Brown

■ **Human rights.** Yale started a clinical program this year in international human rights law. Students help litigate actual cases, such as suits seeking damages from former leaders of Haiti and Guatemala for torturing opponents and efforts to block deportation of Haitians who want to enter the United States. Another clinic helps foreigners who are seeking asylum.

■ **Foreign affairs.** Enrollment and course offerings in international law are expanding. Examples include classes in legal constraints on the president's powers to conduct foreign policy; immigration-refugee law; and international aspects of labor law, investment law and commercial arbitration.

■ **Clean air.** Yale and other groups will sponsor a conference in April for 500 scholars, government officials and activists on environmental protection to examine the premise that a clean environment is an international human right.

■ **Social conscience.** Clinics in domestic legal specialties are expanding their scope. An environmental law clinic was started this year, and students working in the fields of poverty, disability and prison law have formed a working group to deal with new legal issues concerning AIDS.

LAW SCHOOLS

THE TOP 25

Here are the law schools with the highest scores according to the U.S. News survey:

Rank/School	Overall score	Reputation rank by academics	Rep. rank lawyers/judges	Student selectivity
1. YALE UNIVERSITY	100.0	1	2	1
2. HARVARD UNIVERSITY	94.9	1	1	2
3. STANFORD UNIVERSITY	93.6	1	3	4
4. UNIVERSITY OF CHICAGO	92.8	1	7	3
5. COLUMBIA UNIVERSITY	90.0	1	5	7
6. UNIVERSITY OF MICHIGAN	87.7	1	4	8
7. NEW YORK UNIVERSITY	86.4	9	11	5
8. UNIVERSITY OF VIRGINIA	85.0	9	6	10
9. DUKE UNIVERSITY (N.C.)	83.7	14	9	9
10. UNIVERSITY OF PENNSYLVANIA	82.2	7	10	12
11. GEORGETOWN UNIVERSITY (D.C.)	81.4	15	8	14
12. UNIVERSITY OF CALIFORNIA AT BERKELEY	81.2	7	11	6
13. NORTHWESTERN UNIVERSITY	80.2	9	13	11
14. CORNELL UNIVERSITY	77.2	9	15	16
15. UNIVERSITY OF TEXAS	73.0	9	14	17
16. VANDERBILT UNIVERSITY (Tenn.)	71.2	17	16	15
17. UNIVERSITY OF CALIFORNIA AT LOS ANGELES	70.2	15	18	13
18. UNIVERSITY OF SOUTHERN CALIFORNIA	67.5	20	32	23
19. UNIVERSITY OF CALIFORNIA-HASTINGS	66.2	20	17	37
20. UNIVERSITY OF NOTRE DAME	64.3	35	19	20
21. UNIVERSITY OF MINNESOTA	64.2	17	21	30
22. BOSTON COLLEGE**	62.9	32	24	22
22. UNIVERSITY OF WASHINGTON**	62.9	27	37	19
24. GEORGE WASHINGTON UNIVERSITY (D.C.)	62.5	25	20	35
25. UNIVERSITY OF IOWA	62.4	20	37	28

USN&WR—Basic data: Educational statistics provided by College Research Group and the law schools themselves. Reputational surveys by Market Facts Inc.; * indicates U.S. News estimate; ** indicate ties.

METHODOLOGY ■ Here's how U.S. News ranked these schools:

■ **STUDENT SELECTIVITY** was based on these characteristics of the entering law school class in the fall of 1991: median undergraduate grade point average; median scores on the Law School Admission Test and the percentage of applicants accepted by the school.

■ **PLACEMENT SUCCESS** was based on: the percentage of the 1991 class employed at graduation; the percentage employed six months after graduation; the ratio of last year's on-campus recruiters to the number of 1991 graduates, and the average starting salary for '91 graduates (excluding bonuses and salaries of judicial clerks).

■ **FACULTY RESOURCES** was based on the school's 1991-92 expenditures in dollars per student; the number of books, microfiche and microfilm in the law library divided by the number of law students, and the current student-to-teacher ratio.

■ **REPUTATION** was determined by the results of two exclusive U.S. News surveys conducted this winter. In the first survey, we asked deans of law schools, deans of academic affairs and senior faculty to rate each law school by quartiles of academic quality. In the second survey, we asked more than 2,000 practicing lawyers, hiring

g to the

Rank by vics	Rep. rank lawyer judges	Student selectivity rank	Faculty resources rank	Placement success rank	'91 Out- of-state tuition	Median '91 LSAT score	1991 Acceptance rate	Average '91 starting salary
2	1	1	3	\$16,590	46.0	6.2%	\$68,640	
1	2	5	6	\$15,560	45.0	10.8%	\$67,815	
3	4	3	5	\$16,722	44.0	7.8%	\$62,477	
7	3	2	2	\$16,980	46.0	13.1%	\$70,000	
5	7	8	4	\$17,310	45.0	17.2%	\$74,325	
4	8	22	11	\$16,864	44.0	14.1%	\$62,270	
11	5	4	1	\$18,200	45.0	14.7%	\$76,424	
6	10	31	10	\$11,538	43.0	16.2%	\$64,000	
9	9	12	8	\$16,400	44.0	18.6%	\$59,753	
10	12	15	7	\$16,120	43.0	20.8%	\$65,600	
8	14	17	18	\$16,650	43.0	21.3%	\$62,705	
12	6	11	9	\$10,904	44.0	11.4%	\$60,000	
13	11	6	14	\$16,386	43.0*	15.4%	\$62,413	
15	16	10	13	\$17,000	42.0	18.6%	\$65,641	
14	17	71	26	\$6,118	42.0	21.2%	\$57,000	
16	15	16	12	\$15,800	42.0	20.3%	\$57,399	
18	13	24	16	\$11,022	42.0	14.1%	\$63,290	
32	23	7	15	\$17,430	43.0	18.8%	\$65,750	
17	37	27	25	\$10,349	41.0	27.9%	\$53,509	
19	20	44	19	\$14,095	41.0	13.1%	\$52,798	
21	30	19	34	\$10,240	41.0	27.1%	\$50,862	
24	22	55	17	\$15,570	41.0	15.1%	\$58,450	
37	19	14	24	\$8,472	42.0	18.7%	\$45,333	
20	35	76	22	\$16,450	40.0	21.1%	\$55,250	
37	28	23	29	\$8,006	40.0	23.1%	\$48,600	

partners and senior judges to select the top 15 law schools based upon their appraisals of recent graduates.

■ **OVERALL RANK** was based upon these indicators of academic quality: the two reputational surveys, student selectivity, placement success, and faculty resources. First, data for each indicator were converted into percentiles. We then assigned a value of 100 percent to the highest score in each indicator achieved by the top school. We then determined scores for other schools as a percentage of the total scored by the top school. (For the indicators of selectivity, placement success and faculty resources—made up of the variables as listed above—scores were determined by totaling the percentiles of these variables.) Next, we weighed each school's total percentile scores for the five major indicators. The two reputational surveys and placement success each counted for 20 percent of the final score, student selectivity counted for 25 percent and faculty resources for 15 percent. To determine the final rankings, we totaled the individual weighted scores. In a standard procedure, we then scaled the weighted score of the top school to 100 percent. Finally, scores for all others were determined by converting their weighted totals into a percentage of the score of No. 1.

PEER APPROVAL

SPECIALTIES

Law school deans, senior faculty and academic specialists cited these programs as best in their fields in the U.S. News survey.

CLINICAL TRAINING

1. New York University
2. Georgetown University
3. University of California at Los Angeles
4. CUNY Law School at Queens College
5. University of Maryland at Baltimore

HEALTH LAW

1. Loyola University of Chicago
2. St. Louis University
3. DePaul University
4. University of Houston
5. Case Western Reserve University

INTERNATIONAL LAW

1. Harvard University
2. Columbia University
3. Georgetown University
4. Yale University
5. University of Michigan

INTELLECTUAL PROPERTY/PATENT

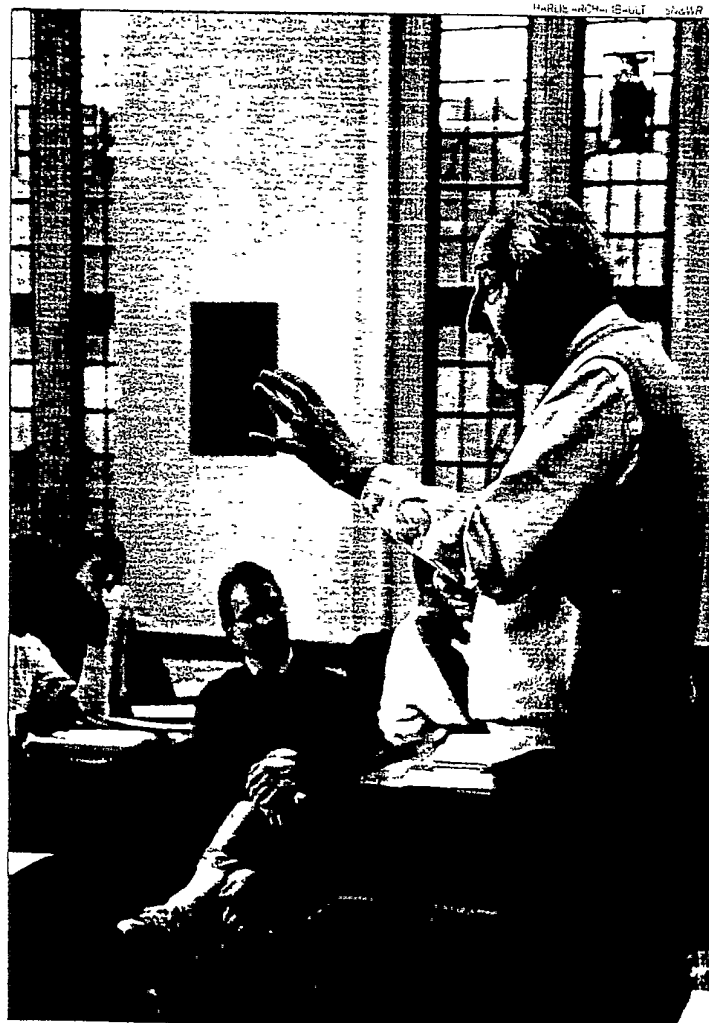
1. George Washington University
2. New York University
3. Franklin Pierce Law Center
4. Columbia University
5. University of California at Los Angeles

ENVIRONMENTAL LAW

1. Vermont Law School
2. Lewis and Clark College
3. University of Colorado at Boulder
4. University of California at Berkeley
5. Pace University

TAX LAW

1. New York University
2. Georgetown University
3. University of Florida
4. Harvard University
5. University of California-Hastings



Point of order. Dean Calabresi teaches a class on common law.

BEST OF THE REST

Here are the remaining 150 accredited law schools, listed alphabetically by quartile, based on their survey scores:

	Reputation rank by academics	Rep. rank by lawyers /judges	Median LSAT scores	1991 acceptance rate	Avg. '91 starting salary
■ QUARTILE ONE					
Boston University	27	27	41	29.3%	\$57,784
Brigham Young University (Utah)	48	44	39	39.3%	\$42,381
Case Western Reserve Univ. (Ohio)	40	36	39	28.7%	\$43,000
College of William and Mary (Va.)	35	29	42	18.8%	\$49,321
Emory University (Ga.)	32	21	40	24.9%	\$52,528
Fordham University (N.Y.)	44	25	41	20.8%	\$64,402
Indiana University at Bloomington	25	34	39	24.4%	\$42,826
Ohio State University	32	31	40	24.6%	\$47,000
Tulane University (La.)	27	30	39	33.7%	\$53,300
University of Arizona	35	99	39	21.1%	\$41,364*
University of California at Davis	27	45	42	16.5%	\$46,618
University of Colorado at Boulder	35	45	42	17.8%	\$37,590
University of Georgia	44	55	41	19.1%	\$45,179
Univ. of Illinois at Urbana-Champaign	20	28	41	24.5%	\$49,260
Univ. of North Carolina at Chapel Hill	20	23	41	17.3%	\$38,292
University of Utah	48	88	39	27.5%	\$43,550
University of Wisconsin	17	26	40	26.0%	\$43,368
Washington University (Mo.)	27	40	40	40.0%	\$35,600*
Washington and Lee University (Va.)	40	33	41	15.7%	\$51,490

■ QUARTILE TWO					
American University (D.C.)	48	62	38	22.7%	\$45,000
Arizona State University	40	104	38	22.5%	\$39,500
Baylor University (Tex.)	83	42	39	19.3%	\$58,000
Brooklyn Law School (N.Y.)	75	88	39	34.4%	\$48,000
Dickinson School of Law (Pa.)	110	51	36	23.9%	\$37,570
Florida State University	57	99	37	13.4%	\$31,602
George Mason University (Va.)	68	62	40	13.5%	\$46,934
Georgia State University	137	113	37	18.0%	\$51,382
Hofstra University (N.Y.)	75	104	39	27.9%	\$51,082
Illinois Institute of Technology	57	88	38	31.5%	\$41,187
Lewis & Clark College (Ore.)	90	74	39	29.3%	\$36,000
Loyola University (Calif.)	75	55	40	25.2%	\$54,000*
Loyola University of Chicago	83	54	39	22.8%	\$46,000
Northeastern University (Mass.)	83	104	38	23.0%	\$43,996*
Pepperdine University (Calif.)	110	81	39	23.1%	\$51,587
Rutgers State Univ. at Camden (N.J.)	57	113	38	25.5%	\$40,109*
SUNY at Buffalo	48	113	38	29.6%	\$40,355
Santa Clara University (Calif.)	90	59	37	31.5%*	\$51,200*
Seton Hall University (N.J.)	90	62	34	29.1%	\$48,566
Southern Illinois Univ. at Carbondale	110	129	35	33.3%	\$30,255
Southern Methodist University (Tex.)	48	35	38	31.9%	\$43,835*
St. John's University (N.Y.)	105	45	36	22.5%	\$44,773
Temple University (Pa.)	57	43	35	26.6%	\$48,051
University of Cincinnati	68	74	40	25.0%*	\$41,830*
University of Connecticut	48	62	40	16.4%	\$42,446
University of Florida	35	45	40	24.3%	\$39,792
University of Houston	57	74	39	24.7%	\$47,560
University of Kansas	48	62	38	33.6%	\$39,686
University of Kentucky	68	88	38	26.8%	\$39,000
University of Maryland at Baltimore	44	51	39	21.6%	\$44,797
University of Miami	40	88	36	37.3%	\$43,343
University of Mississippi	105	71	33	21.7%	\$35,000
University of Missouri at Columbia	57	81	39	27.6%	\$31,250*
University of Nebraska	68	139	34	38.6%	\$31,145
University of New Mexico	57	120	34	18.9%	\$33,200*
University of Oregon	48	88	40	19.6%	\$36,000
University of Pittsburgh	44	49	38	30.7%	\$51,075
University of San Francisco	90	88	39	20.1%	\$51,000*
University of South Carolina	83	88	37	18.6%	\$35,000
University of South Dakota	123	139	32*	26.9%	\$28,100
University of Tennessee at Knoxville	57	139	36	27.1%	\$40,108
Wake Forest University (N.C.)	68	58	39	19.2%	\$40,800
West Virginia University	90	99	34*	28.9%	\$31,290
Yeshiva University (N.Y.)	57	81	39	36.0%	\$54,000*

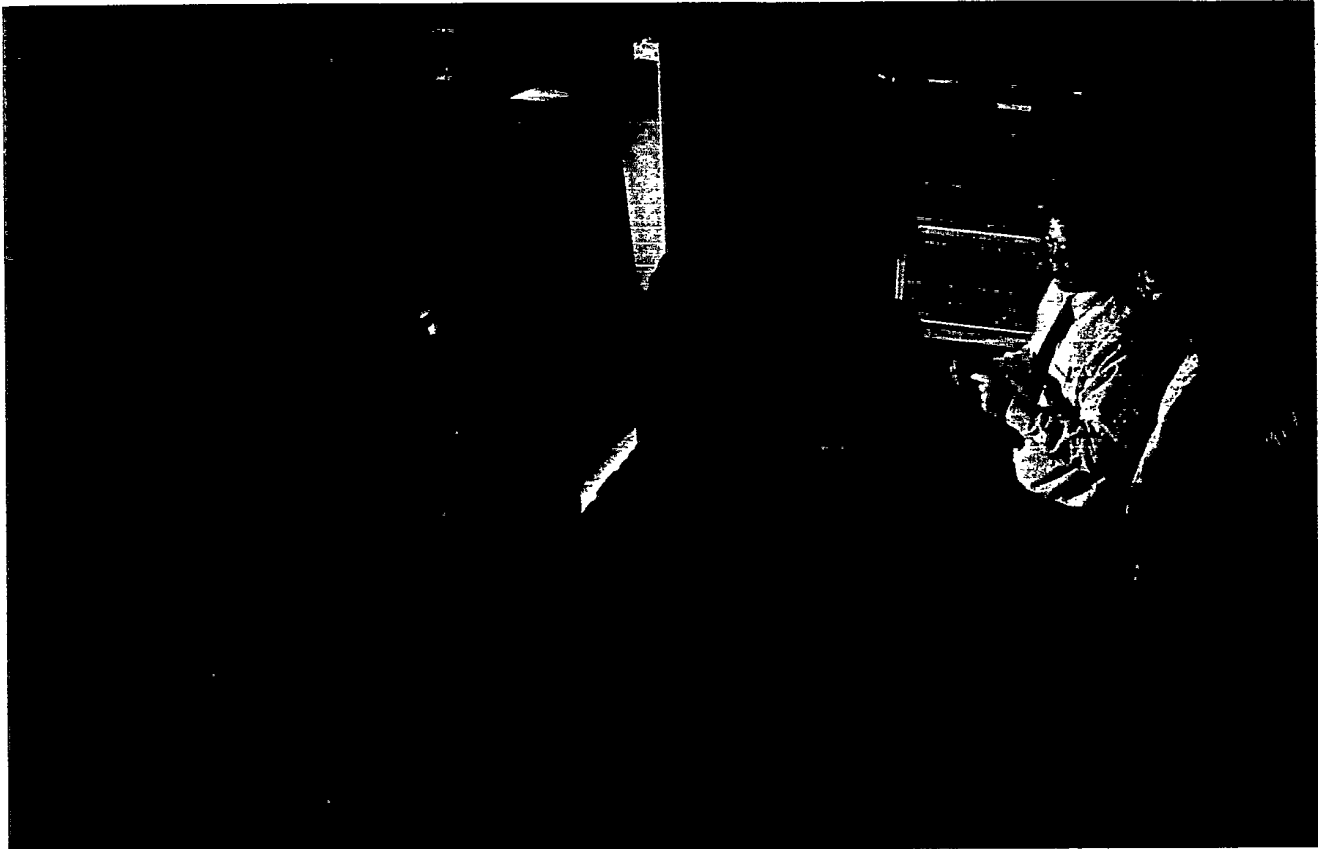
■ QUARTILE THREE					
Union University (N.Y.)	90	120	37*	32.9%*	\$32,500*
Catholic University of America (D.C.)	75	49	37*	36.0%*	\$45,000*
Cleveland State University	90	162	34	32.1%	\$43,655
Creighton University (Nebr.)	110	62	35	29.5%	\$28,000
DePaul University (Ill.)	90	59	37	32.5%	\$47,000*
Duquesne University (Pa.)	110	104	37	25.7%	\$44,000
Franklin Pierce Law Center (N.H.)	145	151	34	21.1%	\$58,000*
Golden Gate University (Calif.)	154	129	36	40.6%	\$40,000*
Indiana University at Indianapolis	75	88	36*	36.9%*	\$33,000*
Louisiana State Univ. and A&M Coll.	83	113	37*	47.2%*	\$36,000*
Marquette University (Wis.)	90	51	36	32.2%	\$30,000*

	Reputation rank by academics	Rep. rank by lawyers /judges	Median LSAT scores	1991 acceptance rate	Avg. '91 starting salary
■ QUARTILE FOUR					
New York Law School	90	41	36*	28.5%*	\$54,000*
Northern Illinois University	145	162	37	22.2%	\$27,500
Pace University (N.Y.)	110	139	39	23.4%*	\$32,500*
Rutgers State Univ. at Newark (N.J.)	48	55	38*	18.5%*	\$32,000*
St. Louis University (Mo.)	90	79	36*	36.0%*	\$35,600*
Samford University (Ala.)	168	88	35	27.9%	\$32,000*
Southwestern University (Calif.)	137	120	34	36.3%	\$50,000*
St. Mary's University (Tex.)	137	104	36	35.9%	\$45,000
Stetson University (Fla.)	145	129	36	19.6%	\$36,714
Suffolk University (Mass.)	123	74	37	29.0%	\$37,000
Syracuse University (N.Y.)	57	81	36*	36.0%*	\$37,000*
Texas Tech University	110	81	37	28.1%	\$43,000
University of Alabama	83	74	37*	44.8%*	\$35,000*
University of Arkansas at Fayetteville	90	151	34	46.5%	\$30,000
University of Arkansas at Little Rock	110	162	33	35.8%	\$28,811
University of Baltimore	123	139	36	26.4%	\$41,815
University of Denver	83	62	37	36.1%	\$37,857*
University of Detroit	123	120	35	26.2%	\$37,000
University of Hawaii	105	162	39*	26.9%*	\$37,000*
University of Louisville (Ky.)	110	129	35	29.6%	\$36,425*
University of Maine	90	129	37*	20.2%*	\$31,500*
University of Missouri at Kansas City	75	129	35	34.1%	\$33,029
University of Oklahoma	75	71	34*	47.5%*	\$35,000*
University of Puget Sound (Wash.)	110	81	37	35.9%	\$36,122
University of Richmond (Va.)	105	151	39	20.7%	\$39,000
University of San Diego	68	99	38*	27.3%*	\$40,000*
University of Toledo (Ohio)	110	120	35	43.6%	\$38,000
University of the Pacific (Calif.)	75	59	35	40.0%	\$43,120*
Valparaiso University (Ind.)	137	99	33*	38.9%	\$29,000*
Vermont Law School	90	104	36	28.5%	\$31,102
Villanova University (Pa.)	68	39	38*	33.1%*	\$34,000*
Washburn University (Kan.)	123	151	34	34.5%	\$35,000
Wayne State University (Mich.)	57	71	38*	50.0%*	\$35,000*

■ QUARTILE FOUR					
CUNY - Queens College (N.Y.)	123	129	30	22.0%	\$35,000*
California Western School of Law	154	151	34*	38.8%*	\$45,000*
Campbell University (N.C.)	168	162	35*	34.9%*	\$27,000*
Capital University (Ohio)	154	162	34	36.1%	\$29,891*
Catholic University of Puerto Rico	160	162	21	50.8%	\$18,000*
Detroit College of Law	154	120	33*	36.0%*	\$29,891*
Drake University (Iowa)	123	104	34*	36.0%*	\$22,380*
Gonzaga University (Wash.)	137	62	32*	48.7%*	\$28,000*
Hamline University (Minn.)	123	139	36	36.4%	\$27,939*
Howard University (D.C.)	123	79	31*	36.0%*	\$45,000*
Inter-American University (P.R.)	168	162	26*	23.4%*	\$18,000*
John Marshall Law School (Ill.)	145	81	36*	36.0%*	\$30,000*
Loyola University at New Orleans	105	104	33	33.6%	\$39,876*
Memphis State University	137	151	33*	27.5%*	\$29,891*
Mercer University (Ga.)	123	139	35*	26.8%*	\$30,000*
Mississippi College	168	139	33*	42.1%*	\$27,000*
New England School of Law (Mass.)	145	120	35*	36.0%*	\$29,891*
North Carolina Central University	154	129	31*	36.0%*	\$27,000*
Northern Kentucky University	160	151	33*	36.0%*	\$24,000*
Nova University (Fla.)	145	113	33	20.7%	\$38,182
Ohio Northern University	154	151	35	28.8%	\$32,400
Oklahoma City University	168	139	31	44.4%	\$37,000
Regent University (Va.)	175	162	31	42.5%	\$29,800*
South Texas College of Law	160	129	35	39.8%	\$40,000*
Southern Univ. and A&M College (La.)	160	162	26	20.3%	\$20,000
St. Thomas University (Fla.)	168	162	32*	35.2%*	\$25,000*
Texas Southern University	160	162	25*	36.1%*	\$34,000*
Thomas M. Cooley Law School (Mich.)	168	151	31*	36.0%*	\$29,891*
Touro College (N.Y.)	145	162	31*	45.1%*	\$32,500*
University of Akron (Ohio)	137	139	32*	29.6%*	\$29,500*
University of Bridgeport (Conn.)	160	151	33*	34.0%*	\$30,000*
University of Dayton (Ohio)	137	162	33*	26.9%*	\$29,500*
University of Idaho	123	139	34*	24.1%*	\$26,500*
University of Montana	110	104	35	32.1%	\$26,000*
University of North Dakota	123	129	32	40.2%	\$29,000*
University of Puerto Rico	160	120	27	30.5%	\$18,000
University of Tulsa (Okla.)	123	113	31	54.7%	\$37,700
University of Wyoming	90	120	35*	33.3%*	\$29,500*
Western New England College (Mass.)	145	151	34*	36.0%*	\$29,891*
Whittier College (Calif.)	160	139	33*	36.0%*	\$40,000*
Widener University (Del.)	145	113	34*	36.0%*	\$29,891*
Willamette University (Ore.)	110	62	36*	36.0%*	\$30,000*
William Mitchell College of Law (Minn.)	123	88	35	45.4%	\$33,500*

ENGINEERING SCHOOLS

KEVIN HORAN FOR USN&WR



Tooling around. Students at a Purdue University lab learn how to combine production efficiency with management skills.

MADE IN AMERICA COMES BACK

Manufacturing is the new hot button at leading engineering schools

For a 29-year-old auto engineer who has spent the past 22 months in graduate school, James Bonini has set his sights extraordinarily high: to help lead a team that will design and build small cars in the United States for export to Asia. Given that America was a net importer of roughly 3 million cars last year, even in Detroit many would say that Bonini is chasing the impossible dream. But inspiring talented engineer-managers like Bonini to believe that the United States can regain its primacy in making things is precisely the goal of the "Leaders for Manufacturing" program at the Massachusetts Institute of Technology, once again top-ranked in the annual *U.S. News* survey of 193 graduate engineering schools.

When Bonini, who is on leave from his job as a Chrysler production manager in an engine plant in Trenton, Mich., and his 34 fellow students finish the two-year

MIT program in June, they will have earned master's degrees in both engineering and management. And they will also have had instilled in them, as Bonini puts it, that "the processes by which you make things are vital."

A quick switch. Suddenly, after years of languishing in the academic backwater, manufacturing has become the hot area in many of the nation's leading engineering schools. Propelled by America's need to become more competitive, education and research in manufacturing have become a priority issue for graduate engineering schools and their corporate supporters. "It has happened very fast," says John Jarvis, director of the School of Industrial and Systems Engineering at Georgia Institute of Technology. "American companies discovered they were losing the world market because we were losing our basic manufacturing capability."

The problem was that both engineering disciplines and corporate organizations were ill-equipped technically and intellectually to compete with fast-moving foreign manufacturers. At American companies, design engineers traditionally drafted a product and "threw it over the wall" to the factory, where manufacturing engineers and workers struggled to figure out how to build it. Simultaneously, marketing departments were trying to figure out how to sell the product. All too often, the depressing results were goods that were low in quality and high in price.

Today, however, leading companies see manufacturing as a virtually seamless, multidisciplinary process. Teams composed of people from design, engineering, finance and marketing work on new products from conception to sale. Their goal: to make sure products are

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ENGINEERING

NUMBER ONE

MIT

Input from corporate America imparts a real-world grounding

JEFFREY MACMILLAN—US&WR



MIT has a distinguished tradition of educating America's premier engineers.

■ **Going green.** In response to the "green" movement, MIT has developed a Program in Environmental Engineering Education and Research. Under one umbrella, it brings together courses from various departments—including toxicology, chemical engineering and planning—so that students can study the environmental problems of the future. For example, a new course called "Environmental Considerations of the Microchip" studies the pollution problems caused by computer manufacturers.

■ **Tomorrow's jobs.** Innovative courses include graduate-level summer programs that teach engineers how to deal with current, regulatory trends. These classes are geared toward students aspiring to become "chief environmental officers," a new position at politically correct companies; senior government officials at state and federal agencies, and leaders of nonprofit organizations such as Greenpeace.

■ **Interdisciplinary study.** The number of students receiving the joint master's in engineering and master's in business administration from MIT's Sloan School of Management doubled in the past four years to 47. Even without pursuing a joint degree, students can take classes in all divisions.

ENGINEERING SCHOOLS

THE TOP 25

Here are the 25 graduate schools of engineering with the highest scores in the U.S. News survey.

Rank	School	Score	1991 Rank	1990 Rank
1	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	100.0	1	1
2	STANFORD UNIVERSITY	92.4	1	5
3	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	89.7	2	4
4	UNIVERSITY OF CALIFORNIA AT BERKELEY	86.0	3	8
5	PURDUE UNIVERSITY	82.5	2	2
6	CALIFORNIA INSTITUTE OF TECHNOLOGY	79.4	3	6
7	UNIVERSITY OF MICHIGAN	79.0	5	7
8	UNIVERSITY OF TEXAS AT AUSTIN	78.5	11	14
9	CORNELL UNIVERSITY	78.2	2	2
10	GEORGIA INSTITUTE OF TECHNOLOGY	74.9	9	3
11	OHIO STATE UNIVERSITY	70.6	13	5
12	UNIVERSITY OF WISCONSIN AT MADISON	70.5	11	13
13	TEXAS A&M UNIVERSITY	69.8	22	10
14	RENSSELAER POLYTECHNIC INSTITUTE (N.Y.)	69.1	16	11
15	PENNSYLVANIA STATE UNIVERSITY	68.7	17	9
16	CARNEGIE MELLON UNIVERSITY	66.7	8	16
17	UNIVERSITY OF SOUTHERN CALIFORNIA	65.5	28	31
18	UNIVERSITY OF FLORIDA	62.8	28	19
19	NORTHWESTERN UNIVERSITY	62.3	14	20
20	UNIVERSITY OF CALIFORNIA AT LOS ANGELES	62.0	16	26
21	HARVARD UNIVERSITY	60.5	28	41
22	NORTH CAROLINA STATE UNIVERSITY AT RALEIGH	59.0	28	22
23	VIRGINIA TECH	58.2	16	17
24	PRINCETON UNIVERSITY	57.9	11	22
25	RICE UNIVERSITY (Texas)	55.2	22	33

US&WR's basic data: Educational statistics provided by College Research Group and the colleges themselves. Both reputational surveys were conducted by mail and by phone.

METHODOLOGY ■ Here show U.S. News ranked these schools.

■ **STUDENT SATISFACTION** was based on two statistics for doctoral and master's degree candidates who enrolled in the fall of 1991: the percentage of applicants a school accepted and the yield, or percentage of those accepted who picked the school.

■ **FACULTY RESOURCES** was based on three statistics: the number of full-time faculty members holding Ph.D.s; the current number of both full-time doctoral and master's degree candidates to full-time faculty; the current percentage of full-time faculty members; and the number of Ph.D. degrees granted in 1991.

■ **RESEARCH ACTIVITY** was based on two indicators: the dollar total of state, federal, and privately funded research administered by the engineering school in 1991 and that dollar total divided by the number of full-time faculty members engaged in research.

■ **REPUTATION** was determined by two surveys conducted this winter. The first asked engineering school deans and deans of academic affairs to rate each school by qualities representing levels of academic quality. The second asked 285 practicing engineers to select the 25 top graduate engineering schools based upon their academic quality.

PEER APPROVAL

SPECIALTIES

These programs were named the nation's best by engineering deans in the U.S. News reputational survey:

AEROSPACE

1. Massachusetts Institute of Technology
2. Stanford University
3. California Institute of Technology
4. University of Michigan
5. Purdue University

BIOMEDICAL

1. Johns Hopkins University
2. Duke University
3. Case Western Reserve University
4. Massachusetts Institute of Technology
5. University of Washington

CHEMICAL

1. Massachusetts Institute of Technology
2. University of California at Berkeley
3. University of Minnesota at Twin Cities
4. University of Wisconsin at Madison
5. Univ. of Illinois at Urbana-Champaign

CIVIL

1. Univ. of Illinois at Urbana-Champaign
2. University of California at Berkeley
3. Massachusetts Institute of Technology
4. Stanford University
5. Purdue University

COMPUTER

1. Massachusetts Institute of Technology
2. Stanford University
3. Carnegie Mellon University
4. University of California at Berkeley
5. Univ. of Illinois at Urbana-Champaign

ELECTRICAL/ELECTRONIC

1. Massachusetts Institute of Technology
2. Stanford University
3. University of California at Berkeley
4. Univ. of Illinois at Urbana-Champaign
5. University of Michigan

ENVIRONMENTAL

1. Stanford University
2. University of Michigan**
3. University of California at Berkeley**
4. Univ. of Illinois at Urbana-Champaign
5. University of Texas at Austin

INDUSTRIAL/MANUFACTURING

1. Georgia Institute of Technology**
2. Purdue University**
3. University of Michigan
4. Stanford University
5. University of California at Berkeley

MATERIALS/METALLURGICAL

1. Massachusetts Institute of Technology
2. Univ. of Illinois at Urbana-Champaign
3. Stanford University
4. University of California at Berkeley
5. Northwestern University

MECHANICAL

1. Massachusetts Institute of Technology
2. Stanford University
3. Univ. of Illinois at Urbana-Champaign
4. University of California at Berkeley
5. Purdue University

NUCLEAR

1. Massachusetts Institute of Technology
2. University of Michigan
3. Univ. of Illinois at Urbana-Champaign
4. University of California at Berkeley
5. University of Wisconsin at Madison

PETROLEUM

1. University of Texas at Austin**
2. Texas A&M University**
3. Stanford University
4. University of Oklahoma
5. Louisiana State University and A&M College

Numbers with ** indicate a tie

UP-AND-COMING IN ENGINEERING

In the U.S. News reputational survey, these graduate schools were most often named by deans at engineering schools as up-and-comers based upon promising innovations in their curricula:

1. University of California at Santa Barbara**
2. Arizona State University**
3. University of California at Irvine
4. University of Colorado at Boulder
5. University of California at San Diego

Reputation rank by academics	Rep. rank by practicing engineers	Student selectivity rank	Research activity rank	Faculty resources rank	1991 Total enrollment	1991 Eng. research (\$ mil.)	Doctoral student/faculty ratio	1991 Acceptance rate
1		24	1	2	2,298	\$92.3	3.01	27.0%
1	51	67	4	1	2,610	\$58.4	4.93	45.2%
3	4	29	3	4	2,216	\$89.4	2.69	27.2%
3	8	13	6	3	1,528	\$56.7	5.37	23.0%
9	2	3	10	12	1,841	\$51.6	2.47	19.7%
3	6	10	16	11	445	\$23.0	4.78	15.2%
6	7	61	14	10	1,715	\$56.3	2.63	39.2%
11	14	65	5	7	2,093	\$60.0	3.07	43.4%
6	12	59	7	8	1,150	\$56.6	3.75	34.1%
9	3	39	19	21	2,073	\$37.0	1.95	41.6%
16	15	36	9	29	1,569	\$45.8	1.52	21.7%
11	13	12	12	16	1,188	\$46.1	2.21	42.1%
22	10	5	11	15	2,061	\$50.4	1.86	47.7%
16	11	12	13	17	1,135	\$34.2	2.28	55.1%
16	9	96	15	24	1,965	\$50.2	1.70	53.1%
8	16	15	20	27	584	\$28.1	2.34	15.1%
38	51	116	2	14	2,319	\$54.1	2.80	67.4%
28	19	12	18	30	1,374	\$40.6	1.61	24.0%
11	20	73	26	9	1,006	\$25.5	4.73	36.5%
16	26	12	24	6	996	\$25.5	4.38	41.9%
28	41	6	8	52	176	\$16.6	2.94	24.0%
28	22	56	17	37	1,270	\$43.3	1.30	44.6%
16	17	78	27	53	1,291	\$37.9	1.05	40.6%
11	22	37	31	35	351	\$19.2	2.97	25.4%
22	33	23	30	39	379	\$15.5	2.92	19.1%

OVERALL RANK was based upon five major indicators of academic quality: school's reputation among engineering school deans and among an industry cross section of practicing engineers, its student selectivity, faculty resources and research activity. First, data for each of these indicators were converted into percentiles. U.S. News assigned a value of 100 percent to the highest score achieved by the top school in each indicator, then determined scores for the other schools as a percentage of the total achieved by the top school. (For the indicators of student selectivity, faculty resources and research activity—made up of the variables as listed above—scores were determined by totaling the percentiles of these variables.) Next, U.S. News weighted the total percentile scores achieved by each school for the five major indicators. We weighted the academic and practicing engineering reputational surveys 20 percent each, faculty resources and research activity 25 percent each and student selectivity 10 percent. Then, we totaled the weighted scores to determine the final rankings. In a standard procedure, we scaled the weighted score of the top school at 100 percent. Finally, scores for all the other schools were determined by converting their weighted totals into a percentage of the score of the No. 1 school.

BEST GRADUATE SCHOOLS

designed so they can be made with maximum quality and at minimal cost. In short, finished goods that will be competitive in the world market.

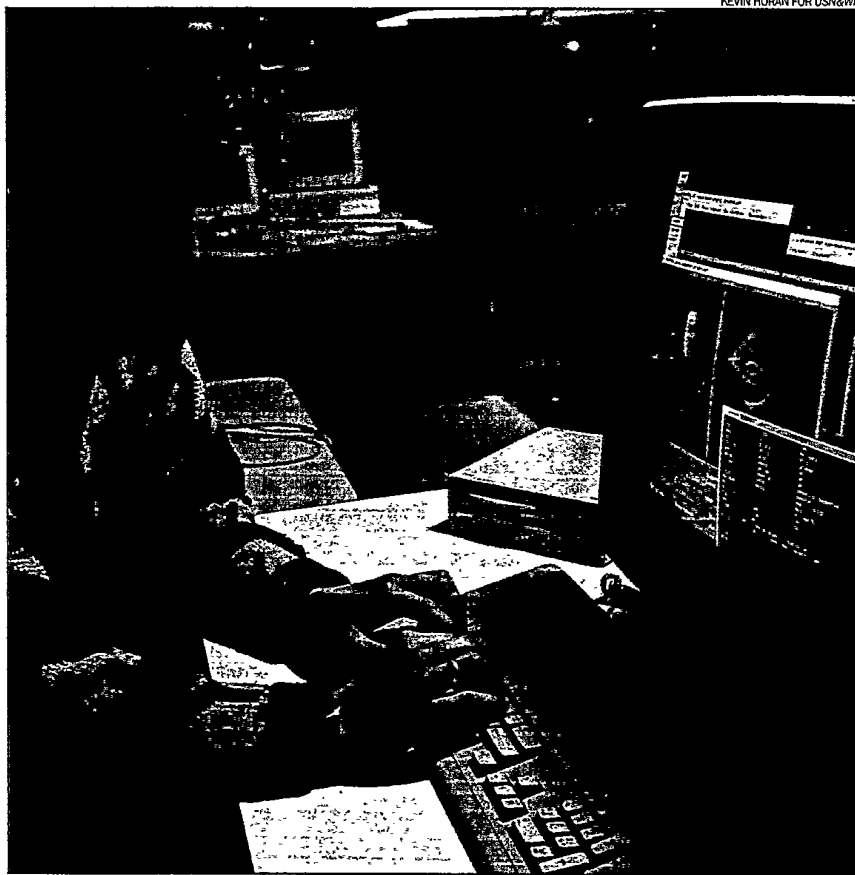
And as industry changed, so, too, did graduate schools like MIT, which is working closely with corporate leaders to meet their demands for more broadly based engineers. Bonini's program is run jointly by MIT's School of Engineering, its Sloan School of Management and 11 major manufacturers whose executives, including A. D. "Bert" Welliver, corporate senior vice president for engineering and technology at the Boeing Co., sit on the governing board. Welliver says Boeing's argument was, "If we could develop a successful program at MIT, other universities would emulate it."

Best and brightest. The MIT program is highly selective. Applicants must have an engineering or science degree and three to five years of work experience. For next fall's program, only 40 were chosen out of 300 applicants, many from sponsoring companies, which usually pay them a monthly stipend to defray tuition and living costs. Since manufacturing "historically has not attracted the best and the brightest," Welliver says, "this program was designed to institutionalize the fact that the very brightest need to go into the field."

Students face an intensive 15-to-25-hour-a-week classroom schedule and a heavy regimen of study and are required to apply what they have learned during a 6½-month internship at one of the sponsoring companies. Elizabeth Altman, a 25-year-old mechanical engineer who worked at the Polaroid Corp., helped implement a system to show how much it costs to build products at a Digital Equipment Corp. facility in Albuquerque. Thanks to her management courses, she says, "I could sit in finance meetings and I could talk to engineers, so I could be a link between the two."

Altman's ability to move from one discipline to another is precisely what engineering graduate schools are now trying to teach. "The issues in manufacturing aren't management issues, they aren't technology issues, they are technology and management," says Thomas Magnanti, codirector of the MIT program. "We have to cross that cultural divide."

On the other side of the country, Stanford University also is attempting to bridge the divide with a year-old graduate course that integrates industrial design, manufacturing and marketing. The 20 graduate students enrolled in the course—half are engineers, half business students—are required to design, build



Designing man. *Shaping America's competitive future with computers*

and attempt to "sell" a new product to a simulated market; this year's project is a home device to crush aluminum beverage cans for recycling. Though the market is simulated, five teams of four students each must make a working device. "We have business students running milling machines and engineers trying to figure out the finances of various designs," says David Beach, an engineering professor who team-teaches with a business-school colleague.

Stanford began stressing manufacturing in 1983, when the school, along with Georgia Tech, the University of Wisconsin at Madison, Lehigh University and Rensselaer Polytechnic Institute, received grants from IBM to launch programs in cooperation with industry. Stanford now graduates 30 students a year with master's degrees in manufacturing systems engineering. In a similar way, Georgia Tech offers a program in "computer integrated manufacturing systems." About 60 graduate engineering, management and computer science students a year complete a core curriculum in manufacturing to receive a CIMS certificate in addition to their degree.

Higher status. To teach manufacturing, however, trained professors must be available. Next fall, with a \$3 million grant from the Alfred P. Sloan Foundation, Stanford will offer a new doctorate

degree in manufacturing. Those who earn it will be expected to teach in engineering schools at other universities.

The improving status of manufacturing also is showing up in the form of bricks and mortar. In September 1991, Georgia Tech opened a \$15 million Manufacturing Research Center. A consortium of industrial companies that supports research in advanced production techniques, the center's laboratories give students experience with state-of-the-art equipment. "A couple of years ago, you'd say you were going into manufacturing and other students would ask, 'What's wrong?'" says John Gehlsen, 25, who will earn a double master's in mechanical engineering and management as well as a CIMS certificate this year at Georgia Tech. But that attitude is changing fast, he says, and he anticipates a bright future as a factory automation engineer and eventually as a manager.

Engineering-school officials believe that the new breed of students like Gehlsen now moving through their new manufacturing programs will be broad-gauge agents needed to reposition America's industrial enterprises in the world economy. Says MIT's Magnanti: "It's essential for the nation."

BY WILLIAM J. COOK WITH GARY COHEN

MEDICAL SCHOOLS

NUBAR ALEXANIAN FOR USN&WR



Women's work. At Yale-New Haven Hospital, a patient and her doctors

A CURE FOR SEXISM

Women doctors herald a kinder, gentler way to practice medicine

Call it progress—of a sort. At most American medical schools these days:

- Female students are no longer required to withdraw to the nurses' dressing rooms to scrub before surgery while their male classmates change in their own dressing rooms.
- No one finds it amusing when professors resort to the hoary device of substituting centerfolds from *Playboy* for visual aids from "Gray's Anatomy."
- When students join senior physicians on clinical examinations in urology, women are now included—even if it embarrasses male patients.

Clearly, a long-delayed age of enlightenment is dawning at the 126 accredited U.S. medical schools. One hundred forty-three years after Elizabeth Blackwell, the nation's first female doctor, received her degree from the Geneva, N.Y., medical school, the num-

ber of women medical students is reaching critical mass. Females, who not long ago were as rare in medical schools as male flight attendants were on airliners, now make up 39 percent of first-year students, nearly five times the proportion in 1969.

By the year 2010, about 30 percent of all practicing physicians will be women—up from just 17 percent today. What all these numbers add up to is a remarkably rapid transformation of a profession in which men managed to maintain their domination long after women began liberating most other prestigious occupations.

Distaff track. Why, after young women started flocking to law and business schools during the 1970s, did it take another decade before they enrolled in numbers sufficiently large to make a difference in medical education? The answer lies not only in the male-bonded

atmosphere that pervaded the classrooms and clinics of so many medical schools but also in the fact that for women interested in medicine, there was a distaff career track onto which they could be shunted: nursing, a stereotypical "female" profession. "I bet 90 percent of nurses today wanted to be doctors," says Florence Haseltine, a research administrator at the National Institutes of Health.

To their credit, several prominent medical schools have created special facilities to help women once they have enrolled. The model program was pioneered at Yale in 1975. "We try to provide women physicians, scientists and students guidance by providing them access to mentors and role models," explains Merle Waxman, the director of Yale's Office for Women in Medicine. "There are some issues like sexual harassment that women come to talk about

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that they don't feel they can talk about with their chairman."

The arrival of large numbers of women in medical school is symptomatic of a much deeper and more revolutionary change: the "feminization" of medicine. Many health-care professionals believe that one problem with the practice of medicine since the turn of the century, when many medical schools were closed for lack of scientific rigor, has been a "masculine" overemphasis on technology. These experts anticipate that feminine nurturing will soften the traditional authoritarian style—to the ultimate benefit of the patient. Tomorrow's doctors are being trained to see medicine not just as a high science but also as a healing art.

Patience and patients. Like many medical deans, Edward O'Neil, assistant dean at Duke University Medical School, acknowledges that women doctors tend to listen to patients more carefully than their male counterparts do. They also tend to be less arrogant in suggesting treatment, and they are more willing than male doctors to involve patients in making critical medical decisions. Antoinette Hood, assistant dean at Johns Hopkins University Medical School, illustrates these differences in style for first-year students in biochemistry by demonstrating the technique of interviewing a patient who has a skin disease caused by a biochemical abnormality. Hood asks questions softly, listens closely to the patient's replies and then addresses his concerns simply and clearly. Remembering some of their own experiences as patients, the future doctors quickly recognize the point of Hood's demonstration.

At several innovative medical schools, including those at Brown and the University of New Mexico, this "nurturing" approach to the training of physicians is evident in the clinical as well as the classroom portion of curricula. For example, instead of performing clinical rotations at teaching hospitals with their arrays of ultramodern technology, Brown's medical students fan out to old-fashioned community clinics throughout Rhode Island; there, necessarily, the emphasis is on healing rather than medical engineering. And inside the classroom, several schools, including Harvard—top-ranked in the U.S. News survey for the second year in a row—are forsaking many authoritarian top-down lectures for the Socratic case-

study method so successfully employed by law and business schools. The new teaching style involves presenting a case—symptoms, age of the patient, etc.—and then asking the students to sort out how they would go about diagnosing and treating the patient.

Perhaps the most significant change wrought by the arrival of significant numbers of females in medical school classrooms is that their presence has made the profession realize how seriously they have neglected the special



Yale's Waxman. A sympathetic ear

health problems of women. Susan Baserga, a molecular biologist who graduated from Yale Medical School in 1988, recalls a typical exchange. "The instructor in one of my pharmacology classes was discussing a drug that you give to people for heart disease that causes male impotence," says Baserga. "I asked him how it affects women's libidos. He said it was the first time he had been asked that question. He didn't know how to answer."

Consciously or unconsciously, the male biases once inculcated in the medical schools were reflected in the federal government's \$9 billion-a-year medical research budget, which has been overwhelmingly oriented toward men. Historically, for instance, most drugs have been tested largely on male subjects, overlooking the possibility that some might have adverse physiological effects on women. To correct this imbalance, Dr. Bernadine Healy, the first woman to head the National Institutes

of Health and an outspoken critic of sexism in medical research, last year established a special office to channel more federal dollars toward research on the ways a broad variety of afflictions, among them heart disease and osteoporosis, affect women.

Nevertheless, despite the many ways their consciousness has been raised, the nation's medical schools have not entirely recovered from acute sexism. In academic medicine, women account for only 20 percent of faculty positions, a proportion that reflects the percentage of women doctors nationwide—and also, of course, how few women entered medicine in the past. But women in academic positions do not move up the tenure track in step with their male counterparts, and on average their chances of achieving full professorship are half those of the men. Not a single medical school has a female dean, and of the 2,000 departments, about 85 are chaired by women. Just last month, the acting chairman of the neurosurgery department at Stanford Medical School was removed from office amid accusations of sexist comments to women colleagues.

The biological clock. As a result, women students have few role models who can offer innovative solutions for juggling a demanding career with family life. Residency, the most grueling period in a doctor's training, typically demands 80 to 90 hours a week from a woman until she is into her early 30s, so when she is finally ready to set off on her career, the biological clock has begun loudly ticking. Moreover, while the doors into medical school have swung wide open for women, the corridors leading to residencies and internships remain narrower than they are for most men. Many women report being grilled during residency interviews about their plans for marriage and children, questions that are not only illegal but rarely asked of men. "If you get pregnant and take maternity leave, male colleagues think you're a burden because they'll have to cover for you," says Jean Pringle, a fourth-year student at the University of Chicago's medical school. "The scariest part about finishing medical school is realizing that things are not going to get better later on."

The subtle and not-so-subtle discouragement women face influences the specialties they enter. Because of male

CONTINUED ON PAGE 90 ►



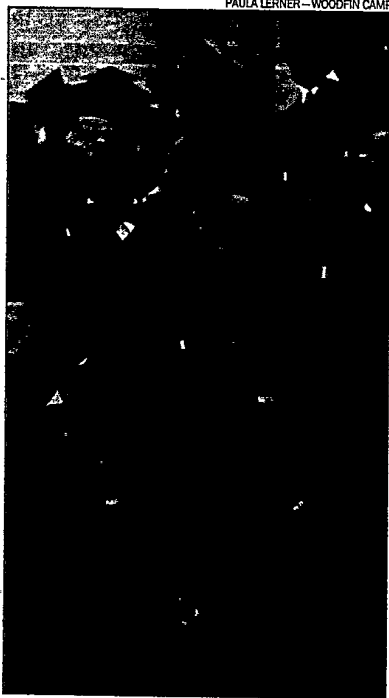
MEDICINE

NUMBER ONE

HARVARD

An emphasis on patient care as well as biomedical research

PAULA LERNER—WOODFIN CAMP



A focus on teaching students how to reason rather than cramming in scientific facts

■ **Ombudsperson.** In January 1991, Harvard appointed an ombudsperson to address complaints of sexual harassment and discrimination. Duties include helping students and faculty resolve conflicts and implementing educational programs. About 60 other medical schools throughout the country have made similar appointments lately.

■ **Under a new roof.** A \$61 million research facility, under construction since 1990, will be ready by July. The five-floor East Quadrangle Research Building will house the genetics, neurobiology and anatomy departments as well as the Center for Blood Research, where scientists will investigate the nature of the body's immune cells.

■ **Interdisciplinary fellows.** In February, the school launched a \$4 million fellowship program, called the Harvard-Markey, which is designed to provide future biomedical scientists with a firmer grounding in human medicine.

■ **Mental health.** To provide mentally ill patients with better care, Harvard consolidated five separate departments last July under a new department of psychiatry. By pooling the knowledge and financial resources of different areas of mental health, the school hopes to foster more research.

MEDICAL SCHOOLS

TOP RESEARCH SCHOOLS

These research-oriented medical schools had the highest scores in the U.S. News survey

Rank/School	Overall score	Reputation rank by academics	By intern residents	Student selectivity rank
1. HARVARD UNIVERSITY	100.0	2	1	2
2. JOHNS HOPKINS UNIVERSITY (Md.)	78.0	6	2	3
3. DUKE UNIVERSITY (N.C.)	73.2	5	3	5
4. UNIV. OF CALIFORNIA AT SAN FRANCISCO**	68.2	1	9	1
5. YALE UNIVERSITY*	68.2	2	4	6
6. UNIVERSITY OF PENNSYLVANIA	65.3	6	7	9
7. WASHINGTON UNIVERSITY (Mo.)	64.9	6	10	4
8. STANFORD UNIVERSITY	64.6	2	5	7
9. COLUMBIA UNIVERSITY	61.1	13	8	16
10. UNIVERSITY OF MICHIGAN**	60.7	10	6	17
10. CORNELL UNIVERSITY**	60.7	19	11	11

COMPREHENSIVE SCHOOLS

Among medical schools that consider training primary-care physicians as their chief mission, these had the highest scores

Rank/School	Overall score	Reputation rank by academics	By intern residents	'91 Out-of-state tuition
1. THOMAS JEFFERSON UNIVERSITY (Pa.)**	100.0	3	1	\$19,3
1. BROWN UNIVERSITY**	100.0	2	2	\$19,5
3. OREGON HEALTH SCIENCES UNIVERSITY	96.7	1	7	\$20,0
4. MICHIGAN STATE UNIVERSITY**	95.8	6	3	\$19,5
4. OHIO STATE UNIVERSITY**	95.8	6	3	\$20,3
6. UNIVERSITY OF CALIFORNIA AT DAVIS	94.2	3	8	\$11,3
7. UNIVERSITY OF KENTUCKY	92.5	8	5	\$17,4
8. UNIVERSITY OF NEW MEXICO	89.2	3	14	\$9,3
9. UNIVERSITY OF KANSAS MEDICAL CENTER	87.5	8	11	\$14,5
10. GEORGE WASHINGTON UNIVERSITY (D.C.)	85.8	15	6	\$26,0

U.S. News & World Report—Basic data: educational statistics from College Research Group, Association of American Medical Colleges, NIH and the colleges; Market Facts Inc. Numbers with * are U.S. News estimates. ** indicates a tie.

METHODOLOGY ■ U.S. News recognizes that while all medical schools share the same missions—training physicians and medical research—they differ in emphasis. Thus, we have divided the 126 medical schools into two categories: those oriented toward research and those oriented toward training primary-care physicians. Based upon suggestions from medical educators, we placed the 60 schools receiving the largest total dollar research awards from NIH in the first category and the others in the second. The research-oriented schools were ranked on these variables:

■ **STUDENT SELECTIVITY** used the fall 1991 class's undergraduate grade point average, average Medical College Admission Test scores and acceptance rate. RESEARCH ACTIVITY used two factors: the total dollar amount and the number of 1991

PEER APPROVAL

SPECIALTIES

These programs were named best by medical-school deans in the U.S. News reputational survey:

RURAL MEDICINE

1. University of Washington
2. University of Iowa
3. Univ. of North Carolina at Chapel Hill**
3. Univ. of Minnesota at Twin Cities**
5. Univ. of Alabama at Birmingham

3. University of Arizona
1. Indiana University
5. University of Iowa

DRUG/ALCOHOL MEDICINE

1. Univ. of Calif. at Los Angeles
2. Harvard University
3. City University of New York
4. Johns Hopkins University**
4. University of Michigan**

MEDICAL ETHICS

1. University of Chicago
2. Georgetown University
3. University of Washington
4. Univ. of Calif. at San Francisco
5. Harvard University

GERIATRIC MEDICINE

1. Harvard University
2. Virginia Commonwealth Univ.
3. Johns Hopkins University**
3. Vanderbilt University**
3. Univ. of Calif. at San Francisco**

COMMUNITY MEDICINE

1. University of Washington
2. Univ. of North Carolina at Chapel Hill

Numbers with ** indicate a tie.

UP-AND-COMING IN MEDICINE

Medical-school deans and heads of medical departments singled out these schools based upon promising curriculum innovations:

1. University of Alabama at Birmingham
2. Emory University
3. University of Pittsburgh
4. University of Iowa**
4. University of North Carolina at Chapel Hill**

DOUG PLUMMER



Northern exposure. Dr. Thomas Wood with a patient in his family practice in Petersburg, Alaska, where University of Washington students can spend a summer learning about rural medicine

Reputation rank by academics	By residency directors	Student selectivity rank	Faculty resources rank	Research activity rank	'91 Out-of-state tuition	Average '91 MCAT score	'91 Total NIH research	Faculty/student ratio
2	2	2	1	1	\$19,110	11.5*	\$311,880,669	5.4
6	2	3	3	3	\$17,500	11.3	\$131,801,463	3.0
5	5	5	5	11	\$16,500	11.0*	\$90,541,077	2.5
1	9	1	16	4	\$7,698	12.0	\$127,923,099	1.9
2	6	6	21	6	\$18,250	11.1	\$104,500,000	1.6
6	7	9	27	5	\$19,600	11.0	\$101,000,000	1.4
6	4	4	7	7	\$15,900	11.2	\$104,864,732	2.1
2	5	7	35	9	\$17,925	11.0	\$90,404,897	1.1
13	16	16	10	13	\$21,821	10.6*	\$85,256,188	2.0
10	6	17	35	10	\$21,390	10.4	\$84,820,321	1.1
19	11	11	2	34	\$19,900	10.7*	\$41,974,554	3.5

S
care
cores:

Reputation rank by academics	By residency directors	'91 Out-of-state tuition	'91 Total NIH research	Faculty/student ratio
3	3	\$19,300	\$21,859,795	.6
2	2	\$19,520	\$8,236,710	1.4
1	1	\$20,090	\$20,910,613	.9
6	3	\$19,522	\$13,035,532	.4
6	6	\$20,394	\$17,652,423	.6
3	8	\$11,382	\$18,066,311	.8
8	8	\$17,324	\$13,035,532	1.2
3	14	\$9,300	\$10,635,776	1.4
8	11	\$14,532	\$11,099,517	.7
15	6	\$26,052	\$8,769,998	.6

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medical school NIH grants. FACULTY RESOURCES represents the 1991 faculty-to-student ratio.

■ REPUTATION used two separate surveys conducted this winter among academics and directors of intern-residency programs. A school's overall rank was determined by converting data for the above attributes into percentiles. We assigned the highest raw score for any attribute a value of 100 percent. Then we determined the scores of all other schools as a percentage of that top score. Schools were ranked in the five attributes; each is weighted 20 percent. We added each school's five weighted attribute scores. The highest scoring school became No. 1, with an overall score of 100 percent.

■ THE 66 COMPREHENSIVE SCHOOLS were ranked using two equally weighted reputational surveys conducted among deans and residency directors.

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BEST GRADUATE SCHOOLS

resistance—real or imagined—women are avoiding residencies in cardiovascular disease and urology, both long considered the sole province of men. What's more, surgery requires seven years of residency. A female surgeon who prefers not to become "one of the boys" is made to feel like an outsider. Laments Nancy Harthun, a fourth-year student at Yale who is studying general surgery: "Medicine keeps its own house and people who decide to be sexist are pretty much left untouched."

On the other hand, dermatology and pediatrics offer residencies that last three to four years, and relatively predictable working hours. Not surprisingly, fully half of the residencies in pediatrics are filled by women. Women are also heading for the obvious female specialties like obstetrics, gynecology and for primary-care specialties like internal medicine and family practice.

Prestige gap. Partly because of the flexibility the specialty offers women who want to have children, primary care has been attracting a steadily growing number of physicians since the early 1980s. And fortunately for the nation and for women entering the field, primary-care physicians are urgently needed in both rural areas and in inner cities.

Still, primary care offers its practitioners less prestige and smaller financial rewards than other fields. Indeed, experts predict that if women doctors continue to enter primary care at the current rate, medicine will become a two-tiered profession: Men will occupy the high-tech, high-paying and high-status specialties, such as anesthesiology and neurosurgery, and women will dominate the less technical, lower-paying specialties. Looking at this prestige gap, Chicago's Pringle argues that "the medical establishment just doesn't want to deal with women doctors who want to be parents."

Perhaps Pringle has it right and women physicians may indeed remain trapped between the demands of motherhood and family and the rigidities of a hidebound profession. Yet just as they have overcome the traditional chauvinism of the medical schools, women eventually, no doubt, will crack the establishment and ascend the upper reaches of the profession as well. For as the nation learned so dramatically a generation ago, there is nothing quite so powerful as an idea whose time has come. And for women in medicine, this is that time.

BY SHANNON BROWNLEE WITH
ELIZABETH PEZZULLO

LIBERAL ARTS SCHOOLS



Endangered species. Budget cuts could turn small, intense seminars, like this class at Berkeley, into an unaffordable luxury.

THE SKY ISN'T FALLING, YET

Predicted faculty shortages are unlikely to materialize

The academic world is always on the lookout for new troubles to worry about. Three years ago, William Bowen, the former president of Princeton, and a colleague predicted that there would be a "staggering" shortage of humanities and social-science professors by the late 1990s. In an influential book, "Prospects for Faculty in the Arts and Sciences," Bowen and Julie Ann Sosa, a former Princeton student, warned that by 1997, 3 out of every 10 faculty positions in the humanities and social sciences would go unfilled. Their evidence was enough to panic the most even-tempered college president:

■ Because of the baby boomlet of the late 1970s and 1980s, college enrollments would grow by 11 percent between 1997 and 2007.

■ The graying of humanities faculties—44 percent of humanities professors were then at least 50 years old—would

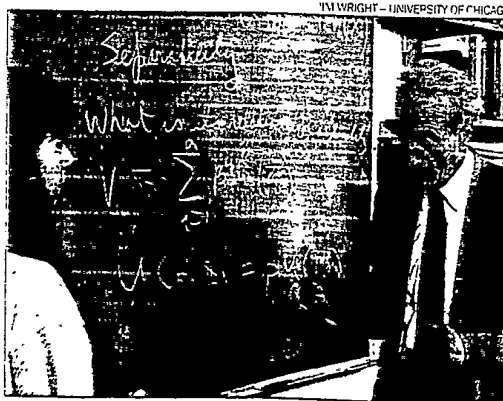
spur a 70 percent turnover rate among humanities and social-science professors between 1987 and 2007.

■ The trend in the supply of faculty was heading ominously downward. Between 1973 and 1989, the number of doctorates awarded in the humanities dropped by

one third, to 3,600. (All told, U.S. colleges and universities award approximately 1 million bachelor's degrees, 300,000 master's degrees and 34,000 doctorates annually.)

But as it has turned out, there are still humanities professors behind most college lecterns. So far, the schools ranked at the top of the six new *U.S. News* surveys of graduate programs in the liberal arts have not had to dragoon new faculty members from behind the wheels of taxicabs. And recent evidence suggests that the predicted faculty shortages may never materialize.

For one thing, as colleges and universities know all too well, undergraduate enrollments are contracting, not expanding. Indeed, to balance dangerously imbalanced budgets, many insti-



Less is more. Weeding the curriculum gardens

26

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LIBERAL ARTS

LIBERAL ARTS

THE TOP 15 BY DISCIPLINE

These doctorate programs in the humanities and social sciences were ranked the highest by department heads and senior faculty members in the first U.S. News reputational survey of liberal arts schools

ECONOMICS

Rank	School Name	Average score
1.	STANFORD UNIVERSITY	5.0
1.	UNIVERSITY OF CHICAGO	5.0
1.	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	5.0
4.	HARVARD UNIVERSITY	4.9
5.	UNIVERSITY OF CALIFORNIA AT BERKELEY	4.8
5.	YALE UNIVERSITY	4.8
5.	PRINCETON UNIVERSITY	4.8
8.	NORTHWESTERN UNIVERSITY	4.5
9.	UNIV. OF MINNESOTA AT TWIN CITIES	4.4
9.	UNIVERSITY OF PENNSYLVANIA	4.4
11.	UNIV. OF CALIFORNIA AT LOS ANGELES	4.2
11.	UNIVERSITY OF MICHIGAN	4.2
11.	UNIV. OF WISCONSIN AT MADISON	4.2
14.	COLUMBIA UNIVERSITY	4.1
14.	UNIVERSITY OF ROCHESTER	4.1

ENGLISH

Rank	School name	Average score
1.	UNIV. OF CALIFORNIA AT BERKELEY	4.9
1.	YALE UNIVERSITY	4.9
3.	STANFORD UNIVERSITY	4.7
3.	HARVARD UNIVERSITY	4.7
3.	CORNELL UNIVERSITY	4.7
3.	JOHNS HOPKINS UNIVERSITY	4.7
7.	UNIVERSITY OF CHICAGO	4.6
7.	DUKE UNIVERSITY	4.6
7.	PRINCETON UNIVERSITY	4.6
10.	COLUMBIA UNIVERSITY	4.5
10.	UNIVERSITY OF VIRGINIA	4.5

12. UNIV. OF CALIF. AT LOS ANGELES

12. UNIV. OF PENNSYLVANIA

14. UNIVERSITY OF MICHIGAN

15. UNIV. OF CALIFORNIA AT IRVINE

15. BROWN UNIVERSITY

HISTORY

Rank	School name	Average s
1.	UNIV. OF CALIFORNIA AT BERKELEY	4.
1.	STANFORD UNIVERSITY	4.
1.	YALE UNIVERSITY	4.
1.	PRINCETON UNIVERSITY	4.
5.	UNIVERSITY OF CHICAGO	4.
6.	JOHNS HOPKINS UNIVERSITY	4.
6.	UNIVERSITY OF MICHIGAN	4.
6.	HARVARD UNIVERSITY	4.
9.	UNIV. OF CALIFORNIA AT LOS ANGELES	4.
9.	CORNELL UNIVERSITY	4.
9.	UNIV. OF WISCONSIN AT MADISON	4.
9.	COLUMBIA UNIVERSITY	4.
13.	UNIV. OF NORTH CAROLINA AT CHAPEL HILL	4.
14.	DUKE UNIVERSITY	4.
15.	UNIVERSITY OF PENNSYLVANIA	4.

POLITICAL SCIENCE

Rank	School name	Average
1.	UNIV. OF CALIFORNIA AT BERKELEY	4
1.	HARVARD UNIVERSITY	4
1.	UNIVERSITY OF MICHIGAN	4
4.	STANFORD UNIVERSITY	4
5.	YALE UNIVERSITY	4

tutions—from those in the prestigious Ivy League and the giant University of California system to struggling liberal arts colleges—are increasing class sizes, slashing course offerings and cutting enrollments; all these measures reduce the demand for professors. Even schools with openings for humanities professors are leaving them unfilled. "Funding for the position listed in October has been withdrawn; no tenure-track hiring expected for 1992-93," reads a typical announcement in a recent publication of the Modern Language Association.

In all, the MLA's job listings were down 20 percent from 1990 to 1991, despite increased enrollments in human-

ities courses over the past few years. If the situation continues, says Phyllis Franklin, the MLA's executive director, potential graduate students are going to be so discouraged by the bleak job outlook that enrollments in Ph.D. programs will plummet.

Caution prevails. As an unintended consequence, of course, the slashing and attrition could go too far and produce precisely the shortage that Bowen and Sosa predicted, especially since academic enrollments will begin turning upward again in 1997, when the first wave of baby-boomlet children reaches campus. But this scenario assumes that the hundreds of colleges and universities now

hemorrhaging red ink will suddenly begin a frenzy of hiring in the next several years. On the contrary, America's colleges have been so spooked by the recent economic hard times that even the most expansionist of academic administrators will be extremely cautious in adding professorial bodies to their payrolls.

In fact, the current fiscal crisis in higher education could result in permanent cuts in course offerings as well as in faculty. Lynne Cheney, chair of the National Endowment for the Humanities, predicts that humanities departments are going to be "forced to weed their curricular gardens." In a recently published study, "In Pursuit of the

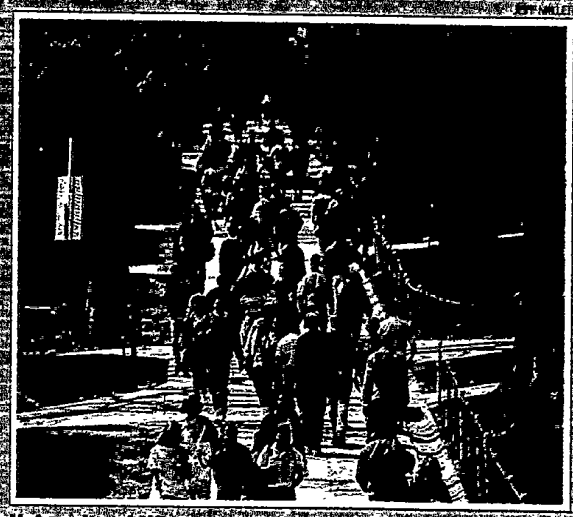
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4.4	6. UNIVERSITY OF CHICAGO	4.4
4.3	7. MASSACHUSETTS INSTITUTE OF TECHNOLOGY	4.3
4.3	7. PRINCETON UNIVERSITY	4.3
4.2	9. UNIVERSITY OF ROCHESTER	4.2
4.1	10. UNIV. OF CALIFORNIA AT LOS ANGELES	4.1
4.1	10. UNIV. OF WISCONSIN AT MADISON	4.1
4.1	10. UNIV. OF MINNESOTA AT TWIN CITIES	4.1
4.0	13. DUKE UNIVERSITY	4.0
3.9	14. CORNELL UNIVERSITY	3.9
3.9	14. UNIV. OF NORTH CAROLINA AT CHAPEL HILL	3.9
4.1	PSYCHOLOGY	
	Rank School name	Average score
4.8	1. STANFORD UNIVERSITY	4.8
4.6	2. UNIV. OF CALIFORNIA AT BERKELEY	4.6
4.6	2. UNIV. OF ILLINOIS AT URBANA-CHAMPAIGN	4.6
4.6	2. UNIVERSITY OF MICHIGAN	4.6
4.5	5. UNIV. OF CALIFORNIA AT LOS ANGELES	4.5
4.5	5. YALE UNIVERSITY	4.5
4.4	7. HARVARD UNIVERSITY	4.4
4.4	7. UNIV. OF MINNESOTA AT TWIN CITIES	4.4
4.3	9. PRINCETON UNIVERSITY	4.3
4.3	9. UNIVERSITY OF PENNSYLVANIA	4.3
4.3	9. CARNEGIE MELLON UNIVERSITY	4.3
4.2	12. UNIV. OF WISCONSIN AT MADISON	4.2
4.2	13. INDIANA UNIVERSITY AT BLOOMINGTON	4.2
4.1	13. MASSACHUSETTS INSTITUTE OF TECHNOLOGY	4.1
4.0	15. UNIVERSITY OF WASHINGTON	4.0
4.0	15. UNIVERSITY OF TEXAS AT AUSTIN	4.0
	SOCIOLOGY	
	Rank School name	Average score
4.8	1. UNIV. OF WISCONSIN AT MADISON	4.8
4.6	2. UNIVERSITY OF CHICAGO	4.6
4.6	3. UNIVERSITY OF MICHIGAN	4.6
4.5	5. UNIV. OF NORTH CAROLINA AT CHAPEL HILL	4.5

4.2	6. UNIV. OF CALIFORNIA AT LOS ANGELES	4.2
4.2	6. STANFORD UNIVERSITY	4.2
4.2	6. HARVARD UNIVERSITY	4.2
4.1	9. INDIANA UNIVERSITY AT BLOOMINGTON	4.1
4.0	10. NORTHWESTERN UNIVERSITY	4.0
3.9	11. UNIVERSITY OF WASHINGTON	3.9
3.9	11. COLUMBIA UNIVERSITY	3.9
3.8	13. UNIVERSITY OF ARIZONA	3.8
3.8	13. UNIVERSITY OF PENNSYLVANIA	3.8
3.7	15. UNIVERSITY OF TEXAS AT AUSTIN	3.7

U.S. & W. Basic data: Regular survey by Marking Factor Inc. Schools with the same numbered rank are tied.

METHODOLOGY ■ Here's how U.S. News devised the rankings for its first survey of graduate programs in the liberal arts. We identified disciplines with the largest graduate enrollments: economics, English, history, political science, psychology and sociology. Then, we surveyed department heads and directors of graduate studies at schools granting five or more doctoral degrees in any one of these disciplines between 1988 and 1990. Each rated a school's reputation for academic quality in his or her discipline on a four-point scale ranging from "marginal to dubious" (1) to "internationally recognized" (4). We also asked for the quality of the curriculum and the reputation of its faculty and students. The school with highest average score was ranked No. 1.



University of Wisconsin at Madison. Tops in sociology

Ph.D.," Bowen and co-author Neil Rudenstine, the new president of Harvard, observe that the number of literature courses offered in graduate English departments has risen to 313 from 229 in the mid-1960s. Even in higher education, more is not necessarily better.

Teaching loads. The likely result of all this is that colleges will demand more productivity from professors, further obviating the threat of a faculty shortage. In his 1989 study, Bowen found that while undergraduate enrollment in the arts and sciences declined by 14 percent between 1977 and 1987, the number of arts and sciences professors grew by 16 percent. As a result, the student-

professor ratio on campus declined from 16 to 1 to 11 to 1. Cheney argues that a third fewer arts and sciences professors would be needed in the nation's collegiate classrooms if the ratio were permitted to return to its 1977 level.

However, raising a school's student-faculty ratio wouldn't necessarily mean larger classes. Rather, Cheney proposes fewer professors teaching more classes. In recent years, professors' teaching loads on many campuses have declined from three to two courses a semester, a luxury American higher education may no longer be able to afford.

Finally, a bulge in the college-age population in the second half of the 1990s

may not increase college enrollments—and thus the demand for humanities professors—as sharply as Bowen has suggested. The reason: A large proportion of the cohort reaching college age will be members of minority groups, who traditionally attend college at lower rates than the general population. If those rates remain steady at 25 percent for blacks and 16 percent for Hispanics (vs. 33 percent for whites) through the end of the decade, the threat of faculty shortages would be further diminished.

In short, the campus sky has not fallen. And it probably won't.

By THOMAS TOCH